

Online Social Networking: A Synergy for Learning

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ABSTRACT

Online communication tools and social networking create an atmosphere of sharing, exchanging ideas and information among people, provide adult learners with motivation for learning, and a guide for further learning experiences. The present research has undertaken a case study approach in order to evaluate the impact of online communication tools on developing social networking. In other words, the present research aimed to investigate the perceptions and experiences of 37 pre-service teachers, who were enrolled in a master degree program and actively engaged with social networking through online communication for enhancing productive learning. Thus, self-reports and focus groups were employed as data collection methods. The data were analyzed through thematic analysis regarding themes about social networking, online communication within the frame of social networking wheel, and cultural historical activity theory. The results revealed that online communication tools created an environment of developing socialisation and communication. Networking skills have been found to provide motivation and synergy for learning.

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Keywords:

Case study, Learning, Metaphors, Online communication, Social networking

Introduction

In today's learning-teaching process, learning has been accepted as an intellectual practice as being active, constructive and social within the constructivist paradigm (Jonassen, 1991; Brown, 2006; Moravec, 2008). Learning can simply be defined as "integrating new ideas and information with what learners already know-or use". It is to reorganize what they think and what they know (Poerksen, 2005). Therefore, acting, intellectual processing, constructing knowledge, and creating something new can be crucial for learning. Moreover, intellectual processing of knowledge construction and mutual engagement for the creation of new understanding has been shown as inherent for social learning process (Harris, Bretag, 2003; Cooperstein, Weidinger, 2004; Skerritt, Roche, 2004; Peel, Shortland, 2004).

Within the global, contemporary practices in higher education, education practices incorporate several rationale dynamics. Involvement, teamwork, self-responsibility, learner-centered learning-teaching process, learning by performing, life-long learning, and reflectivity have been indicated as inevitable dynamics that foster co-constructed, accumulated knowledge in transferring knowledge into practice (Whatley, Bell, 2003; Fuang, 2004; Saab, Joonlingen, Walters, 2005; Moravec, 2008). The nature of collaborative learning serves as an intellectual effort in using the dynamics of educational practices by bringing learners together for mutually searching, understanding the meanings, and creating new ideas and information (Huang, 2002). This nature leaves teacher-centered education, and shifts into social, active, reflective, and experiential learning processes. Therefore, collaborative learning provides a ground for having a learning community that group of learners come together for exchanging, sharing their ideas and experiences (Bruyn, 2004; Neo, 2005). Information technology and communication joint learning process condenses the notions of collaborative learning, where mediation facilitates learners in networking, sharing, exchanging, and negotiating ideas within the construction of knowledge and active learning environment (McLoughlin, Luca, 2002; McLuckie, Topping, 2004; Saab, Joolingen, Walters, 2005).

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Cultural historical activity theory (CHAT) provides a stance to understand how psychological and technical tools work as mediators between the individuals as learners, and the social world that affect the co-construction of knowledge. Therefore, it has been suggested that technology-joint learning environments, significantly online community and networking for learning process, are crucial mediators to activate social and experiential learning. Moreover, technology provides a mechanism by actively engaging learners in the learning process, accessing multiple forms and perspectives of information, thinking critically, communicating and engaging in other activities for constructing knowledge (Gazi A., 2009; Aksal A., 2009; Vrasidas, Zembylas, 2004; Ozkal, Tekkaya, Cakiroglu, Sungur, 2008). Thus, CHAT is a theoretical framework that refers to the involvement of dialogue and activity, where learners can generate new knowledge and experiences through communicating and negotiating with others (Bruyn, 2004; Postholm, 2008).

