PROFESSIONAL SCIENTIFIC BLOG

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Abstract: The professional blog is a weblog that on the whole meets the requirements of scientific publication. In my opinion it bear a resemblance to digital notice board, where the competent specialists of the given branch of science can place their ideas, questions, possible solutions and can raise problems. Its most important function can be collectivization of the knowledge. In this article I am going to examine the characteristics of the scientific blog as a genre. Conventional learning counts as a rather solitary activity. If the students have access to the materials of each other and of the teacher, their sense of solitude diminishes and this model is also closer to the constructivist approach that features the way most people think and learn. Learning does not mean passively collecting tiny pieces of knowledge; it much more resembles ‘spinning a conceptual net’ which is made up by the experiences and observations of the individual. With the spreading of the Internet more universities and colleges worldwide gave a try to on-line educational methods, but the most efficient one has not been found yet. The publication of the curriculum (the material of the lectures) and the handling of the electronic mails are not sufficient; much more is needed for collaborative learning. Our scholastic scientific blog can be a sufficient field for the start of a knowledge-building process based on cooperation. In the Rocard-report can be read that for the future of Europe it is crucial to develop the education of the natural sciences, and for this it is necessary to act on local, regional, national and EU-level. To the educational processes should be involved beyond the traditional actors (child, parent, teacher) also others (scientists, professionals, universities, local institutions, the actors of the economic sphere, etc.). The scholastic scientific blog answer the purposes, as a collaborative knowledge-sharing forum.


Key words: professional blog, blogging, scientific publication, collectivization of the knowledge
1. Introduction

When I got the task to write an essay about the genre of professional blogs, I thought that it would be a piece of cake, because I often read blogs and actually I myself write my own blog. Besides, if you search the internet for the word ‘blog’ you can choose from an enormous amount (millions) of results. But the surprise came when I started to go into the topic. Only a very small part of all these blogs meet the requirements that enable us to put the word ‘professional’ in front of the word ‘blog’ with a clear conscience. In this article I am going to examine what a professional blog really is, or rather what I personally mean by it. This concept hasn’t yet been defined with mathematical exactness, so I can easily be a little subjective, at least within my limits and within the bounds of the genre.

Before going deep into the topic it is worth devoting some time to find an answer to why people are interested in blogging, what this word really means. Briefly we can say that it is so interesting because a lot of people do it. (If only a few people wrote a blog, I think it would be quite uninteresting to deal with it.) Additionally, we are talking about a new way of communication, which goes back to hardly a decade, and its real flourish has only begun a few years ago, but since then the camp of bloggers and readers has been growing continuously. We can consider blogs the sixth one of the levels of communication (or rather grade number five and a half). I am giving a little explanation to those to whom this seems unfamiliar at first sight.

In the history of mankind, communication has a central role. The first level is when in the ancient times, instead of gestures, after a very long time (hundreds of thousands of years), verbal communication appeared and started to develop among our ancestors, so the ability of talking has evolved.

We can consider the appearance of writing the second level, which approximately happened in the early antiquity.

In the 15th century Europe Gutenberg invented typography, which played a considerable part in the spreading of reading, and so it is usually regarded the third level of the history of communication.

Beginning from the end of the 19th century it became possible to transmit information using electromagnetic waves. Namely telegraph, fix line telephone and radio have appeared. From the 1920s and ’30s on with the help of television, they could also transmit pictures, which significantly enlarged the amount of transmitted information, because as the well-known phrase sais ‘a picture might match a thousand words’. By no chance this is considered the fourth level of communication.

The forefathers of computer networks appeared during the decades of the cold war. From the 1970s on more and more American universities joined the computer network [7]. In 1974 TCP/IP (Transmission Control Protocol/Internet Protocol) was introduced in data transmission, which is still used nowadays. Beginning from the ‘80s the states of Western Europe, then from the ‘90s on the countries of Middle and Eastern Europe joined the network. This is how Internet came into existence, which in reality does not mean one network, but a network consisting of many networks; it is also called ‘the network of networks’. In the 21st century Internet is available in most countries of the world, but of course there are some exceptions. In some countries, free access is restricted, that is users can only visit certain pages, and there are some (dictatorial) states where access to the Internet is not allowed. But on the whole we can still say that nowadays this is the most universal way of communication, the broadest ‘information highway’. After all this it is easy to see why the appearance of computer networks is usually called the fifth level of communication.

