



OBSTACLES ON THE EFFECTIVE USE OF SOCIAL NETWORKING TOOLS FOR TEACHERS' PROFESSIONAL DEVELOPMENT AND THE TRAINING NEEDS TO DEAL WITH THEM

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Abstract:

Social networking /WEB 2.0 is the technology to support connecting people in various ways. The arise of WEB 2.0 allowed users to enhance their actions when accessing the internet not only for searching information but above all to interact, collaborate, and share content. For the specific showcase of school teachers, WEB 2.0 is providing new opportunities to build and gain professional development by assisting them to remain current on skills and issues important for a professional role. Aim of the presented work, it to build on our previous research on which specific tools are considered as the most useful for teachers' professional development and which are the perceptions of teachers on them, in order to identify the obstacles and drawbacks to their effective utilization, leading to the proposition of a core training program tailored to the teachers' needs.

Keywords: social networking, WEB 2.0, professional development, teachers, obstacles. training program

1. Introduction

Social networking/WEB2.0, which is the technology connecting people, is providing new opportunities for professional development by assisting to remain current on skills important for teachers' role. To address the issue of how it can be used effectively to support teachers' professional development, in our previous work (Boura, et al., 2020) (Koskeris & Garofalakis, 2021) we studied:

- a) The impact of Social Web applications on teachers' professional development by presenting specific case studies and proposing an ICT tool to be used for the collection of useful quantitative indicators and

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b) Which are the professional skills that can be strengthened through social networking and which tools are the most appropriate for this goal?

Summarising the findings, the most used social networking tools are information sharing. Teachers are using mostly tools for resources and educational scenarios sharing. In relation to which tools are gaining the most attention and interaction between users, sharing of educational scenarios is gaining the most interest and therefore the most comments from other teachers. Moreover, teachers are considering social media as useful to strengthen several skills. The skills which are considered as the most beneficial from social media are: communication, continuous learning, innovation, and management of online reputation.

However, the findings lead to the main conclusion that most teachers seem to not connect strongly a social networking tool with specific issues connected with professional development.

This is a finding that we suggest is mostly connected with the need to increase self-confidence and therefore to a need for training on the tools focusing on transformative learning practices to assure the dealing with possible false preconceptions (Koskeris & Garofalakis, 2021).

The aim of the presented work is to go one step further to identify which are the obstacles to effectively using such tools and which are the educational needs to deal with them.

This will be achieved through the following steps which are presented in the next sections:

- further elaboration of the previous research work (which was contacted through questionnaires and interviews) specifically in relation to obstacles identified,
- additional extended desk research on the issue of obstacles and drawbacks to the effective utilisation of social media from teachers,
- analysis and elaborated grouped conclusions, leading to a proposition on a core educational program on the issue addressed.

2. Main obstacles for teachers to effectively use WEB 2.0 applications

In our previous work (Koskeris & Karalis, 2016) (Boura, et al., 2020) (Koskeris & Garofalakis, 2021) we used questionnaires and interviews to contact school teachers and collect their views on the use of WEB 2.0 tools. In relation to the obstacles directly or indirectly identified from this work we identify as main ones the following:

- Difficulty to apply in practice

Difficulty and uncertainty on how to assure effective practical implementation.

- Difficulties on comprehension of new technological advancements

Fear / insecurity, on “staying behind” in respect to technological advancements.

Within the next paragraphs, we extend this work through extensive desk research on R&D works in this specific thematic. This has been done with a selection and detailed elaboration of 14 specific papers which have been analysed, Below, we present findings

from each selected paper and at the end of the Section we propose a conclusion grouping, combined with our previous referred field research work.

1. *“Social listening: The opportunities and obstacles to know”* (Davey, 2015).

Social media has matured by the proper use, within the last years, of privacy settings. Users have become better acquainted with the very public nature of social interaction through such tools. However, there still exist several challenges and obstacles mainly related with:

- Lack of digital literacy and appropriate expertise;
- Motivation for engagement;
- Integration with other applications;
- Getting the right information to the right people.

2. *“Social Media Education: Barriers and Critical Issues.”* (Au, et al., 2015)

The use of these WEB 2.0 tools is extremely expanded and it can be considered as a transformation of people’s way of communication. However, regardless of the popularity of usage in Hong Kong (the target territory of this work), the effectiveness of using social tools by teachers is not noticeable. This research work identifies as main barriers behind this phenomenon the existence of factors related to technological perspective, institutional perspective and users’ preconceptions.

3. *“Teaching with Social Media”* (University of Toronto, 2022)

Main obstacles identified in relation to the use of Social Media by teachers:

- Lack of technology skills or support;
- Online abuse;
- Time required to monitor.

