

Supporting Teachers' Networked Learning Skills for More Online Engagement

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Supporting Teachers' Networked Learning Skills for More Online Engagement

Kamakshi Rajagopal, Adriana J. Berlanga, Peter B. Sloep

*Centre for Learning Sciences and Technologies, Open University of the Netherlands,
kamakshi.rajagopal@ou.nl, adriana.berlanga@ou.nl, peter.sloep@ou.nl*

Abstract

This article looks into professional networks and their evolution into their current state as blended networks. The eTwinning network, a network of European schools, is described as an example of such a professional network for teachers, where studies from the TellNet project show that many teachers in the online network are isolated. As the eTwinning network wants to evolve into supporting more continuous professional development activities, the current disengagement of members needs to be resolved. Several potential underlying causes for the disengagement are described, as well as an approach to technical support that aims to engage the members in gaining the most from their participation in the network.

Keywords

Learning Networks, personal learning networks, eTwinning, TellNet.

Introduction

Networks have long been considered good environments for informal learning and professional development (Granovetter, 1983; Nardi et al, 2000, Webster-Wright, 2009). To allow for continuous learning in these environments, networked structures have evolved around individuals, companies and organisations with a specific aim to promote knowledge sharing and knowledge development across organisational borders (Tempest & Starkey, 2004).

These professional networks occur across professions, often have some limited organisation and centre around a number of goals, ranging from standardising practice and lobbying for industrial rights, to sharing knowledge and promoting innovation. Some examples are the following: the Institute of Electrical and Electronics Engineers in technology (IEEE, 2011), airline alliances in the aviation industry, networks in medical practice (DeLeskey, 2003) and network of researchers in technology-enhanced learning (TELEurope, 2011).

In recent years, these networks have also taken shape online, with the support of web-based environments and tools. The rise of social media has increased the different ways and extent to which interactions between people can take place. This evolution has created the scope for these online networks to develop into Learning Networks. Learning Networks are technology-supported communities through which learners share knowledge with each other and jointly develop new knowledge (Sloep & Berlanga, 2011). Examples of Learning Networks for professional development are networks of employees who want to improve customer services, lawyers who want exchange knowledge and experience, or networks of teachers who exchange their experiences and seek collaboration.

More recently, technologies have evolved in providing individual learners the tools to create their Personal Learning Networks (PLN) to support their non-formal learning. These tools allow learners to structure, manage and orchestrate the complex environment of people and content around themselves according to their own preferences, and to suit their individual learning needs (Conole, Delaat, Dillon, & Darby, 2008; Attwell, Cook & Ravenscroft, 2009).

Many current professional networks have evolved in this way into blended networks: they provide a platform for their members to interact, share experience, learn from each other and create new knowledge. They do this through face-to-face networking events such as conferences or seminars, through a centralised online platform and increasingly by offering a personal space to their members to post a profile, have a blog or other social media. Some networks also offer interaction on other social platforms than their own, such as LinkedIn or Facebook (e.g. the Official IEEE Group on LinkedIn).

Networked learning environments such as those described above have many advantages: unlike other structures, they are able to connect a wide range of people with different perspectives on a topic. Some networks develop a reputation for quality and authenticity with their members, and to the outside world. Online environments additionally bridge the gaps of place and time, making more interactions between their members possible. The disadvantage of networked structure for learning environment is that much of responsibility and motivation lies with individual learners. Also, networked learning depends on particular well-developed skills in the learner. Novice learners may be discouraged to engage in this type of learning, due to their lack of skills in knowledge articulation or the lack of feedback (Johnson, 2008; Cicognini, Pettenati, & Edirisingha, 2010).

In this paper, we look at how technology can support individual learners in gaining the most from their participation in a learning network. We will first look more closely at the eTwinning network, a network for European school teachers, as an example of a blended network. We will go into the strengths and weaknesses of this network, and elaborate on the problem of member engagement. We will then describe one possible approach of dealing with the problem of engagement, focusing on the relationship between networked learning and knowledge articulation, and the supportive tooling that can be offered to individual learners for this purpose. Finally, we will describe the methodology of a proposed experiment to be conducted within the eTwinning network.

