

Utilization of Social Networks in the Teacher Training Process

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Abstract

The rapid development of social networks has decisively contributed to the configuration of a new environment in the field of distance education (Jones, 2020) which also has an impact on adult education. The research objective is the attitude of teachers towards the use of social media in the context of their training. At the same time, the role and pedagogical utilization of Social Networking in the context of Teacher training was investigated. The Laboratory for Advanced Learning Technologies in Lifelong and Distance Learning [e-Learning Lab] of the Department of Education of the University of Crete designed and created a new Social Network which was pedagogically utilized during teacher training. The results showed that Social Media can be used pedagogically in various levels: communication, collaboration, interaction, as well as participatory learning.

Keywords

Social Networks, Distance Education, Teacher Training, “Learning & Social Network/LSN”

1. Introduction

According to international literature, social networks under pedagogical conditions (Anastasiades, 2017) can contribute to the enhancement of communication, interaction (Greenhow & Askari, 2017) and social presence (Lim & Richardson, 2016) in distance learning environments (Anastasiades & Kotsidis, 2013) expanding the scope of offered learning opportunities.

The purpose of this paper is to research the pedagogical utilization of social networks in teachers' distance training. The research makes optimal use of a comprehensive and collaborative social network environment, which was designed and implemented by the The Laboratory for Advanced Learning Technologies in Lifelong and Distance Learning [e-Learning Lab] of the University of

Crete.

The structure of this paper is as follows: In the first section, reference is made to the modern role that social networks play in distance education. In the second section, the focus is on the collaborative learning social networking environment “Learning & Social Network/LSN” developed by the e-Learning Lab of the University of Crete. The third section presents and discusses the research methodology applied, while in the fourth section the results drawn from the utilization of the environment in the training of teachers are presented. Finally, analysis of the conclusions and reference to future research priorities related to LSN follow.

2. Utilization of Social Networks in the Field of Distance Education

Social networks, due to their openness, easiness of use and interaction, can support the learning process (Anastasiades & Kotsidis, 2013; Ophus & Abbitt, 2009), acquiring a significant place in the demand for open education and continuous training (Anastasiades, 2019).

In particular, social networks introduce a participatory culture for both the trainees and the trainers (Tseng, & Kuo, 2014) contributing to the development of a dynamic and flexible learning and teaching environment (Tess, 2013).

The collaboration between a trainer and a trainee, as well as the collaboration of peers (i.e. among trainees), is one of the most important reasons why social networks can be used in alternative ways in education (Zhang, 2010). Simultaneously, Learning Management Systems provide access to a wide range of knowledge, to a large number of trainees, at their own convenience in terms of time and space (Cooke, 2017).

The above applications can effectively work in conjunction with Social Networks utilizing the philosophy of a participatory culture in which there are many opportunities for someone to be creative through their active participation in building knowledge and being involved in the learning process and communicating in a collaborative learning environment. However, the success of social networks in the facilitation and improvement of the learning processes depends on the particular characteristics of each particular case. Nevertheless, social networks must create the conditions for maximum level of autonomy for the trainees while providing them with the opportunity to create communities of interaction as well as the required framework of support and cooperation (Anderson, 2017).

The collaborative learning environment “Learning & Social Network/(LSN)” was created based on the above educational opportunities offered by Social Media and the pedagogical framework (Anastasiades, 2017).

3. The Collaborative Learning Social Networking Environment “Learning & Social Network/LSN” of the E-Learning Lab

The “Learning & Social Network/(LSN)” was designed and implemented by the

Laboratory for Advanced Learning Technologies in Lifelong Learning and Distance Education [e-Learning Lab] of the Department of Education of the University of Crete based on the open platform Elgg and it constitutes an open collaborative social networking environment.

It was created to encourage interaction between human resources aiming at the implementation of collaborative learning through the social interaction capabilities provided by web 2.0 applications (Anastasiades, 2017; Daud & Zakaria, 2012).

