

Wikis – a Rapidly Growing Phenomenon in the German-Speaking School Community

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ABSTRACT

In the first part we describe the dissemination of wikis in the German-speaking school community with a special focus on Switzerland, the most active German-speaking country using wikis in schools. In the second part we examine what foundations have to be laid for a further propagation of wikis in the German-speaking school community as an example of a non English-speaking community.

Categories and Subject Descriptors

K.3.1 [Computers and education]: Collaborative learning

Keywords

wiki, education

1. WIKI GOES EDU – IN GERMAN, TOO

1.1 First infection with the wiki virus

“An area where open collaboration and exchange of ideas is both natural and important is education. Wiki technology is a useful tool in this context.”

Ward Cunningham and Bo Leuf in [12]

In English-speaking countries wikis have been used in education for more than eight years so far. The wiki-in-education-pioneers Guzdial et al. have described various experiences of teaching and learning with wikis at the Georgia Institute of Technology [2], [7], [8]. With a few years' delay, the wiki-virus has also infected the German-speaking school community. In 2002, the first wiki of a German-speaking school was opened to the public on the internet. An enthusiastic teacher of history and philosophy at the comprehensive secondary school (*Gymnasium*) of Sursee (Switzerland) started to use wiki with his students [15]. A TWiki server [18] has been used and part of the user interface and documentation was translated into German.

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For over one year, the wiki of Sursee has been used by about one hundred students and a few teachers for distributing information, handing in individual homework and for discussions in groups or in class. Topics covered usual subjects as well as planning, discussing and documenting school outings or aspects of everyday school life.

The wiki of Sursee has influenced the further spread of the wiki-virus in the German-speaking school community to a great extent. As it was the only publicly accessible example of a school wiki in German at that time, it has been discussed in several further teacher educations and mailing lists for teachers.

Greek mythology is one of the most impressive projects on the wiki of Sursee. To encourage reading each others writings, students were told to create a hypertext about Greek mythology. Each student had to describe one or more Greek gods and their relations.

Up to the due date a hypertext consisting of 25 pages had been developed. Figure 1 shows a visualization of this hypertext made with TWikiTouchAddOn [11], a forerunner of the now used TWiki TouchPlugin [9]. One student had painted the encounter of

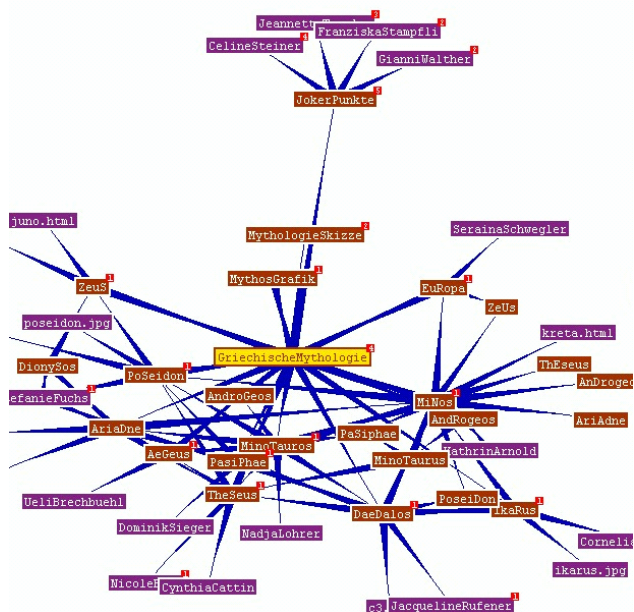


Figure 1. Visualization of the Greek mythology project on the homework due date (2002-11-22)



Figure 2. Painting and painter as pictures on a wiki page in the Greek mythology project

Theseus and Minotaur. The teacher then added her painting and picture to the project page (see Figure 2). Another student had discovered the possibility of in-page-drawings with the DrawPlugin of TWiki [1]. He designed an organization chart of Greek gods (see Figure 3). These graphical elements show that wiki pages are not restricted to mere text, a prejudice often heard.

As students in this subject were generally offered extra credits as an incentive for voluntary work, the unexpected happened only after the due date for homework. Students continued to extend the hypertext with more details, pictures and new wiki pages. One week later the teacher had to stop the students because he was not able to catch up with reading. Figure 4 shows a visualisation of this remarkable voluntary effort.

1.2 Further dissemination of wikis in the German-speaking school community

Influenced by the wiki of Sursee, wiki projects of universities and the growing of the German wikipedia, several school wikis in Switzerland, Germany and Austria started in the years 2003 and 2004. A growing webring called *wiki tourbus #31 "Wiki in der Schule"* is leading to currently active and world readable wikis in the German school community [13].