The eTwinning Network and TellNet

eTwinning (<http://www.etwinning.net>) is defined as the network for schools in Europe, which promotes teacher and school collaboration through the use of Information and Communication Technologies (ICT). The eTwinning network (over 130.000 users) is a large online environment in which teachers can work with each other and learn from each other (Vuorikari, 2011). Through this network, collaborative projects can be started on a wide variety of subjects, ranging from improving teaching skills of math teachers to having multiple primary school students working together and learning about different cultures (Fetter, Berlanga & Sloep, 2010)

Since the beginning of the eTwinning action in 2005, its main purpose was the facilitation of collaborative school projects across borders in Europe, whereas since 2008, its aim has broadened towards the delivery and maintenance of a social network for teachers (eTwinning, 2010). In parallel, the eTwinning platform has gone through major changes. New social networking features have been added to the platform to allow eTwinning teachers (eTwinners) to do projects, to socialize, to extend their professional network and to improve their teaching skills. The socialization of the network is, therefore, paramount to eTwinning's future development (eTwinning, 2010).

The European project Teacher's Lifelong Learning Networks (Tellnet) aims to study the eTwinning network by managing and handling large-scale data on social networks, in order to support development of teachers' competences through the online platform. Furthermore, this project also explores future scenarios for the eTwinning network as a platform for continuous professional development of teachers in Europe. Results of the TellNet project indicate that the eTwinning network is largely a blended network (Fetter, Rajagopal, Berlanga & Sloep, 2011). Although the network is centred around the online European platform where teachers can engage across borders, the teachers' activities greatly depend on many face-to-face interactions on local level. This involves activities between teachers within a same school, between schools in same countries and interactions with the national helpdesks (eTwinning, 2010).

TellNet results show that there is a small core group of eTwinners who actively interact with each other on the online platform. However, the results also indicate that a large proportion of eTwinners on the platform remain isolated. Note that these results only tell us something about the online activities. Any interactions between teachers that take place outside the web platform are not necessarily visible in the analysis of the online platform (Fetter, Rajagopal, Berlanga & Sloep, 2011).

The fact that many teachers enrolled in the eTwinning platform online does indicate interest from their perspective to interact and collaborate with their European colleagues. However, the relatively low number of interactions on the platform may be due to other factors:

- Firstly, eTwinning is a blended network: teachers who appear isolated online, may not necessarily be isolated from the actual eTwinning social network, as these teachers may engage with the network through face-to-face activities. The platform allows for lurking: teachers can browse resources and profiles of other teachers. As a consequence, it is possible that teachers do not connect with others through the platform, but use other ways to get in touch with prospective contacts.
- Secondly, interacting and communicating with largely unknown people through an unfamiliar medium may discourage certain teachers even when they might have the required ICT skills to work on the platform. In other words, there may be a psychological threshold for many.
- Thirdly, networking, i.e. meeting and connecting with other new people in order to share experiences and potentially collaborate in the future, is not an activity that appeals to everyone in equal measure. Some teachers may be inherently more motivated to engage with others for the purpose of personal professional development, while others may not.

eTwinning aims to grow in its support of teachers' continuous professional development and lifelong learning at European, national and local level (Vuorikari, 2011). The newly introduced social networking features allow teachers to make more personal profiles on the platform and to communicate more directly. Possible future scenarios for the eTwinning network include extending this personalisation even further, potentially linking the network with other existing networks (Ala-mutka, Redecker, Punie, Ferrari, Cachia & Centeno, 2010). With this aim, it is important that the large group of disengaged and isolated members of the eTwinning platform are encouraged to participate more actively in the network. In the remainder of this paper, we will look at one approach to technology design that aims to engage teachers more.

Training Networked Learning Skills for Online Environments

Networks, such as eTwinning, support continuous professional development by supporting social learning and constructivist learning between their members through various activities (Bandura, 1977; Vygotsky, 1978). This type of learning depends on particular basic social skills on the part of the learner. To be successful, learners need to be able to hold and sustain conversation with each other. This means (Dillenbourg, 1999; Kintsch & Van Dijk, 1978; Rajagopal, Verjans, Van Bruggen & Sloep, P. B., 2011):

- they need to be able to engage in dialogue with others, building on their linguistic skills.
- they need to be able to understand and take the perspective of the other, including those aspects which are contrary to their own views.
- they need to be able to understand and articulate their own views sufficiently.

Apart from these skills, for learning purposes, learners also actively need to remember those elements that caused breakdown, (i.e. that did not match their own views and forced them to think and understand), as these elements give rise to misunderstanding and re-evaluation of previously held assumptions (Stahl, 2006). Furthermore, such advanced learners assemble information from various sources, to put these together in a coherent understanding building on their reflective skills (Schon, 1990; Boud, Keogh and Walker, 1985). Although the skills mentioned above are higher-order skills, the popularity of networks for continuous professional development show that these learning methods are widely used and may even be considered most natural for informal learning.