Instructors and trainees have the ability to create a personalized teaching, learning and social networking environment combining the structured nature of eLearning environment with the philosophy of participatory culture of web 2.0 technologies.

Figure 1 shows that it provides:

- 1) Social Networking Environment.
- 2) Collaborative Environment.
- 3) Environment of Educational applications/tools.
- 4) File management environment.

3.1. The Pedagogical Framework

The proposed pedagogical framework adopts the approach which implies that Advanced Internet Learning Technologies should not be considered as a neutral teaching medium, but should be used in pedagogical terms (Lionarakis, 2006), serving the ultimate goal of developing a collaborative environment (Anastasiades, 2017).

3.2. Technological Design

LSN's technological design was based on the use of Elgg open source software, which is provided by the General Public License (GNU-GPL) thus ensuring the freedom of distribution, modification and usage of its source code (Anastasiades, 2018).

LSN was based on the following principles of Social Software Design (Dron, 2007) including: adaptability, evolvability, segmentations, trust, stigmergy, sociability and connectivity.

4. Methodology

Within the context of the 16-week distance learning program, entitled: "Utilizing Web 2.0 in Modern School—From Theory to Practice with an Emphasis on

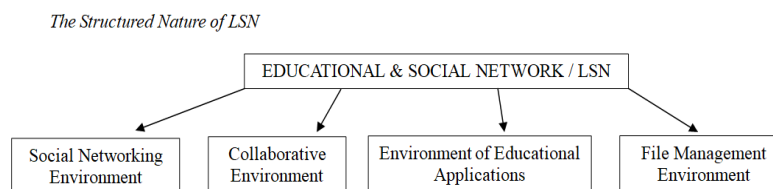


Figure 1. The structure nature of LSN.

Cooperation, Creativity and Critical Thinking”, organized by the Pedagogical Department of Primary Education and in particular the Laboratory for Advanced Learning Technologies in Lifelong and Distance Learning of the University of Crete, the research of the educational utilization of the collaborative learning social networking environment “Learning & Social Network/LSN” of the e-Learning Lab, which constitutes the analysis unit, was implemented. The design of the research, focusing on the operation of LSN as a comprehensive online educational and social environment used in the educational process of teachers, was included in the general pedagogical planning of this educational program, as an integral part of it.

The purpose of the main research is to investigate the pedagogical utilization of social networks in the distance education of teachers. On this basis, the research question that arise can be stated as follows: “What has been the contribution of the integrated collaborative learning social networking environment ‘LSN’ to the learning process of the trainees in the context of the specific training program?”.

The sample of the research consisted of 45 out of the 50 trained teachers who participated in the distance learning program of the case study and completed the questionnaire. The questionnaire was selected as a mean of data collection. Cronbach’s Alpha reliability index was used to evaluate the reliability of the questionnaire. The value results was 0.961 providing evidence for the fact the questionnaire designed, distributed and filled in as a research instrument has a high reliability index.

5. Results

Based on the proposed methodology, the results of the investigation of the contribution of the collaborative learning social networking environment “Learning & Social Network/LSN” of the e-Learning Lab integrated in the learning process of the trainees are presented.

Table 1 shows that participants used LSN very often. Specifically, 55.6% of the sample used LSN 2 to 3 times a week while 33.3% of the respondents reported using LSN on a daily basis. Additionally, 11.1% of users entered and interacted with it once a week.

Table 2 reveals that LSN allows to the users to communicate with their colleagues at their own convenience (4.53) while at the same time are provided with the ability to express their views more clearly and openly (4.16). In addition, participants believe that LSN provides them with the opportunity to have an effective (4.09), more detailed and in-depth communication (4.02) with their colleagues. Finally, they do not seem to agree with the fact that LSN inhibits their ability to express their thoughts and opinions (1.98).