So here we are on the fifth grade, but what next? Many Internet users settle for sending and receiving electronic mails and browsing different websites. By the way www (World Wide Web) protocol was developed in 1989 by Tim-Berners Lee, an associate of CERN Organization for Nuclear Research, in order to be able to share information easily with his colleagues. Since then www has become the most popular protocol; with its help we can display texts, still and motion pictures, we can play sounds, and we can do all this without having to deal with technical details. That is to say using the Internet has become appreciably easier; almost everyone can learn its rules. Electronic mailing, reading news, downloading interesting information, surfing the Internet just for fun, browsing websites and getting information related to free time have become particularly popular, everyday activities [3].
Why did I say at the beginning of the article that blog was grade number five and a half? Because it exceeds the philosophy ‘Here’s another glittering website for you, look at it’, which is probably sufficient for a commerce company, many people like it, but there are many who pout. They need something personal, but at the same time they want others to know about it. It is a bit like I wanted to write a personal diary, but I would also like others to read it. This sounds a little ambivalent at first, but who writes and reads blogs, soon gets used to this ‘duality’. So a blog is not a website, but still it makes it possible for me to publish information through it: it is a web application, which stores dated entries on a public website (or rather this site itself is usually called a blog). These entries are usually in a reversed chronological order. The author of the blog wishes to publish his thoughts, he formulates his opinion on different issues. According to their subjects, blogs can be classified as follows:

- Private, personal diary published on the Internet that is usually related to everyday life;
- In a travelblog the traveler reports on his experiences (this is counted as a thematic blog by some);
- Newsblog: they contain up-to-date news, summaries and links related to interesting news that have appeared in the press;
- Lawblog: it is usually about law and legal cases with much useful information, descriptions of single cases. They are often referred to as blawg (uniting the words ‘blog’ and ‘law’). Some people count these ones as thematic blogs as well;
- Individual or grouped deliverance of political opinion;
- Business related marketing activity;
- Thematic blogs that generally focus on one single topic, many of them are connected to a technical newness.

The author of the blog can allow readers to write public comments, which might lead to the formation of communities. Blogging has combined personal websites with appliances that make it easier to link other websites; the image of the blog depends on the personality of the weblog’s owner. An important innovation of blogs is that blog-reading tools, like Blogrolling, use the collected information to let the users know when their favorite blog contains new entries.

Since the appearance of blogs many software packages have appeared that make the creation of blogs easier. Blogroll is a list of those blogs, to which a reference leads from any article. This is one of the tools by which bloggers create an environment for their blog as they list those blogs that are similar to theirs, or the ones that might be important to the reader. Blogroll can be the measure of citations referring to the blog, which qualifies the blog, like the number of links leading to one page in case of browsers. Another way of using blogroll is cross reference: bloggers make a deal about referring to each other or to another blog hoping that there is going to be a link the other way round.

In order to be able to tell apart science blogs from other blogs, first we have to clarify the concept of science:

- One of the most important ways of getting to know the universe and ourselves, scientific research as a process, act and social activity;
- Collective product of the scientific research carried out by the scientific community, aggregation of scientific knowledge controlled according to strict rules, publicized in accordance with certain rules and canonized by the scientific community. Collective product of the scientific community.