In online contexts, the same learning methods and social skills are required to make learning occur. However, online conversations are very different from face-to-face ones: they are often shortened, more distributed across several platforms and at a first glance, appear to be superficial. They are often conducted in a public space, making the number of people interacting much larger than in face-to-face situations. This context makes the learning experience of a conversation less visible to the learner, thereby making the need for the learner to reflect beyond single conversations much more of a necessity than in face-to-face interactions.

It is in supporting this aspect of online learning that current online platforms fall short. Reflection can for example be encouraged by engaging the learner in a (creative) activity such as writing or articulating their knowledge in other ways (Wang, Woo, & Zhao, 2009). Although there are many technologies to encourage connecting and interacting with others on a networking platform, there are few technologies that help learners reflect actively on their learning within the platform. The few existing technologies supporting reflection are:

- personal and group weblogs, where learners can write, create, share resources and their own interests with others. By doing this activity, they are mulling over a topic and articulating a particular vision on this topic (Wopereis, Sloep, Poortman, 2011)
- wiki, where learners can collaborate with others to create resources. By doing this activity, they are articulating and negotiating opinions to form a coherent text. (Krebs, Schmidt, Henninger, Ludwig & Müller, 2011)
- forum threads, where learners can discuss a topic in the form of questions-and-answers. By doing this, learners formulate their understanding, identify gaps in the understanding and ask questions. They also answer questions and collaboratively come to a shared opinion or understanding of a topic.

In most platforms, these technologies are present in some form, but their usage is often left up to the learner's discretion. Furthermore, the role of tagging, i.e. labelling of resources with self-chosen labels, has also been recognised in aiding reflection (Glahn, 2009; Panke, S & Gaiser, B., 2009).

So in this situation, how can we engage more people in taking up networked learning, i.e. the process of collecting and reflecting on topics? And how can we use this to get more people to engage in online networking platforms such as the eTwinning platform?

Proposed Experiment Design

For novice learners to engage with others in an online platform aimed at supporting social learning, they need sufficient reasons to interact with others and to experience the value of networked learning.

This value can be made explicit by encouraging the learner to reflect on previously collected knowledge. Using technology, the learner can be asked to link up (seemingly) distant concepts from their own past interactions with others, in order to make the learner reflect on and articulate tacit knowledge. This gives learners the opportunity to track their notes and ideas from the moment of their conception (during a conversation) to the moment of articulation and contextualisation of the idea. Such an idea may even grow into action. It is expected that the learning itself becomes more visible through this activity, thereby giving the learner more reason to understand the value of engaging in networks through social interactions in face-to-face and online through an online networked platform.

We propose to conduct an experiment as part of the TellNet project, on the eTwinning network. The aim of the experiment is to validate if participants benefit from activity in the network and ultimately engage more in the network. It will investigate if participants benefit from the reflective and knowledge articulation activity on their conversations and ideas and if this activity fosters self-reflection. It will also aim to determine at what point of the activity social networking is most beneficial for the individual learners.

Technically, this experiment will be supported by a system that can combine user-generated tagging with automatic keyword extraction, and support user reflection for the purpose of learning.

The design of the experiment is as follows:

The experiment will be conducted with 20 eTwinners, in a synchronous, face-to-face experiment. It will be ensured that the 20 selected eTwinners do not know each other beforehand. The 20 eTwinners will be divided into 4 groups of 5 each.

Preparatory phase (for the 4 groups):

- 1 the eTwinners will first be asked to write down 5 lines on their own work and interests. Keywords will be extracted from these profiles using simple linguistic analysis rules. (10minutes)
- 2 the eTwinners will then be asked to write down 5 contacts from whom they learn, using one card per name. Next, they will be asked to append these names with a number of tags denoting topics they associate with that contact. They will be asked to use one card per tag. (10 minutes)

Interaction phase

- 3 the eTwinners will then be asked to get to know each other through natural conversation. They can meet as many people as they like or manage to in the allotted time (20minutes). During the interactions, eTwinners will be free to make notes on the people and topics.
Group 1 will have be able to view the notes made by others in the group, during the interaction phase.

Reflection phase

- 4 the eTwinners will then be asked to combine and reflect on their notes (5 minutes). They will be asked to group notes into baskets, according to the categories and groupings of their own choice. The participants will not be restricted in the number of times they use a note.
Members of group 3 will have the opportunity to look into the classifying activities of others in their group, during the reflection phase.