Table 3 shows that participants believe that LSN can support their effort to collaborate. On the basis of the results depicted in **Table 5** it becomes apparent that participants believe that LSN can support their effort to collaborate to a

Table 1. Frequency rate of LSN usage.

Frequency rate of LSN use	n	%
Daily	15	33.3
2 - 3 times a week	25	55.6
Once a week	5	11.1
Once a month	0	0
TOTAL	45	100

Table 2. LSN and communication.

Questions	n	Average	SD
LSN allows me to communicate with my colleagues at times that I choose.	45	4.53	0.661
LSN allows me to have a more detailed and in-depth communication with my colleagues.	45	4.02	0.988
LSN allows me to communicate with my colleagues efficiently.	45	4.09	0.996
LSN allows me to express my views more clearly and openly.	45	4.16	0.976
LSN inhibits my ability to express my thoughts and opinions.	45	1.98	1.422

Table 3. LSN and collaboration.

Questions	n	Average	SD
Easiness of forming an LSN team.	45	4.42	0.892
I believe that LSN helps to develop a sense of learning community.	45	4.53	0.757
I believe that LSN allows me to collaborate more often with the members of my team, compared to other Learning Management Systems (LMS).	45	4.07	0.939
I believe that LSN allows me to collaborate more often with other users, compared to other Systems Learning Management Systems (LMS).	45	3.98	0.941
I believe that LSN supports the creation of learning communities.	45	4.36	0.802
I believe that LSN enhances collaborative learning by creating collaboration groups.	45	4.44	0.725

great extent. Specifically, users believe that LSN helps them to develop a sense of community learning (4.53) as it enhances collaborative learning by creating collaboration groups (4.44), where they can easily create their own groups (4.42) and supports the creation of learning communities (4.36). Finally, participants believe that LSN allows them to collaborate more frequently with both their team members (4.07) as well as other users (3.98) compared to other Learning Management Systems (LMS).

Table 4 shows that participants believe that LSN is easy to use, as they believe that LSN allows them to easily post comments (4.76), share content (image, text, video, etc.) (4.44) but also are free to discuss comfortably and comment upon the ideas of their colleagues (4.40). In addition, participants consider the LSN friendly for both the experienced user (4.71) as well as the novice user (3.73),

Table 4. LSN and usability.

Questions	n	Average	SD
LSN navigation is easy.	45	4.51	0.787
The appearance of LSN is attractive.	45	3.93	0.963
It tooks a long time to get acquainted with LSN.	45	2.09	1.019
LSN is considered as friendly for the novice user.	45	3.73	1.095
LSN is considered as friendly for the advanced user.	45	4.71	0.549
LSN allows me to comfortably discuss and comment upon the ideas of my colleagues.	45	4.40	0.889
LSN allows me to easily share content (image, text, video, etc.).	45	4.44	0.918
LSN allows me to post comments easily.	45	4.76	0.435

since they find it easy to navigate (4.51), with an attractive design (3.93) without requiring much time on their behalf to become familiar with its environment (2.09).

According to **Table 5**, participants believe that LSN can greatly support their effort for interaction and understanding throughout the training process. Specifically, users believe that LSN supports their effort to interact directly with other trainees (4.56), who responded directly to their questions to a very high degree (4.76), as well as with their trainer (4.44). In fact, participants used LSN to a great extent in order to share and discuss their ideas (4.56) saving also time to think about other trainees' comments (3.98). Finally, the trainees considered it very important for the training process, the fact that they themselves had the ability to create content through LSN applications (4.13).