The co-construction of knowledge and experiences as progress may depend on online communication tools that are essential artefacts for fostering online socialisation and networking (Bruyn, 2004; Zapalska, Brozik, 2006). This learning platform also requires active participation, negotiation, knowledge and experience sharing within the frame of life-long learning philosophy. Therefore online social networking communities may have a significant role in enhancing learning and construction of knowledge in professional development (Huang, 2002; Stacey, Smith, Barty, 2004). An online community may help in establishing a network of personal and professional platform. It may become part of learning networks that can be defined as "social networking". In this respect, having productive social networking with specific logical purpose may guide people in gaining success on learning process. It may contribute motivating individuals for further learning experiences. Thus, social networking through online communication tools may provide the opportunity for sharing and negotiation, productivity, intellectual flexibility, and professional growth based on emotional support and synergy of group work (McLoughlin, Luca, 2002; Bruyn, 2004).

Facebook, Myspace, Twitter, Linkeln, Skype, MSN and online platforms as such may enable the learners in engaging with social networking. Online communication tools, which are used with a specific reason and purpose, may help in gaining productive outcomes of involved communication and networking (Cohen, 2008). Therefore, exploration of what learners expect from social networking, before getting involved in communication and negotiation with groups of people, may be crucial. Communication can play a great role within group work, especially in online context. Therefore, it may be crucial to be an activity partner through online communication channels, such as web 2.0 technologies. As adult learners, in enhancing work performance, personal and professional development, using the merits of social networking can form a bridge for building conscious communication and negotiation (Gouveia, 2008).

This study focuses on adult learners' perceptions and experiences on the use of online communication tools for developing social networking in learning. Therefore, the present research aimed to investigate the perceptions and experiences of the pre-service teachers, who were enrolled in a master degree program. Learners may get involved in social and active platforms or communities that are associated with their cultural and historical backgrounds. This is an inherent process that individuals can learn more through active involvement and social interaction with other members of a specific community (Bruyn, 2004; Vrasidas, Zembylas, 2004; Ozkal, Tekkaya, Cakiroglu, Sungur, 2008). The CHAT theory suggests that social networking wheel can become a framework for research. This wheel consists of messaging, search, comments, friends, agents, think map and groups. This harmonic understanding as a framework has been figured out below that supports a flow of research in investigating the impact of social networking in learning.

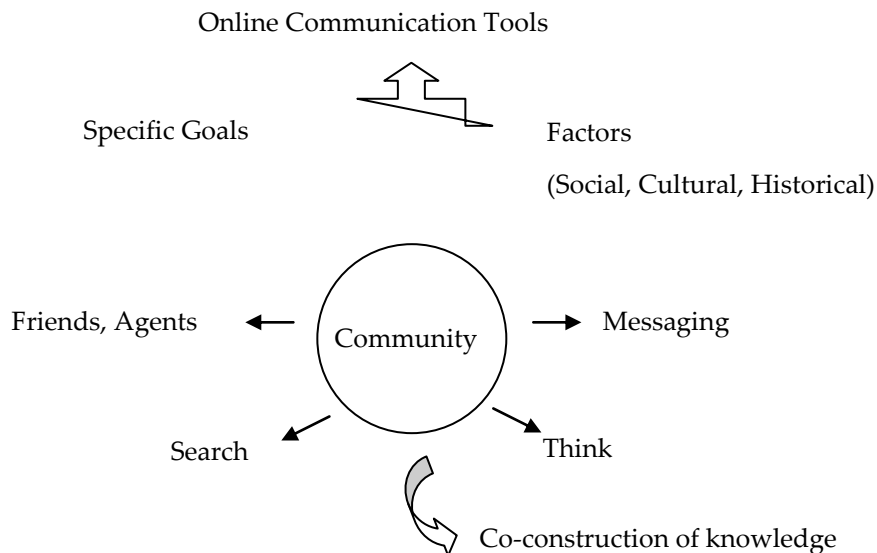


Fig. 1 Harmonic picture of social networking and CHAT

Figure 1 demonstrates the impact of communication, collaboration, reflection and sharing on an online platform. In this respect, the present study reflects the rationale of collaborative learning, mediated instruction, and experiential learning process of adult learners. The community refers for social networking that a group of individuals, at least two people, come together and work together through online communication. Social networking can take place at universities, high schools, and other environments. By using information technology and communication, networking can be experienced in an online context. The merits of social networking through online communication tools enable learners to internalize the values of being lifelong learners and bringing their learning experiences to the future. In addition, online socialization through online communication tools become inherent process for personal and professional experiences that adult learners involve in with awareness of furnishing collaboration, better understanding in learning, sharing, exchanging, and reflecting.