Apart from these public wikis there are several wikis in school

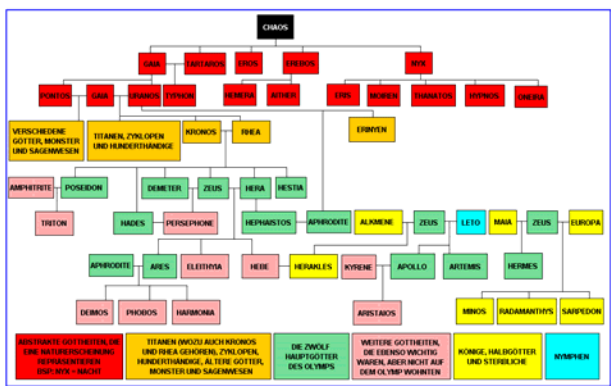


Figure 3. Organization chart of Greek gods made with DrawPlugin of TWiki

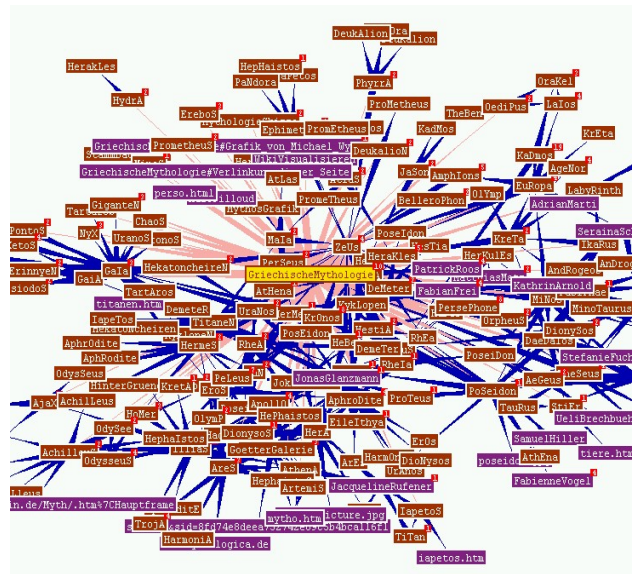


Figure 4. Visualization of the Greek mythology project one week after the homework due date (2002-11-30)

intranets or otherwise protected from external visitors. It is not easy to describe their use or even count them because their existence cannot be detected from outside. However, postings in mailing lists and frequent questions about our wiki experiences are signs of an increasing use of wikis in the German-speaking school community. In the second half of 2005, first research papers on wikis in schools are to appear in the German research community [3], [10]. Counting only public accessible school wikis listed in various school wiki directories [6], [13], [16], Switzerland seems to be the most active German-speaking country using wikis in school.

Perfectionism and uncontrollable activities of students on an official school web site are reasons often mentioned for hidden school wikis. Especially in Germany legal reasons are frequently mentioned, because teachers are personally responsible for their students' public actions.

1.3 Wiki in teacher education

As a next step wikis are used in teacher education. The department of education (*Pädagogische Hochschule*) of the University of Applied Sciences Solothurn (Switzerland) installed a world readable and writable TWiki in spring 2004 as the official CSCW platform for students and teachers [3]. Apart from common reasons for using wikis in education we have two further intentions:

- **Seed the wiki virus among future teachers**
Future teachers will use methods and technologies they have experienced during their own vocational education.
- **Enhance collaboration between current teachers and the department of education**
We would like to invite teachers in practice to virtually visit the university and participate in the education of future teachers. Best practice examples of lessons should be shared and discussed between current and future teachers.

Another exchange has been achieved since summer term 2005. Students of the department of education of the adjacent University of Applied Sciences Aargau (Switzerland) are working on the wiki of Solothurn. This allows students from both universities to have a look at the program of study and each others work. Personal communications have shown that the wiki of Solothurn is regularly visited by other Swiss teacher education institutes.

2. WHY EDU GOES WIKI

The experiences made in Sursee with volunteers writing more than expected have been reported from several school wikis (for example [17]). At least at the beginning students love to present their results on the internet and therefore work harder and longer. As school is always seeking opportunities for students to write, wiki is a good occasion to support this need.

The low entrance barrier of wiki helps its further dissemination. An example: A Swiss school had been planning a well-structured intranet for over a year. Every subject was to have its own website and finely granulated permissions should prevent abuse and mishaps. At the same time, some motivated teachers began to experiment with a wiki. Today, the wiki is very active and regularly used while the intranet has not started yet.

The *simplicity*, *openness* and *unstructuredness* of wiki facilitate its use in school:

- **Simplicity:** Nothing has to be installed on the client's side. This is a considerable advantage in a school environment where support staff is missing or overloaded. Introductions for students take only 15 minutes; where after students can start working on their own.
- **Openness:** There are no restrictions by missing permissions or system constraints. Experience shows that students appreciate this openness and vandalism has not happened one single time in the wikis maintained by us.
- **Unstructuredness:** In contrast with other CSCW- or CSCL-systems wiki does not frame the workflow or restrict the possibilities of use in school. Teachers do not have to adapt to a given tool but can structure wiki as needed.

These properties enable teachers or students - and not only system designers - to invent new forms of wiki use. The inventiveness reported by Guzdial et al [7] could also be observed in the German-speaking school community. At the department of education in Solothurn several students began to build personal guest books on their wiki homepage. This utilization of wiki has not been foreseen by us. The students maintain their guest books frequently. As a side effect they get more skilful in using wikis and ICT in general. This serves as motivation and eases the integration of ICT in their future classes.