Table 6 shows that participants found that LSN has been very useful in the training process (4.13), as they reported that LSN greatly enhanced their learning effort (4.47) and through using LSN they were able to respond to the needs of training program more directly (4.44), stating that they are very pleased with their overall LSN experience (4.44). The very positive response concerning the LSN from the trainees, realizing its usefulness, is exhibited by the fact that they themselves stated that they will use the LSN in future trainings as well (4.33). Trainees believe that LSN allows them to agreeably use its applications, through which they learn (4.31), enabling them to complete their tasks (study the material, activities) faster (4.31). At the same time, survey findings provided evidence that LSN significantly helped trainers to organize their training material (4.29), while presenting information of different types and levels (text, image, video) (4.04). Finally, participants consider the integration of the various tools (blog, wiki, etc.) into the LSN environment very important in order to create a customized learning environment (4.24), considering that LSN does actually have the tools (blogs, wiki, etc.) so that they may be able to create their own personal learning environment (4.24).

Table 5. LSN, interaction, and learning.

Questions	n	Average	SD
I use LSN in order to share and discuss my own ideas.	45	4.56	0.785
LSN gives me time to think about other people's comments.	45	3.98	1.097
LSN supports my effort to interact directly with other trainees.	45	4.56	0.586
LSN supports my effort to interact directly with my trainer.	45	4.44	0.813
Other users responded promptly to my questions.	45	4.76	0.435
How important has been the opportunity provided to users to create content throughout the training process.	45	4.13	0.842

Table 6. LSN and usefulness.

Questions	n	Average	SD
LSN has strengthened and reinforced my learning effort.	45	4.47	0.842
LSN helped me organise my training material.	45	4.29	0.869
I believe that LSN was useful for the training process.	45	4.13	1.036
I believe that by using LSN I have been able to meet the needs of the training program more directly.	45	4.44	0.841
I would also use LSN in future trainings.	45	4.33	0.879
I have the ability to complete my tasks (material study, activities) faster by using LSN.	45	4.31	1.062
LSN simultaneously displays information of different types and levels (text, image, video).	45	4.04	1.086
LSN allows me to use its applications in a pleasant way, through which I learn	45	4.31	0.848
I believe that LSN has the tools (blogs, wiki, etc.) to guide and enforce me to create my own personal learning environment.	45	4.24	0.883
How important do I consider the integration of the various tools to be (blog, wiki, etc.) in the LSN environment to create a personal learning environment?	45	4.24	0.830
I am totally happy with LSN.	45	4.44	0.867

6. Discussion

In this paper, the results concerning the design, implementation and evaluation of the integrated collaborative learning social networking environment “Learning & Social Network/LSN” designed and implemented by the e-Learning Lab of the University of Crete, have been gathered, recorded and presented.

In particular, it was found that research participants consider that they can use LSN in the training process for their optimum learning and development benefits:

1) Communication: According to the participants in the survey, LSN provided flexibility in terms of communication time, confirming similar findings of prior relevant studies (Ophus & Abbitt, 2009), providing possibilities for expressing opinions, in a climate of cooperation without fear of error, in an informal and

less stressful atmosphere than scheduled classroom lessons and ultimately creating the conditions for effective communication.

2) Collaboration: According to the participants in the research, LSN provided them with the conditions of a shared learning environment, allowing them to easily and quickly create their own groups, in which they communicated, shared material, proceeded to provide feedback to the views of group members as occurred in previous research (Conole & Alevizou, 2010). LSN has had the flexibility in creating and managing groups by almost all of the community users, which in turn contributed to the collaboration, through communication and interaction.

3) Usability: According to the participants in the research, the trainees could easily navigate the LSN and it did not take long for them to become familiar with it, as it provided them with an easy mechanism through which they could communicate and move on, sharing multimedia at their own pace. The results confirmed previous research findings which focus on the easiness of use of social networks (Wopereis et al., 2010) since trainees considered its environment friendly and attractive, realizing its student-centered dimension, due to its user-friendliness (Ebner, Holzinger & Maurer, 2007).

4) Interaction and Learning: The research participants noted that it was important that they could share and discuss their ideas and interact with both their trainer and other trainees, which is in line with Rollett et al. (2007) research findings as well as with many others who argued that when we collaborate and share ideas, communities can be much more productive than when we work individually. In fact, this ability provided to users by LSN in order for them to create content was very important for the training process, confirming relevant previous research findings (Bitar, Melki, & Chammas, 2013).