Aim of the research

The main aim of the present study was to reveal the impact of social networking on enhancing learning through online communication tools. The following research questions were addressed throughout the inductive process:

1. What online communication tools do pre-service teachers use?
2. To what extent, pre-service teachers use online communication tools for social networking in learning process?
3. To what extent, using communication tools for social networking increase collaborative learning?
4. How do pre-service teachers perceive the effects of online social networking on co-construction of knowledge?
5. How do pre-service teachers express communication and collaboration on an online platform, using metaphors?

Method

Research Design and Approach

Qualitative research design concerns about the experiences of human being such as perceptions, motivations, intentions, and behaviours. It is a scientific process that is fundamentally interpretive and emergent and considers socially constructed meanings through human experiences (Bogdan, Biklen, 1992; Marshall, Rossman, 1999; Cohen, Morrison, Manion, 2000). Understanding of experiences and meanings, through extensive and prolonged engagement are the dynamics of this kind of research that provides the opportunity to understand the patterns and relationships of meanings within inductive process (Creswell, 1994). Qualitative research encapsulates the experiences of individuals that are grounded to pragmatic, interpretive understanding. Qualitative researchers attempt logical reflection in undertaking experiences and understanding how and what meanings people socially construct about the concerned subjects. In this study, the researchers aimed to reveal the impact of online social networking on learning and co-construction of knowledge using case study approach. A case study focuses on one particular instance of educational experience and attempt to gain theoretical and professional insights from full documentation of that instance (Yin, 1994; Freebody, 2003). In addition, it aims to describe a phenomenon in its own context based on examining, exploring and reflecting the concern within a well-documented study.

Regarding the nature of the case study approach, researchers investigate and report the complex dynamic and unfolding interactions of human relationships and experiences for the singular setting involved (Yin, 1994). In addition, there is an attempt to undertake single case study approach, which is a technique for analysing the structure and behavioural dynamics of a phenomenon investigated in a concrete narrative detail of actual, realistic events (Freebody, 2003).

Participants and Ethics

37 volunteers became part of this qualitative research where purposive sampling strategy was employed. The factors that have been considered in choosing this group of learners were as follows:

- Being graduates and adult learners that are convenient to involve in collaborative learning
- Having voluntarism and enthusiasm to be part of the research process
- Having prior knowledge and experience in online social networking

Ethics was considered as critical part of the research process where confidentiality and trustworthiness was carefully undertaken in order to prevent unexpected challenges in the research process (Saunders, Lewis, Thornhill, 2000). The participants were informed about the stages of the research process and thereafter the informed consent was sought prior to the study.

Data Collection and Analysis

Multiple qualitative data collection techniques, self-report and focus groups, were triangulated for in-depth investigation of the research focus. Self-report can be defined as type of open-ended questionnaire to obtain qualitative data in relation to experiences, reflection and interpretation of the participants, which it is significant to gain experiences and reflections of the learners about the impact of online social networking in learning process (Marshall and Rossman, 1999). Denzin and Lincoln (2003) define the focus groups as group interchange that covers understanding of individuals or a group perspective within a frame of interpretation on issues and experiences. Thus, eight focus groups, with five participants in each group, were performed.

By considering social networking and online communication dynamics as key themes, thematic analysis was employed to interpret self-reports and focus group activities (Altınay and Pravakis, 2008). The researchers identified categories and themes in light of thematic analysis and based on classification and categorization of the significant themes within the framework of the research (Altınay, Paraskevas, 2008; Saunders, Lewis, Thornhill, 2000). The credibility of the research was satisfied by, triangulation of methods and considering collaborative data analysis procedure. By this way the cross-examination and verification of the data from multiple data collection sources were achieved.