Articulation phase

- 5 The eTwinners will then be asked to use their baskets of topics and people to write down short pieces of coherent text elaborating on the associations made (15 minutes). Group 3 will be asked to share their articulations with each other, and provide comments on the participants' texts. The other groups will only write the texts as personal reflective documents.

To evaluate the concept, all participants will be asked through a questionnaire to rate the learning experience as a whole, to rate the activities of the preparatory phase, of the interaction phase, of the reflective phase and of the articulation phase. The evaluation will look into quantitative data such as the number of notes made and the number of baskets made, as well as more qualitative data such as coherence of the texts and eTwinners self-reflections on the activity to gauge their perceived learning.

To get some feedback on the technical design for implementation, the results of the four groups will be compared to identify the design offering the most scope and potential for learning.

Conclusion

This article looked into professional networks and their evolution into their current state as blended networks. The eTwinning network, a network of European schools, was described as an example of such a professional network for teachers. The results of the analysis of this network in the TellNet project shows that many teachers in the online network are isolated. As the eTwinning network wants to evolve into supporting more continuous professional development activities, the current disengagement of members needs to be resolved. Several underlying causes for the disengagement were described, as well as an approach to technical support aimed at engaging the members in gaining the most from their participation in the network.

References

- Ala-mutka, A. K., Redecker, C., Punie, Y., Ferrari, A., Cachia, R., & Centeno, C. (2010). The Future of Learning : European Teachers ' Visions - Report on a foresight consultation at the 2010 eTwinning Conference, Sevilla, 5-7 February 2010. JRC Technical Notes. Joint Research Centre - Institute for Prospective Technological Studies. Retrieved from http://ftp.jrc.es/EURdoc/JRC59775_TN.pdf
- Attwell, G., Cook, J., & Ravenscroft, A. (2009). Appropriating technologies for contextual knowledge: Mobile Personal Learning Environments. In M. D. Lytras, P., et al. (Eds.), *Best Practices for the Knowledge Society. Knowledge, Learning, Development and Technology for All* (pp. 15-25). Springer Berlin Heidelberg.
- Bandura, A. (1977). *Social Learning Theory*. New York: General Learning Press.
- Boud D, Keogh R and Walker D (1985) *Reflection, Turning Experience into Learning*, Routledge. ISBN 0850388643. p. 19
- Cicognini, M., Pettenati, M. C., & Edirisingha, P. (2010). Personal knowledge management skills in web 2.0-based learning. In M. J. W. Lee & C. McLoughlin (Eds.), *Web 2.0-Based E-Learning: Applying Social Informatics for Tertiary Teaching*. IGI Global (Information Science Reference imprint). Retrieved from <http://www.mendeley.com/research/personal-knowledge-management-skills-web2-0based-learning/>
- Conole, G., Delaat, M., Dillon, T., & Darby, J. (2008). 'Disruptive technologies', 'pedagogical innovation': What's new? Findings from an in-depth study of students' use and perception of technology. *Computers & Education*, 50(2), 511-524. doi: 10.1016/j.compedu.2007.09.009.
- DeLeskey, K. (2003). Factors Affecting Nurses' Decisions to Join and Maintain Membership in Professional Associations. *Journal of PeriAnesthesia Nursing*, 18(1), 8-17. doi:10.1053/jpan.2003.50000
- Dillenbourg, P. (1999). What do you mean by "collaborative learning"? In: P. Dillenbourg (Ed.), *Collaborative-learning: Cognitive and Computational Approaches* Vol. 1 1-15. Oxford: Elsevier.
- eTwinning: Teachers' Professional Development: An Overview of Current Practice. (2010)
- Fetter, S., Berlanga, A.J., Sloep, P.B.: Using Ad Hoc Transient Communities to Strengthen Social Capital: Design Considerations. In: 7th International Conference on Networked Learning. (2010)
- Fetter, S., Rajagopal, K., Berlanga, A.J. & Sloep, P. B. (2011). Ad Hoc Transient Groups: Instruments for Awareness in Learning Networks. *Proceedings of the 1st Workshop on Awareness and Reflection in Learning Networks (ARNets11)*.
- Glahn, C. (2009). Contextual support of social engagement and reflection on the Web. Doctoral thesis. September, 18, 2009, Heerlen, The Netherlands: Open University of the Netherlands, CELSTEC.
- Granovetter, M. (1983). The strength of weak ties: a network theory revisited. *Sociological theory*, 1, 201-233.
- IEEE - Institute of Electrical and Electronics Engineers (2011), About IEEE, <http://www.ieee.org/about/index.html> [viewed 22 November 2011]
- Johnson, M. (2008). Expanding the concept of Networked Learning. In: Hodgson, V., Jones, C., Kargidis, T., McConnell, D., Retalis, S., Stamatis, D., and Zenios, M, (eds.) *Proceedings of the 6th International Conference on Networked Learning* (pp. 154-161). Halkidiki, Greece
- Kintsch W. & van Dijk T.A. (1978). Toward a model of text comprehension and production. *Psychological review*, 85(5), 363. American Psychological Association.
- Krebs, M., Schmidt, C., Henninger, M., Ludwig, M. & Müller, W. (2011). Are Wikis and Weblogs an Appropriate Approach to Foster Collaboration, Reflection and Students' Motivation?. In N. Reynolds & M. Turcsányi-Szabó(Eds.), *Key Competencies in the Knowledge Society IFIP TC 3 International Conference, KCKS 2010, Held as Part of WCC 2010, Brisbane, Australia, September 20-23, 2010. Proceedings* (Vol. 324/2010, pp. 200-209). Springer Berlin Heidelberg.
- Nardi, B. A., Whittaker, S., & Schwarz, H. (2000). It's Not What You Know, It's Who You Know: Work in the Information Age. *First Monday*, 5(5). Retrieved from <http://firstmonday.org/htbin/cgiwrap/bin/ojs/index.php/fm/article/view/741/650>.
- Panke, S & Gaiser, B. (2009) With My Head Up in the Clouds: Using Social Tagging to Organize Knowledge. *Journal of Business and Technical Communication*, 23, 318-349.