4. *“Issues and Challenges in Educational Uses of Social Software”* (Anderson & Dron, 2014)

The identified drawbacks are summarized as follows:

- In most cases there is no visible control to assure privacy, security and dealing with offensive posts;
- Need for support on usability and accessibility;
- Lack of interoperability with other daily used tools;
- Information overload.

5. *“Challenges and Opportunities for Use of Social Media in Higher Education”* (Anderson, 2019)

There exists a strong *“commercial bias of social media, with a business model based upon promoting the consumption of advertised goods and services”*. As a result, the participants in this field research provide as main feedback that social media are moving towards an environment that is not supporting effective discourse which is a core issue for educational professional usage.

Apart from that there exist within the last years' examples of governmental control of social media as long as the usage of data created for usages for which the user is not aware, for which the participant is expressing a fear leading to reluctance for usage for professional purposes.

6. *"Impact of Social Media Integration in Teaching Methods on Exam Outcomes"* (Javaeed, et al., 2020)

The main conclusion of this work is that overuse of social media is identified as potentially detrimental instead of beneficial. Educationists should work together to create a guideline regarding how social media can be incorporated into the education system in a more efficient way.

7. *"Experiences and perspectives of social media in learning and teaching in higher education"* (Beckinghamn, et al., 2020)

The research was carried out through two focus groups and their main conclusions are summarized as follows:

- An individual's own beliefs about social media (e.g. opinions on tools, value judgment), expectations, perceptions gained through personal experience, thinking and exploration. There is an overlap here in terms of professional perspectives as individuals and their roles as teachers.
- On the side of the pedagogic perspective, as in consideration of social media for learning within the curriculum, it is important to validate professional conduct and take advantage of routes through to research, networking or visibility and presentation of individuals as professionals.
- On an institutional level the issue of needed effective support is identified as of high importance.

The findings, in all three levels above, demonstrate that personal perspective, interpretation and understanding often lead the way for individuals and inform their pedagogic practice. A number of negative outcomes of social media use have been suggested: information and communication overload, lack of self-regulation, fatigue, depression, narcissism, stress and decreased work performance, and time expectation to maintain a profile.

8. *"Common Social Media Content Barriers"* (Doverspike, 2022)

In a survey taken by a Summer Camp attendee, school professionals noted their biggest barriers on the effective use of social media as being:

- Not having enough time;
- Not enough engagement from users;
- Not knowing what content to post.

9. *"Exploring the role of social media in collaborative learning the new domain of learning"* (Ansari & Khan, 2020)

Social media technology seems only for entertainment, but it should be noted carefully that if such communication technology would be followed with due attention it proves to be productive.

10. *"Understanding instructor adoption of social media using the technology acceptance model"* (Thanomsing, 2022)

The aim of this study on teachers' professional learning communities using Twitter was to provide rich and in-depth insights into teachers' engagement.

Teachers' beliefs about technology play a significant role in their effective adoption of technologies especially their views on "second thoughts" on ease to use and usefulness. It is derived as an important tool to deal with these drawbacks, to properly apply training and support of first-hand experiences.

11. *"Social media and teacher professional learning communities"* (Goodyear, et al., 2019)

The aim of this work was to study how and why instructors decide to use particular social media tools.

The main conclusion is that the difference in engagement from active participation to passive observation is a direct association with a difference in learning needs, contexts, knowledge and practices.

12. *"The challenge to professionals of using social media: teachers in England negotiating personal-professional identities"* (Fox & Bird, 2017)

The paper focuses identifies as an important issue, especially for teachers, how they deal with tensions between their personal and professional use of social media

Teachers are in society's spotlight in terms of examples of inappropriate use of social media but also under peer pressure to connect. These tensions are not always perceived as negative and some teachers' accounts revealed a unity in their identities when using social media which is a potential risk to deal with.

13. *"Teachers' perceptions of an online professional development experience: Implications for a design and implementation framework"* (Bodur & Powell, 2019)

The results of this study focus on the need to examine Online Tools as a mean to support Teachers' Professional Development with a focus on the design and implementation features to better understand their impact. The results reveal a unique insight into teachers as adult learners. Dealing with factors such as relevance, authenticity, usefulness and interaction are identified as of high importance.

14. *“Issues and Challenges in Organising and Evaluating Web-based Courses for Adults”*
(Karalis & Koutsonikos, 2003)

The main points that can enhance active participation in collaborative web-based courses and contribute to overcoming barriers to learning are summarised as follows:

- Taking into account the target groups' needs;
- Supporting communication and collaboration within the group of learners;
- Structuring the educational material in a flexible way for different learning styles;
- Promoting tutor's motivating and facilitating roles.