5) Usefulness and Participatory Learning: According to the view of the participants who took part in the research, the LSN provided multiple benefits regarding daily communication and collaboration of users in groups and throughout the community through sharing of files and discussions in forums, resulting in favourable conditions for sharing ideas and exchanging suggestions and opinions in groups with the trainees themselves presenting innovative ideas (Yilmaz & Keser, 2016). Trainees also noted that it was important for them to be able to publish their ideas in the blogs they created, as well as to receive constructive feedback through other users' comments (Bitar, Melki, & Chammas, 2013).

Finally, through their LSN interface (educational material), the trainees were helped to organize their study and at the same time were able to complete their work, confirming a survey by Bosch (2009), which stated that trainees "download" more freely and directly their organized educational material, which has multiple learning benefits for themselves.

Consequently, the LSN combines the functionality of social networks and the tools of collaborative research and knowledge building and can be a pedagogically differentiated environment for social networking and collaborative learning for the educational community.

In this regard, further issues raised by the present study that go beyond the scope of the training programs remain to be explored. These issues need to be addressed by implementing social networks for participatory and quality learning in wider learning populations in the field of vocational training and lifelong learning.

Conflicts of Interest

The authors declared no potential conflicts of interest with respect to the research, authorship, and publication of this article.

References

- Anastasiades, P. (2017). ICT and Collaborative Creativity in Modern School towards Knowledge Society. In P. Anastasiades, & N. Zaranis (Eds.), *Research on e-Learning and ICT in Education*. Springer. https://doi.org/10.1007/978-3-319-34127-9_2
- Anastasiades, P. (2018). Learning & Social Network at the University of Crete [eLearning Lab]. *Proceedings of the European Distance Education Network (EDEN) 2018 Annual Conference*, Genoa, 17-20 June 2018. <https://proceedings.eden-online.org/>
- Anastasiades, P. (2019). Social Networks and e-Learning Methodologies for Improving Lifelong Learning in the University of Crete. *Book of Abstracts of the International Council for Distance Education (ICDE) International Conference*, 11-13 February, Inland Norway University of Applied Science Lillehammer Norway. <https://app.oxfordabstracts.com/events/552/program-app/submission/69657>
- Anastasiades, P. S., & Kotsidis, K. (2013). The Challenges of Web 2.0 for Education in Greece: A Review of the Literature. *International Journal of Web-Based Learning and Teaching Technologies (IJWLTT)*, 8, 19-33. <https://www.igi-global.com/gateway/article/105618> <https://doi.org/10.4018/ijwltt.2013100102>
- Anderson, T. (2017). *How Communities of Inquiry Drive Teaching and Learning in the Digital Age*. Contact North|Contact Nord. <https://teachonline.ca/tools-trends/insights-online-learning/2018-02-27/how-communities-inquiry-drive-teaching-and-learning-digital-age>
- Bitar, A., Melki, A., & Chammas, M. (2013). ELGG: An Effective Open Source Social Media for Lebanese Higher Educational Institutions. *7th International Technology, Education and Development Conference (INTED2013)*, Valencia, 4-6 March, 6545-6553. https://www.academia.edu/8882211/ELGG_AN_EFFECTIVE_OPEN_SOURCE_SOCIAL_MEDIA_FOR_LEBANESE_HIGHER_EDUCATIONAL_INSTITUTIONS
- Bosch, T. E. (2009). Using Online Social Networking for Teaching and Learning: Facebook Use at the University of Cape Town. *Communication: South African Journal for Communication Theory & Research*, 35, 185-200. <https://doi.org/10.1080/02500160903250648>
- Conole, G., & Alevizou, P. (2010). *A Literature Review of the Use of Web 2.0 Tools in Higher Education*. Higher Education Academy Commissioned Report. https://www.researchgate.net/publication/47343391_A_literature_review_of_the_use_of_Web_20_tools_in_Higher_Education
- Cooke, S. (2017). Social Teaching: Student Perspectives on the Inclusion of Social Media in Higher Education. *Education and Information Technologies*, 22, 255-269. <https://link.springer.com/article/10.1007/s10639-015-9444-y> <https://doi.org/10.1007/s10639-015-9444-y>
- Daud, M. Y., & Zakaria, E. (2012). Web 2.0 Application to Cultivate Creativity in ICT Li-