- Rajagopal, K., Verjans, S., Van Bruggen, J., & Sloep, P. B. (2011). Stimulating reflection through engagement in social relationships. Proceedings of the 1st Workshop on Awareness and Reflection in Learning Networks (ARNets11).
- Schön, D. A. (1990). *Educating the Reflective Practitioner* (The Jossey.). San Francisco (Calif.): Jossey-Bass.
- Sloep, P. B., & Berlanga, A. J. (2011). Learning Networks, Networked Learning [Redes de Aprendizaje, Aprendizaje en Red]. *Comunicar*, XIX(37), 55-63. Retrieved from <http://dx.doi.org/10.3916/C37-2011-02-05>
- Stahl, G. (2006). *A model of collaborative knowledge-building. Group cognition: Computer support for building collaborative knowledge*. Cambridge, MA: MIT Press.
- TELEurope, Technology-enhanced learning in Europe - Where research meets research & practice! <http://www.teleurope.eu/> [viewed 22 November 2011]
- Tempest, S., & Starkey, K. (2004). The Effects of Liminality on Individual and Organizational Learning. *Organization Studies*, 25(4), 507-527. doi: 10.1177/0170840604040674.
- Vuorikari, R., Gilleran, A., & Scimeca, S. (2011). Growing beyond innovators ICT-based school collaboration in eTwinning. In K. C. Delgado, D. Gillet, R. M. Crespo García, F. Wild, & M. Wolpers (Eds.), *Lecture Notes in Computer Science: Towards Ubiquitous Learning - 6th European Conference of Technology Enhanced Learning, EC-TEL 2011, Palermo, Italy, September 20-23, 2011. Proceedings* (Vol. 6964/2011, pp. 537-542). Springer Berlin Heidelberg. Retrieved from <http://www.springerlink.com/index/E5647123267H3473.pdf>
- L.S. Vygotsky. 1978. *Mind and society: The development of higher psychological processes*. Cambridge, MA: Harvard University Press.
- Wang, Q., Woo, H. L., & Zhao, J. (2009). Investigating critical thinking and knowledge construction in an interactive learning environment. *Interactive Learning Environments*, 17(1), 95-104. doi:10.1080/10494820701706320
- Webster-Wright, A. (2009). Reframing Professional Development Through Understanding Authentic Professional Learning. *Review of Educational Research*, 79(2), 702-739. doi:10.3102/0034654308330970
- Wopereis, Iwan; Sloep, Peter; Poortman, Sybilla (2010). "Weblogs as instruments for reflection on action in teacher education". *Interactive Learning Environments* 18 (3): 245. doi:10.1080/10494820.2010.500530.