3. WHY EDU DOES NOT GO WIKI

3.1 Common barriers of wiki use in school

The advantages of wikis in schools are well described in literature. But by far not all teachers are willing to use wiki in class. Why? There are several barriers to overcome. In the German-speaking school community we could identify the following barriers (see Figure 5):

- **Barrier of lacking wiki servers:** The most obvious prerequisite for using wikis in education is a wiki server. A school has to operate its own wiki server or has to pay a wiki provider.
- **Barrier of lacking ICT skills:** Even though we have described wikis as easy to use there are certain ICT skills necessary for using a wiki server. Not all teachers fulfill this prerequisite. Installing and operating a wiki server requires higher ICT skills. Not all schools have a sufficiently skilled technician at their disposal. This can intensify the problem of lacking wiki servers because a school perhaps can not install its own server.
- **Barrier of lacking WYSIWYG editor:** Today's users are accustomed to WYSIWYG editors. Not everybody feels up to working without this comfort. Poor ICT skills intensify this resistance.
- **Barrier of culture of learning:** The openness and unstructuredness of wiki demands open-minded and innovative teachers. It is a known fact, that teachers who are already used to so called *erweiterte Lehrformen* (extended forms of teaching, for example workshops, group work, project oriented teaching), use ICT more often than teachers who teach in front of the whole class most of the time. In our experience, this fact also applies to wiki in school. Wiki is unsuited for lessons where the truth always comes from the teacher. So wiki can only become established in school with an appropriate culture of learning.

3.2 The language barrier

While the previously mentioned barriers are well known and also common in the English-speaking school community, stand the language barrier has not been addressed in wiki literature up to now. Where is the problem? Most wiki engines are in English. This often means:

- The user interface is available in English only.
- The documentation is available in English only.
- The wiki server does not handle special language characters (such as German umlauts) correctly.

Young children and elderly teachers (especially in the eastern part

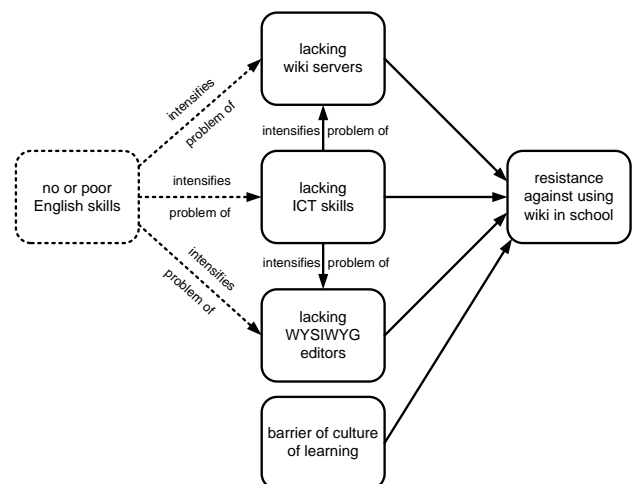


Figure 5. Reasons for resistance against using wiki in school especially in non-English-speaking countries

of Germany) usually have no or poor command of English.

This intensifies the previously mentioned barriers (see Figure 5):

- **Barrier of lacking wiki servers:** When the wiki server has to be available in another language than English, this reduces the choice of wiki engines as well as of wiki providers to a great extent.
- **Barrier of lacking ICT skills:** Poor ICT skills make the user interface and documentation more important.
- **Barrier of lacking WYSIWYG editor:** WYSIWYG editors are far less dependent of the language used than non WYSIWYG editors because of their internationally standardized icons and graphical representations.

3.3 The situation in 2005 for the German language

- **Barrier of lacking wiki servers:** There is an Austrian wiki provider with special offers for schools since 2004 [21]. This has already supported the spreading of wiki in German-speaking schools. Nowadays there are both genuine German wiki engines and German translations of existing wiki engines available (for example [5], [14], [19]). This increases the choice of wiki servers for schools.
- **Barrier of lacking ICT skills:** In April 2005 the first book about wikis in German has been published [4]. Among other topics it provides technical information for installation and use of the MediaWiki and TWiki engines. This supports the installations of wiki servers in the German-speaking school community.
- **Barrier of lacking WYSIWYG editor:** There are several WYSIWYG or at least semi-WYSIWYG editors under development (for example the integration of KupuEditor in TWiki [20]).

4. CONCLUSIONS

Several language-specific barriers have been removed or reduced for the German language recently. Thus in this respect nothing should prevent a further dissemination of wiki in the German-speaking school community. The year 2005 could mark the beginning of an intensified use of wikis in German-speaking schools. There are also positive signals from the French-speaking part of Switzerland concerning the use of wikis in schools. So Switzerland could maintain its leading role in using wikis in schools amongst its neighbours in the near future.

The language-specific experiences of the German-speaking school community are also valid for other languages. Removing language barriers could be helpful for the further dissemination of wiki in other non-English speaking school.

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