- teracy. *Procedia-Social and Behavioral Sciences*, 59, 459-466.
<https://doi.org/10.1016/j.sbspro.2012.09.301>
- Dron, J. (2007). Designing the Undesignable: Social Software and Control. *Educational Technology & Society*, 10, 60-71.
- Ebner, M., Holzinger, A., & Maurer, H. (2007). Web 2.0 Technology: Future Interfaces for Technology Enhanced Learning? *Lecture Notes in Computer Science*, 4556, 559-568.
https://doi.org/10.1007/978-3-540-73283-9_62
- Greenhow, C., & Askari, E. (2017). Learning and Teaching with Social Network Sites: A Decade of Research in K-12 Related Education. *Education and Information Technologies*, 22, 623-645. <https://doi.org/10.1007/s10639-015-9446-9>
- Jones, A. H. G. (2020). Using *the Theory of Reasoned Action to Examine Faculty Intentions to Use Social Networking in Distance Learning Courses* (Doctoral Dissertation, University of Alabama Libraries). <https://ir.ua.edu/handle/123456789/6450>
- Lim, J., & Richardson, J. C. (2016). Exploring the Effects of Students' Social Networking Experience on Social Presence and Perceptions of Using SNSs for Educational Purposes. *The Internet and Higher Education*, 29, 31-39.
<https://doi.org/10.1016/j.iheduc.2015.12.001>
- Lionarakis, A. (2006). The Theory of Distance Education and the Complexity of Its Polymorphic Dimension. In A. Lionarakis, (Ed.) *2nd Panellenique Conference for Distance Education*, Athens: Propompos Publications.
<https://www.semanticscholar.org/paper/The-theory-of-distance-education-and-its-complexity-Lionarakis/2e84b1c0f3eb99963189bf98513f788f899f757f>
- Ophus, J. D. & Abbitt, J. T. (2009). Exploring the Potential Perceptions of Social Networking Systems in University Courses. *MERLOT Journal of Online Learning and Teaching*, 5, 639-648.
https://www.researchgate.net/publication/242223693_Exploring_the_Potential_Perceptions_of_Social_Networking_Systems_in_University_Courses
- Rollett, H., Lux, M., Strohmaier, M., Dosinger, G., & Tochtermann, K. (2007). The Web 2.0 Way of Learning with Technologies. *Int. J. Learning Technology*, 3, 87-107.
http://markusstrohmaier.info/documents/2007_IoLT_Learning.pdf
<https://doi.org/10.1504/IJLT.2007.012368>
- Tess, P. A. (2013). The Role of Social Media in Higher Education Classes (Real and Virtual) Literature Review. *Computers in Human Behavior*, 29, A60-A68.
<https://doi.org/10.1016/j.chb.2012.12.032>
- Tseng, F. C., & Kuo, F. Y. (2014). A Study of Social Participation and Knowledge Sharing in the Teachers' Online Professional Community of Practice. *Computers & Education*, 72, 37-47. <https://doi.org/10.1016/j.compedu.2013.10.005>
- Wopereis, I., Sloep, P., & Poortman, S. (2010). Weblogs as Instruments for Reflection on Action in Teacher Education. *Interactive Learning Environments*, 18, 245-261.
<https://doi.org/10.1080/10494820.2010.500530>
- Zhang, J. (2010). *Social Media and Distance Education*.
<http://deoracle.org/online-pedagogy/emergingtechnologies/social-media-and-distance-education.htm>