3. Summarisation of the main obstacles identified

Trying to summarise the main obstacles identified from the presented desk research we propose the following list of main ones:

- Technological insecurities/ fear of the digital divide. This was also a major finding in our field research (Koskeris & Karalis, 2016) where the fear of technological divide is a concern of more than 55% of teachers addressed
- Difficulties in practical use in order to achieve actual usefulness. This is also supported by (Boura, et.al, 2020) who identified functionalities with actual practical importance as the most used ones by teachers utilising social media.
- Time availability;
- Privacy concerns;
- Risk of abuse and overwhelm use;
- Usability issues and lack of support;
- Lack of control;
- Interoperability problems;
- Commercial exploitation;
- Decrease the level of personal relationships;
- Decrease in actual professional performance;
- Emphasis only on entertainment;
- Risks connected with an online reputation (considered as of high importance from the findings of (Koskeris & Garofalakis, 2021)).

As a next step, we propose the following categorization including all identified drawbacks from our field and desk research work:

A. Digital Divide / Technological concern

In this category, the basic identified drawbacks are:

- Practical problems / difficulties with effective and easy usage;
- Need for support / non-available support;
- Accessibility issues;
- Lack of interoperability between tools.

B. Time management issues

In this category, the basic identified drawbacks are:

- Lack of available time;
- Danger from overuse.

C. Personal worries

In this category, the basic identified drawbacks are:

- Privacy, trust concerns;
- Abuse risks;
- Overwhelming from the usage;
- Concerns about control/monitor and commercial exploitation of usage.

D. Misbeliefs - Misconceptions

In this category, the basic identified drawbacks are:

- Fear for the creation of abnormal social relations;
- Belief that social media are to be used only for entertainment and they are not actually useful.

4. Proposed training program

Based on the identified summarisation of 4 specific categories of drawbacks in the previous Section we propose and present the design of a specific core training program for teachers in order to deal with them leading to an efficient utilization of social media tools for teachers' professional development support.

A. Educational needs (Karalis, 2005)

1. Definition of the training framework

a. The problem to be addressed

Based on the research findings from the previous sections, the main problem that the planned training should address is the lack of specific skills from teachers in relation to the effective usage of social networking tools. More precisely, lack of skills in relation with

- practical usage of tools for their daily activities (on professional level),
- time management,
- dealing with technological trends, and
- assuring security

b. Definition of the framework

The main reference framework of the planned program is related to the training seminars which are organized periodically for school teachers in order to strengthen their skills in specific areas (e.g. ICTs).

This leads to the following basic prerequisites:

- The procedures for the implementation of the program must be done in accordance with the legislation for these seminars;
- The main priority is the implementation of the subsidized seminars to the target group to be related specifically with their skills to enhance their work in classroom. A sub-seminar to cover the specific needs derived from the research work presented, should not cover a long period of time (2-3 afternoons at most is considered to be available for this purpose).

2. Information for the target group of the training program

a. Demographics and Social Characteristics

No needed specific requirements for participation. All members of the target group (school teachers) mentioned above can participate.

b. Educational level, previous training and experience

No needed specific requirements for participation. All members of the target group (school teachers who are having by default at least a BSc degree) can participate.

3. Proposals for the Training Program

Based on the finding of the above-presented research activity we propose the following specific characteristics for the Training Program:

a) The content of the training should cover the following topics:

- Usage, technological issues and practical examples

How to effectively use social media, discussion on technological trends on social media, types of tools and practical examples/ workshop of specific scenarios

- Time management in social media usage for professional purposes

How to organize time on social media and how to assure their usage for professional development scope?

- Security and trust for social media.

Which are the risks and dangers and how do deal with them?

b. Training characteristics:

- the training intervention must be very short / fast so as not to "get tired" based on the current obligations of teachers. The implementation will take place in the afternoon due to the availability of trainees.
- the educational methods that will be used should be "participatory" to enhance the efficient - "experiential" learning (Kokkos, 2005).

B. Purpose and Objectives of the Program

Based on the results of the previous step, the purpose of the Program is defined as follows:

The main aims of the program are:

- the training of teachers on issues of efficient use of social networking applications,

- to be able to use them for their professional development in the face of any pre-existing problems and obstacles they are facing until now in relation to them.

Using the proposals of (Karalis, 2005) the above general purpose is analyzed in objectives as follows:

- a. On the knowledge level
 - To be aware of all the latest technological developments in matters of social networking applications and their safe use, so that they can use them to ensure the prevention and timely treatment of any security incidents and the risk of their personal data.
- b. On the skills level
 - To use social networking tools efficiently, in order to enhance their cooperation with other teachers and their professional development in general.
 - To be able to prevent and deal with any security and personal data problems when using social networking tools.
- c. On the level of the attitude
 - To feel comfortable in the use of social networking tools so that they will not face technological-related fears and inconveniences.