Findings and Discussion

Professional Experience

The participants were selected from different professional backgrounds. The following table (see Table 1) demonstrates the backgrounds of the participants who have similar background in master degree program. However, some of them (N= 6) did not report their professional fields

Table 1 Professional backgrounds of the participants

Participant 1	Participant 2	Participant 3	Participant 4	Participant 5
Psychology	Mathematics	Mechanical Engineering	Student Assistant	Art
Participant 6	Participant 7	Participant 8	Participant 9	Participant 10
Chemistry	Electrical Engineering	Mathematics	Student Assistant	State Officer
Participant 11	Participant 12	Participant 13	Participant 14	Participant 15
X	Mathematics	Teacher	x	x
Participant 16	Participant 17	Participant 18	Participant 19	Participant 20
Biology	Teacher	Teacher	x	Biology
Participant 21	Participant 22	Participant 23	Participant 24	Participant 25
Student Assistant	Teacher	Public Relations and Advertising	Student Assistant	Architecture
Participant 26	Participant 27	Participant 28	Participant 29	Participant 30
Press Editor	Student Assistant	Psychology	X	Student Assistant
Participant 31	Participant 32	Participant 33	Participant 34	Participant 35
Student Assistant	Teacher	Teacher	Architecture	Barmen
Participant 36	Participant 37			
x	Student Teacher			

x: Professional field not reported

As can be seen in Table 1, the participants had graduated from different fields, and aimed to develop their professional experience through involving in a master degree program. In addition to this, the majority of the participants reported that they were using online communication tools for learning, sharing of knowledge and socialization.

Communication tools used

Regarding self-reports, the participants mentioned a range of online networking tools that they were using for different reasons (see Table 2). Among these Facebook was found to be most frequently used by 83.8% of the participants. This was followed by Msn that was reported by %62.2. The least frequently employed networking tool was telephone (8.1%).

Table 2 Communication tools used for social networking

Categories	N	%
Facebook	31	83.8
Msn	23	62.2
Hotmail	10	27.0
Twitter	5	13.5
Skype	5	13.5
Other	4	10.8
Telephone	3	8.1

In line with self-reports, focus groups confirmed that the Facebook was the most preferred tool for communication. In addition, Msn, Skype, Hotmail, Twitter, and Telephone were other preferred communication tools for social networking and communication in learning platforms. In a concrete example, almost all of the focus groups revealed that Facebook and then Msn were most popular tools for learning and sharing of knowledge and experiences. Furthermore, one of the focus groups also exhibited that Msn and Facebook may eliminate socialisation and lead to isolation.

Aims of Using Communication Tools

The online social networking tools were being used for various reasons as indicated in Table 3. Almost all of the participants (N=33) reported that they were using online communication tools in order to keep in touch with family and friends, which they indicated as sharing and communication purposes. Participant 2, 5, 8, 10 and 16 similarly expressed that they were using online communication tools for chatting with friends, communicating and sharing culture, knowledge and getting informed about the latest news. In addition, participant 6, 18, 34, 35, 36 reflected that they used online communication tools for socialisation. Furthermore, participants 25, 28, 29, 37 underlined that online communication tools were fostering social bridge for learning. Although qualitative data is limited in its ability for generalizing the present results, it demonstrated that communication tools have encouraged communication and exchange of ideas in the sense of constructing knowledge within collaborative learning environment. One of the participants (22 years old, male) expressed this as *"I use online social networking for communicating with friends and relatives away"*. Another one (21 years old, female) mentioned that it was cost effective using the communication tools for keeping in touch, *"it is cost effective and I can contact people anytime I need to."* There were others who suggested that it was cheaper using online networking tools in communicating. A 30 years old male pre-service teacher mentioned this as *"I use online social networking tools for keeping in touch with friends and reduce the use of my cell phone."* The OCTs were also being used for socializing (29.7%), and having up to date news about members of network. Some of them used in order to meet new people and extend their number of contacts, *"I do like meeting new people that help improving my social life."* (23 years old, female). Some of them (16.2%) were using OCTs for professional and academic purposes. *"I have over a hundred contacts and I do instant messaging, file transfers and knowledge interchanging"*(25 years old, female). *"I have got colleagues in my network and we do sometimes share information about latest developments in our area"* (20 years old, female).