In a qualified sense we can use the definition of science: ‘Science is the concerted human effort to understand, or to understand better, the history of the natural world and how the natural world works, with observable physical evidence as the basis of that understanding. It is done through observation of natural phenomena, and/or through experimentation that tries to simulate natural processes under controlled conditions’ [20]. In the widest sense we can consider as science (as product) the
aggregation of knowledge produced by members of the scientific community on the basis of scientific research carried out by scientific methodology, publicized in organs accepted by the scientific community in the form of certain scientific announcements (review articles, conference volumes, scientific books) based on defined rules. The concept of science is usually defined significantly closer than that when out of the above aggregation of knowledge they only regard as science the so-called thought system of certified knowledge, interpreted coherently, synthesized and broadly accepted by the scientific community (corps, associations, editorial commissions, or canonized by university workshops). In this case the hypotheses and theories emerged through the process of scientific research, but not yet mature, are excluded. Naturally not even on the basis of this more severe definition can we regard the concept of science constant, as even a piece of knowledge today generally accepted, within our present potential thoroughly certified, taught on the universities, might later prove to be mistaken.

All in all we can say that professional blog is a weblog that on the whole meets the requirements of scientific publication. As a blog does not equal the electronic form of a periodical; nobody can expect a professional blog to be exactly like an electronic scientific journal. In my opinion it should rather resemble a digital notice board, where the competent specialists of the given branch of science can place their ideas, questions, possible solutions and can raise problems.

If we accept this definition, then practically every branch of science can have professional scientific blogs [18]. As I teach in a secondary school, I am particularly interested in how we could utilize the advantages of blogs in primary and secondary education, but the following statements mostly apply for higher education as well. Of course, so many countries, so many customs, but I think that the professional blogs that can be used in education all have similar goals: namely enhancing the students’ activity in the given field.

The educational aims of different countries in the field of ICT are very different. In the USA for example the most important function of computer-helped learning is a more efficient transfer of information, the personalized presentation of Mathematics, Reading and Writing or basic scientific knowledge. Educational politicians of Norway and Luxembourg expect that the large-scale computerization of schools will lead to educational reforms – in their opinion Internet and digital educational instruments have a key role in the autonomous learning of students. In Greece the goal is to acquire the basic techniques of ICT in a way that students could use this technical knowledge for the most possible purposes in the world of labor [4].

2. Professional blog in the education

Conventional learning counts as a rather solitary activity. If the students have access to the materials of each other and of the teacher, their sense of solitude diminishes and this model is also closer to the constructivist approach that features the way most people think and learn. Learning does not mean passively collecting tiny pieces of knowledge; it much more resembles ‘spinning a conceptual net’ which is made up by the experiences and observations of the individual. Understanding is not the same as remembering. The application of the things learnt, and their generalized extension to other areas also belong to deep learning. In practice this means that students have to manipulate the concepts they have learnt, they have to develop and extend the system of relations among the concepts.

‘The habits of students in connection with computers are reasonably different from those of adults… The most popular activities in the age-group 12-18 are gaming and chatting, and the rarest one is learning on the computer. About a quarter of the interviewed age-group uses the computer for word processing (making homework or learning materials containing illustrations, text, maybe pictures) on a regular basis’ [3].

The task of the teacher is not only to lay out the curriculum but he also has to create a situation where students actively participate in the learning process; in fact the creation of an active, vital learning environment is the task of the pedagogue [10, 11, 15]. In this a ‘virtual space’ where students can learn from each other, might be helpful. It is simply because students prefer learning from each other to learning from the teacher. With the spreading of the Internet more universities and colleges
worldwide gave a try to on-line educational methods, but the most efficient one has not been found yet. The publication of the curriculum (the material of the lectures) and the handling of the electronic mails are not sufficient; much more is needed for collaborative learning [15, 16]:

- The curriculum itself has to be laid out in a way that it really enabled students to acquire knowledge in cooperation and that learning needed constant activity of the students!
- On-line communication skills of the students have to be formed and developed in order that they are willing to cooperate with the others. (Sometimes this is not at all easy.)

I must admit that most of my colleagues received the idea that we could use a blog for maintaining contact with each other, the children and the parents, with aversion. (It is important that I noted that I am only talking about one possible method, not about the only right one!) Therefore I can not report on detailed experiences. Maybe next year I will be able to convince more people that it would be worth a try. In this case, if there is going to be a sample of adequate size then maybe it will be possible to measure the practicability and utility of an educational blog.