C. Detailed content of the program

Based on the results of the above analysis regarding the content, the form and the objectives of the training, the following table of detailed content emerges using the model proposed by (Karalis, 2005), and our work (Anastasovitis, et.al, 2023) which highlighted the specific needs on practical usage examples, we formulated appropriately for the needs of the specific program:

Educational Unit	Contents	Hours
Social networking applications - Latest technological developments	- introduction into social media (Types, Tools) - The more common platforms - Mobile applications - Interconnection with other platforms (Social Media APIs) - Advantages and risks	4
Security and privacy issues	- Fake profiles and impersonation - Spam, viruses, malware - Frauds - Third-party and location-based apps - Privacy, personal information disclosure - Passwords	4
Practical examples from the use of social networking tools	Presentation of specific case studies: - Use a Group to host discussions. - Create interest base Groups - Professional learning communities - Teacher networks	4

We note that the purpose of this work is not the detailed description of each topic in terms of objectives, content and use of teaching techniques, as this will be done by the trainers who will undertake the training. In any case, the implementation of the Thematic Units, based on the results of the analysis that followed should be based on the use of active educational techniques and the avoidance of simple presentations.

5. Further Work

Through a series of papers, we explored the issues

- Obstacles which are faced by school teachers in order to effectively utilize WEB 2.0 tools (Koskeris & Karalis, 2016)
- Assessment of the impact of WEB 2.0 tools usage for teachers' professional development (Boura, et al., 2020)
- Professional skills which can be strengthened through social networking and which tools are the most appropriate for this goal (Koskeris & Garofalakis, 2021)
- Example training frameworks to support the effective use of social media from teachers for specific purposes (Boufardea, et.al, 2018)
- Proper design of a generic training program for teachers to help them effectively address identified drawbacks on effective use of WEB 2.0 tools for their professional development (currently presented work).

In an effort to briefly summarize a combined conclusion of the beforehand research work, we consider the following:

- The teacher's professional development and enhancement of professional profile is strongly connected with the need to improve and strengthen social relations.
- Social media (WEB 2.0) tools can be a useful asset in this direction.
- It is important to be able to assess the impact of such tools using several means (collection of data from specialized software, questionnaires, interviews, and case studies).
- In relation with which are skills that are more enhanced by such tools, teachers are considering that communication and capacity to innovate are the most affected ones. On the other hand, there is a strong concern on the issue of online reputation which is something new and they are reluctant on how to handle it.
- Sharing of educational scenarios (and educational material in general) is gaining the most interest and therefore the most comments from other teachers (comparing for example with blog posts). In the same time the most activated teachers in social media, are mainly uploading and sharing resources and educational scenarios.
- A proper training framework to support social media effective usage from teachers has to be tailored to their learning profile and needs, equipping them with all the attitudes, values, knowledge, skills and life-long learning competences to enable them to support and sustain learning and collaboration communities.

With the current work, presented in this paper, all the above conclusions were combined with additional desk research to conclude/derive a list of groups of obstacles to the effective utilization of social media as teachers' professional development means.

Finally based on all these findings we present a core training program that we propose to be taken under consideration when planning training seminars on new ICTs for teachers.

Following this work, we propose the following next directions for a follow-up research activity:

- Identification and use of additional metrics to assess actual usage and problems on the use of social media from teachers in an automated way (e.g. using logging tools).
- Use of Machine Learning Algorithms (Mahesh, 2018) to utilise data from various sources (e.g. logging, comments) deriving conclusions on social media usability issues (for the specific case of school teachers).
- Design an evaluation plan for the proposed training program based on the use of "before" and "after" metrics (such as the above).

The combination of our work with these additional directions is expected to lead to the creation of an integrated policy on how social media can be used adequately by teachers in order to constantly improve professional development and which are the specific training programs to develop and apply for this.

Conflict of Interest Statement

The authors declare no conflicts of interest.

About the Authors

Andreas Koskeris is holding a BSc/MSc on Computer Engineering and Informatics (1993 - University of Patras), an MBA from the Hellenic Management Association and an MSc in Adult Education. He is head of the Department of Applications and Services (Directorate of Information Systems, Applications & Cybersecurity of Computer Technology Institute and Press), with the main task to act as technical coordinator of all Department's R&D projects. His previous experience includes past R&D work in several EU funded projects concerning Telematics applications, e-Government, Social Networking etc. His research interests (>35 publications) include: Actions to deal with Rural Digital Divide, Adult education, Social Networking and e-government.

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