Table 3 The aims of using communication tools for social networking

Categories	N	%
Keeping in touch with family and friends	16	43.2
Socializing	11	29.7
Professional or academic purposes	6	16.2
Business	3	8.1
Extending friend network	3	8.1
Keeping track of news	2	5.4

Regarding the self-reports, pre-service teachers had a tendency to use online communication tools for business, socialization, keeping touch with others, and professional or academic purposes. In this respect, results have revealed that pre-service teachers who were working used communication tools for learning in social platform. The results of the focus groups confirmed that that the online communication tools could be used as a synergy for learning. However, focus group activity revealed that some of the participants (N=4) found online communication tools inappropriate for learning. In summary, online communication tools encouraged reflection, negotiation, communication and feelings of sharing, ideas and knowledge. In this respect, this learning platform remarked how social interaction refers gaining multiple perspectives from real life experiences, different cultural and social interpretations based on shared perception for co-construction of knowledge (Gouvenia, 2008; Morevac, 2008).

Collaborative Learning Process

Both self-reports and focus groups confirmed that online communication platform foster collaborative learning environment. This platform provides interchange of knowledge and social interaction, thus enhances co-construction of knowledge. The pre-service teachers were asked to state the meaning of having social network and communicating online. The majority of them (45.9%) outlined that social networking and communicating online meant social interaction for them, *"It means socializing, having new friends and having up to date information about how they (friends) are doing."* Some of them (24.3%) expressed that it meant interchanging knowledge. One of the respondents (21 years old, female) said *"It means sharing of lecture notes and communication to me."* There were others mentioning how quick it was to access information through online networking.

Table 4 The meaning of having social network and communicating online

Categories	N	%
Social interaction	17	45.9
Interchanging knowledge	9	24.3
Quick access of information	6	16.2
Negative social effect	1	2.7

Regarding self-report and focus group activity, some of the participants (N=4) underlined that collaborative learning environment had a negative social effect. Furthermore, this research signifies how collaborative learning platform fits to adult learning and how it fosters gaining multiple perspectives and social interaction for co-construction of knowledge (Huang, 2002).

Effects on Co-construction of Knowledge

Almost all of the participants stated in their self-reports that the community provides sharing, negotiating for co-construction of knowledge in learning process and workplace. Table 5 presents how the participants perceived the effects of using OCTs on co-construction of knowledge. The majority (78.4%) found it useful and were able to interchange knowledge, access rich information resources whenever needed. One of the participants explained this as *"as it (OCTs) helps me in accessing wide range of information conveniently. I think it helps developing my-self on a specific topic"* (23 years old, female). Another one (24 years old, female) stated *"it is quite important as it helps our development and getting rid of the blinkers."* Some of the participants (16.2%) thought that the OCTs were not useful on learning and self-development. One of them conveyed this as *"I don't think it helps with my education but I think it helps with meeting new people and socialising"* (30 years old, female).

Table 5 The perceived effects of using online communication tools on co-construction of knowledge

Categories	N	%
Useful	29	78.4
Not useful	6	16.2
Neutral or no response	1	2.7

Metaphors Used for Online Community

Metaphors are significant evidence to reveal how pre-service teachers perceived online community and its impact on learning process. In this respect, the respondents suggested a range of metaphors for expressing the meaning of communication and collaboration on an online platform by self-reports. Among these were “boomerang” and “blood circulation” that one of the participants defined as “give and take” (23 years old, female), mentioning knowledge interchange. Some of the participants suggested metaphors like “magnet”, “fishing net”, “addiction” and “exciting book” demonstrating the amusing nature of using OCTs. This dimension was also supported by other metaphors like “festival”, “music”, and “café” indicating that it is fun and exciting to collaborate with peers on an online platform.