‘The key persons of the culture of informatics are the teachers. In the Northern European, American and Far Eastern countries that are the most successful in computerization, a series of moral and material incentives, allowances in the number of lessons, special offers for computers and presents strive to make teachers interested in teaching and applying informatics knowledge. It is a significant surplus burden that has to be compensated. Where this holds off or fails, progress gets to a halt’[4].

The spreading of information and communication technologies (ICT) at schools is similar to the spreading of former pedagogical innovations [3]. The conventional model of spreading was made up by Rogers in 1995: ...in the beginning some enthusiastic innovators assume the propagation of the new educational culture. They inspire the little group of the so called early followers who soon recognize the opportunities of computer-aided teaching and learning, and after overcoming the significant technical difficulties engage in developing the curriculum and in adaptation. The next, somewhat more populous group is the one of the early appliers – they do not like to undertake to working out own methods or new teaching tools, but if they get them ready from a trustworthy person, they are inclined to try them. Gaining positive experiences they will apply novelties regularly – mainly if the management of the school is a partner in this. Eventually the late appliers join the work of innovation; their populous group needs exhaustive persuasion. It depends on the school’s pedagogic program and on the professional conviction of the teachers how quickly the different groups will form and how many members they will have. It is the task of educational politicians, researchers and developers to urge the spreading of computer-helped teaching and learning by spreading tried and trusted materials and educational aids [3].

In Kárpáti’s opinion the spreading of educational technology novelties in Hungary happened in another way: computerization began in waves, in large numbers and with minimal preparation, then infrastructural progress slowed down for years, and finally a new, large amount of computers got into public and higher education and to the pedagogues through competition.

Nowadays this is less typical, so for example the progress of building the educational blog corresponds more or less the model of Rogers. So in this case as well the technology is spread by a few innovator pedagogues by convincing their colleagues. The reasons of resistance might be the following:

- Lack of Internet connection;
- One does not see the point of it;
- One has no time to deal with this;
- One does not know ‘how to do it’, it seems too difficult.

We can easily find a solution to the last problem. If one only hears about blogs then their use can really seem difficult. It is better to demonstrate their use ‘while they are working’. Moreover, everyone can form their proper blog-image with the help of templates. They have spread when blogging became a mess activity; with their help the blogger gets a ready page where he can upload his entries. The
template in most cases includes the structure of the page and other graphical solutions; the template can be modified at any time according to the wishes of the blogger.

Józsa discusses the scholastic motivation in his work written in 2007. In this he states that the ‘creation of conditions for the efficient learning, the transformation of the relation to the school and learning’ are main fields of the pedagogical motivation. The most important is the self-rewarding motivation, that according to Hidi: ‘...for the start, continuation of a working is more useful to find happiness in it, than to reach a goal with it.’ The opposite of this is outer motivation, which is to reach a certain goal, or to avoid a failure. Researches stated the outer motivations reduced the attendance of the participants in further work, and in some cases had a negative impact on the standards and creativity. It is important to mention that ‘generally not the award, but the promised reward reduces the interest, the self-rewarding motives’[2]. At a professional blog we should seek that the authors and the readers of the blog should not be driven by outer motives: the authors should not write just because it is obligatory or they are looking forward to a prize for it. Of course we can use outer ‘implements’, especially when the blog starts, or we would like to enlarge it by new members; but in my opinion our scientific blog can be successful just in a case in which the participant enjoy the work, so the inner motivations are really functioning.

Our scholastic scientific blog can be a sufficient field for the start of a knowledge-building process based on cooperation. The concept of the collaborative learning can be defined as a collaborative knowledge-building process to solve a given problem, through which the participant shear and harmonize their problem-solving ideas with one another’[1]. This is not only about sharing an individual research (cooperative spread of knowledge), but also from the interactive characteristic of the blog they can cooperate in with another person in solving a particular problem. They can give advices and solution proposals, give a critique to other’s work, bring on new problems, etc. – by the way of cooperation the knowledge-sharing comes to fruition. ‘The collaborative knowledge-building is such a cyclic process, that is made up by personal understanding and social knowledge building’[1].