Among focus groups, first group expressed that this community was like “ocean”. This group explained the reason for using this metaphor as, “this community provides endless ideas, thoughts to exchange and construct knowledge”. In addition, second group remarked the community as a “library”. They highlighted that it provides huge amount of information and news that can be followed and internalized. The third group stated the community as “space” that provides everything that we look for. In addition, this focus group (N=4) indicated that the platform create lots of time and energy with negative social effect. The fourth group indicated this community as “communication line” leading to communication and socialisation. Similar to second group, fifth group indicated the community as a “library”. It provides a large amount of information. Sixth group perceived this community as a “nervous system” that is central of life for sharing knowledge and professional experience. Seventh group supported second and fifth groups that the community was like a “library” that is part of our life and provides socialisation, economy and merging cultures and shared perceptions.

In respect to self-reports and focus group activity, almost all of the participants perceived online community as it serves as a platform of reflection, negotiation, sharing knowledge and co-construction of knowledge for professional development. However, a few of them (N=4) perceived the community as not useful for knowledge construction process.

Conclusion and Recommendations

Online communication tools provide a ground for socially constructed knowledge, which can be transferable to work and daily life experiences (Fung, 2004). They encourage online community negotiating, communicating and reflecting skills and providing opportunity to establish shared perception with others (Huang, 2002). In this respect, 37 participants who were employed and studying master degree stated their interpretations and experiences within online community. The findings revealed that online communities can provide collaboration and communication, thus enhance motivation and learning in relation to co-construction of knowledge based on social interaction (Huang, 2002; Peel, Shortland, 2004; Moravec, 2008).

In respect to research focus, participants underlined that Facebook, Msn, Skype, etc. were the most preferred tools for networking. They used these platforms for exchanging ideas, communicating with people and hence maintaining their professional growth based on collaborative and social interactive learning process. In this research, metaphors were used to interpret the perceptions of the participants regarding communication and collaboration on an online platform. The results revealed that online communities were sources of social interaction, knowledge sharing and transfer. The research also yielded that online

communities were bridges to gain multiple perspectives and support for co-construction of professional and subject matter knowledge.

In summary, it can be underlined that online communities provide social networking, collaborative work, social support, immediate information, shared perception, and negotiation for personal and professional achievements. In this respect, the research revealed following conclusions:

- ✓ Online communication and socialisation in respect to Social Networking Wheel and CHAT theory: Online communication tools can provide opportunity to create a community for socialisation, motivation and enthusiasm to get involved in collaboration for co-construction of knowledge. In this respect, collective effort and shared perception with a specific goal provide satisfaction and confidence within learning process (Gouvenia, 2008).
- ✓ Personal and professional development: Getting involved in collaborative interaction through online community provides having immediate contacts, negotiations, thereby enhances personal competencies like peer support, team work, communication, negotiation and intellectual flexibility. In addition, online communication tools create platforms of sharing, negotiating, exchanging ideas with others for a specific purpose. In this respect, these platforms provide learning together thereby enriches professional experiences (Peel, Shortland, 2004; McLoughlin, Luca, 2002; Morevac, 2008).

Finally, the present research was conducted within a specific context; which, it may be further extended in another study. Also, mixed method approach can be used thereby quantitative techniques and analysis might have been benefited to enrich credible research outcomes in further studies. For example, experimental models may be incorporated in testing the effectiveness of the online communication tools on the learning processes to strengthen the conclusions.

References

- Aksal A., F. (2009). Action plan on communication practices: Roles of tutors at EMU distance education institute to overcome social barriers in constructing knowledge. *The Turkish Online Journal of Educational Technology*, 8(2), 33-47.
- Altinay, L., Parakevas, A. (2008). *Planning research in hospitality and tourism*. Oxford: Elsevier.
- Bogdan, R., C., Biklen, S., K. (1992). *Qualitative research for education*. Boston: Allyn and Bacon.
- Brown, T.H. (2006). Beyond constructivism: navigationism in the knowledge era. *On The Horizon*, 14(3), 108-120.
- Bruyn, L. L. (2004). Monitoring Online Communication: Can the development of convergence and social presence indicate an interactive learning environment?. *Distance Education*, 25(1), 67-81.
- Bryman, A. (2004). *Social research methods*. Oxford University Press.
- Cohen, L., Manion, L. & Morrison, K. (2000). *Research methods in education*. London: RoutledgeFalmer.
- Cohen, S. (2008). *Using social networking in university emergency communications*. UCLA School of Public Affairs, Department of Public Policy.
- Cooperstein, S.E., Weidinger, E. K. (2004). Beyond active learning: a constructivist approach to learning. *Reference Services Review*, 32(2), 141-148.
- Denzin, N. K., Lincoln, Y. S. (2003). *Collecting and interpreting qualitative materials*. London: SAGE.
- Freebody, P. (2003). *Qualitative research in education: interaction and practice*. London: SAGE.
- Fung, Y. Y. H. (2004). Collaborative online learning: interaction patterns and limiting factors. *Open Learning*, 19(2), 135-149.