In the Rocard-report[6] can be read that greater attention should be given for the girls’ natural subject education, for the improving their self-confidence; according to the PISA-research (Program for International Student Assessment) can be stated that the 15 year old students’ the reading, mathematical and natural sciences skills are weaker among the girls, as among the boys. If we want to help the situation, we shall create such an open and receptive environment primarily in the schools, which help all the children to raise their interest in the field of natural sciences.

For the future of Europe it is crucial to develop the education of the natural sciences, and for this it is necessary to act on local, regional, national and EU-level. To the educational processes should be involved beyond the traditional actors (child, parent, teacher) also others (scientists, professionals, universities, local institutions, the actors of the economic sphere, etc.). For this can be sufficient the scholastic scientific blog, as a collaborative knowledge-sharing forum. The successfully probed methods should be popularized within the pedagogic society, in order to be used in their scientific work.

3. Inner knowledge-sharing forum

One of the possible fields of usage of the scientific blog can be that the pedagogues participating at a scientific course can inform their colleges about their experiences, the training, the gained knowledge and its utilization through this. It can be an important element for cooperation among the educators within a workgroup or a faculty.

According to the workers of the Hungarian Institute for Educational Research and Development[12]: Nowadays there are also such schools that are in this speeding world still a pedagogical workshop. This is a scientific forum based on voluntary initiative of the pedagogues, that generally has its very own professional program (processing and presentation of the terminological vocabulary; exposition of the international trends within a given subject; report of a conference, the conversion of the discussed matters; own research, presentation of a study; inner benchmark forum, etc.). After a new professional, pedagogical, methodological, course the participating college can the gained knowledge
and experience offer and share with the others on a scientific forum within a conversation, common reasoning completing it with the further reading.

It can have a positive impact on the efficiency of the pedagogical postgraduate courses, when the participants know that later they will be asked to give a report about the taught at their workplace. ‘They have a better attention on those contents, situations, methodological elements that they want to give further to their colleges. They are already planning at the course what and how to tell’ [12]. They also can start to collect the new professional ideas and publish them on a blog, to which the others can affix their own notes. It is also possible that one of the colleges is interested in other questions not connected to the theme the course is about, but this way they are given the opportunity to ask, the blog is this way an ‘inner knowledge sharing forum’.

4. The creation of the scientific blog

In the case of an ordinary blog there is a threat for the author that nobody will be curious about his work. If we would like to avoid it (or at least reduce its possibility) we should make a plan for the process before its actuation. To describe the process of the scientific blogging we can use the PDCA model, which is an instantly recurring circulatory model for any kinds of procedures, actions, works, systems, conceptions and ideas (Figure 1).

![PDCA model](image)

**Figure 1. The PDCA model**

It is worth spending time for planning the blog: for whom is the blog meant, in which theme, for whom and what kind of permissions we give, etc. After making it clear the realization can come. In the best case the members can see the sense of the professional blog and are willing to participate in the blogging. It is also conceivable that others do not do accurately that the blog was originally meant to, and some changes can be necessary. If they work, we can keep them, but they can also lead to the wrong way. To conclude we must always make experiments, then in a necessary case correct the system or the processes. The blogging is a continuous action, as the most pedagogical processes, also this is characteristically cyclic. Every teacher knows that the checking is efficient only if it is cyclical. ‘Scholastic work means a continuous action, that has given junctions’ [5].

It can be said that the knowledge management in the economical field has already a matured background in the information technology; the necessary hardware and computer capacities has already been available. In the main it is also true for the education, but we still have such schools where the internet connection is a problem. ‘The critical coefficient of success in the efficient usage of the knowledge management is the human factor, so those workers who are involved in the actuation of the system. By the lack of the sufficient knowledge-based culture also a well-constructed knowledge-management system will not be really operable’ [8]. The mechanism of the knowledge-spreading can be exemplified in a cycle. In opposite of the PDCA cycle, this one is strongly specified (Figure 2).