- Gazi A., Z. (2009). Implementing constructivist approach into online course designs in Distance Education Institute at EasternMediterraneanUniversity. *The Turkish Online Journal of Educational Technology*,8(2), 68-81.
- Gouveia, P. (2008). *The four most popular social networking sites*.Bizcommunity.com, available at <http://www.bizcommunity.com/Article/196/16/20623.html>.
- Harris, H. and Bretag, T. (2003). Reflective and collaborative teaching practice: working towards quality student learning outcomes, *Quality in Higher Education*, 9(2), 179-185.
- Huang, H-M. (2002). Toward constructivism for adult learners in online learning environments. *British Journal of Educational Technology*, 30(1), 27-37.
- Jonassen, D.H. (1991). Evaluating constructivist learning. In T. M. Duffy, and D. H. Jonassen, (Eds.), *Constructivism and the technology of education* (pp. 137-148).USA: Lawrence Erlbaum Associates.
- Kudret Ozkal et al., A conceptual model of relationships among constructivist learning environment perceptions,epistemological beliefs, and learning a..., *Learning and Individual Differences* (2008), doi:10.1016/j.lindif.2008.05.005
- Marshall, C., Rossman, G. B. (1999). *Designing qualitative research*.Thousand Oaks: SAGE.
- Saunders, M., Lewis, P., Thornhill, A. (2000).*Research methods for business students*.London: Prentice Hall.
- McLoughlin, C., Luca, J. (2002). A learner centred approach to developing team work skills through web based learning and assessment.*British Journal of Educational Technology*, 33(5), 571-582.
- McLuckie, J. & Topping, K. J. (2004).Transferable skills for online peer learning.*Assessment& Evaluation in Higher Education*, 29(5), 27-37.
- Moravec, J. W. (2008). A new paradigm of knowledge production in higher education. *On The Horizon*, 16(3), 123-136.
- Neo, M. (2005). Web-enhanced learning: engaging students in constructivist learning. *Campus-Wide Information Systems*, 22(1), 4-14.
- Peel, D. and Shortland, S. (2004). Student teacher collaborative reflection: perspectives on learning together. *Innovations in Education and Teaching International*, 41(1): 49-58.
- Poerksen, B. (2005). Learning how to learn. *Kybernetes*, 34(3/4), 471-484.
- Saab, N., Joolingen, W. R., Hout-Wolters, B. H. A. M. (2005). Communication in collaborative discovery learning. *British Journal of Educational Psychology*, 75, 603–621.
- Skerritt, O. Z., Roche, V. (2004). A constructivist model for evaluating postgraduate supervision: a case study. *Quality Assurance in Education*, 12(2), 82-93.
- Stacey, E., Smith, P. J., Barty, K. (2004). Adult Learners in the Workplace: Online learning and communities of Practice. *Distance Education*, 25(1),107-123.
- Vrasidas, C., Zembylas, M. (2004). Online professional development: lessons from the field. *Education + Training*, 46(6/7), 326–334.
- Whatley, J., Bell, F. (2003). Discussion across borders: Benefits for collaborative learning. *Education Media International*, 40 (1/2), 139-152.
- Zapalska, A., Brozik, D. (2006). Learning styles and online education. *Campus-Wide Information Systems*, 23(5), 325-335.