The main aim of the professional blog is the sharing of the knowledge, so in this case the model is appropriate.

The professional blog can be written by one or more people, and it can also have several readers:

- In the easiest way one person is the author and the same one the reader. This way it seems to be just a personal diary-blog, but if scientific matters are discussed it can be called a
scientific blog. (This type of blog can be used in the pedagogical work just in a reduced way, but the ‘fearsome beginners’ can get to know this genre for start. As it does not play a role at the collective knowledge-sharing, I do not deal with it further.)

- The next type of blog is that, which has one author but more readers. In this case we can talk about real knowledge-sharing, but practically it does not differ from sharing information on someone’s own homepage.

- The real public scientific blog has several authors and readers and deals with real professional issues. Within this type two subtypes are differed:
  - The blog has several authors, but the amount of readers is greater. So the creator of the blog gives to particular people just reading, and not writing access.
  - All the readers of the blog have also a writing access and can freely place comments and opinions. I think this is the most effective in the education. For example a teacher starts a scientific blog, to which the interested students can latch on. In a lucky case colleges from other fields of study or also parents can become a participant of the work. It can increase the motivation of the students, in ideal way a self-strengthening process starts, that can have a positive impact on their level of knowledge and their mood.

![Figure 2. The mechanism of the knowledge-spreading](image_url)

### 5. Petition for the reachable knowledge

According to the Berlin Pronouncement in 2003: the knowledge alone is just a half-success…The knowledge collected by the humanity is useless, if it is not transmitted towards all the groups of the society, especially the professional one.

In 2006 on the proposal of the European Commission an essay was made that was called ‘Study on the Economic and Technical Evolution of the Scientific Publication Markets of Europe’ [9]. In the completion of the study several participants of the scientific environment, mostly researchers, members of professional organizations, publishers, libraries and foundations took part in direct or indirect way. The study states that ‘for the sufficient functioning and development of the European Research Area is indispensable the spreading of the research achievements and their publicity.’ The study makes several recommendations in the aim of spreading the professional publications, and stipulates ‘the necessity of public admittance of the government-funded researches.’
In 2007 more than 14000 researchers – among them Szilveszter E. Vizi, the then president of the Hungarian Academy of Sciences – signed the petition that was written for the priceless accretion to the European scientific publications; their aim is to let the professional publications written within the territory of the European Community be free available for everyone [13, 17]. According to their opinion the results of the researches sponsored by the citizens of the European Union should augment the whole Community; it should be closed before the society just for a half year. Beyond the direct benefits they also think about long-term results: ‘by the comprehensive spreading of the knowledge within and beyond Europe the knowledge and the work scientists becomes more popular’ [13, 14].

One of the signatories of the petition, Richard J. Roberts (Nobel Prize winner for Physiology or Medicine in 1993) said that the free access to the professional publications is on of the most important aims of nowadays’ scientific challenges [19]. "Open access to the published scientific literature is one of the most desirable goals of our current scientific enterprise. Since most science is supported by taxpayers it is unreasonable that they should not have immediate and free access to the results of that research. Furthermore, for the research community the literature is our lifeblood. By impeding access through subscriptions and then fragmenting the literature among many different publishers, with no central source, we have allowed the commercial sector to impede progress. It is high time that we rethought the model and made sure that everyone had equal and unimpeded access to the whole literature. How can we do cutting edge research if we don't know where the cutting edge is?"

I regret to state that this does not function at all or partly in practice, considering the results. Sadly, we cannot read many scientific articles freely. For my surprise among the scientific blogs occurs some that we need to for so as to read them. The author of the blog admits the accession to it just after giving our credit card number and transferring a given amount of money to his or her account. Hopefully this will not be way of the future; the genre of the scientific blog will serve to enlarge the people’s knowledge, not to make someone’s wallet thicker.

6. Conclusion

In this article I have gone through the characteristics of the scientific blog as a genre. Its most important function can be collectivization of the knowledge. We can use it as a knowledge-sharing forum by our educational work. At the end, I encourage all my colleges to try an own blog with his or her partners or students.

Literature


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