

THE ELEPHANT IN THE ROOM: A PLACE FOR WIKIPEDIA IN HIGHER EDUCATION?

Hilde Brox

Students and teachers alike must understand how systems of knowledge creation and archivization are changing. Encyclopedias are no longer static collections of facts and figures; they are living entities.

-David Parry, "Wikipedia and the New Curriculum"

We know it's bad and that we shouldn't use it. Still, we all use it, secretly.

-4th year Teacher student

Introduction

Wikipedia has through its eleven years of existence grown to become a major source of information for a large number of people. Also in higher education has Wikipedia made its impact; in Norway, as many as 80 % of students report to using Wikipedia on a daily or weekly basis to collect information.¹ Nevertheless, in the public as well in the educational discourse Wikipedia is controversial. It is rarely acknowledged as a valid resource; many university teachers express profound concerns and some have even taken measures to ban Wikipedia from courses altogether. For others, Wikipedia is like the proverbial elephant in the room: looming large, increasingly more difficult to ignore, yet no one seems able to address its presence in any appropriate manner. This apparent contradiction, or mismatch, between the website's popularity on the one hand and its reputation in academia on the other is the focus of the present paper, which asks the overall question 'what should be the place for Wikipedia in higher education?'

As Eijkman (2010) points out, the public controversy surrounding Wikipedia revolves around three areas: its content, the students' (mis)use of it, and the ways in which Wikipedia's organizational model challenges established practices of knowledge production and dissemination. Both public and academic discourse tend to focus on the qualities of Wikipedia's content ('is Wikipedia bad/good compared to other encyclopedias?'), and students' overuse as well as copy-and-paste practices is a constant concern throughout all levels of our education system ('should Wikipedia be accepted as a reference resource?'). Several studies document students' practices and habits in using Wikipedia as a reference source (e.g. Rainie and Tancer 2007, Head and Eisenberg 2010), and it is well documented that the gap between the number of people who use Wikipedia to look up information (and in that sense *consume* content) and the number of those who contribute (*produce*) is vast (Head and Eisenberg 2010). However, relatively little attention has so far been given towards the students' relationship to it; to what they actually know and understand about how content ends up on Wikipedia, and to what motivations and mechanisms that keep the individual user from contributing themselves.

¹ *Digital Tilstand* (2011). "Regular use" refers to either daily or weekly; when including those who report to using Wikipedia on a monthly basis the numbers reach 96 %.

The present discussion departs from a pilot survey among Norwegian teacher students that maps use, understanding and attitudes to this web based encyclopedia that has become the students' favoured source of information (*Digital Tilstand* 2011). One of the aims of the study has been to understand how students can claim they "know" Wikipedia is "bad" yet use it so extensively. The findings suggest that the discrepancy between ideals and practice lies in the lack of knowledge and understanding of user-generated media of which Wikipedia is the iconic example.

The final part of this paper shows how Wikipedia editing can be incorporated into the teaching and learning of a range of academic subjects, and aims at approaching an answer to the question 'What kind of understanding is achieved when students and their teachers themselves become Wikipedia contributors?'. I argue that Wikipedia may be used as an effective tool with which to address and enhance what should be considered an integral part of 21st century literacy.

Wikipedia: the encyclopedia that anyone can edit?

From its modest beginnings in 2001, Wikipedia has grown to become the world's largest non-commercial internet site.² Wikipedia currently contains over 19 million articles in 282 languages; Norwegian Wikipedia (bokmål and nynorsk) has at present over 400 000 articles, ranging on all conceivable topics.³ Wikipedia receives no financial support, has no budget and no expenses, except from servers in the US financed through donations. The enterprise is solely based on volunteer work: in principle, anyone can contribute to building Wikipedia, through starting new articles or by editing texts that others have written. The typical contributor is male (85 %) and Western, but vary in terms of age and academic background.⁴ Contributors may register or remain unregistered and anonymous.

The Wikipedia articles are kept in check through an elaborate system. A team of volunteer "patrollers", "bureaucrats" and "administrators" constantly monitor all contributions from new or unregistered users; in addition, regular contributors keep watch lists over pages of their own interest. A large proportion of what is written by unregistered users may be categorized as vandalism; this is removed and repeated attempts may lead to the IP address being prohibited access for a shorter or longer time span. In contrast, genuine attempts from beginners are often met by support.

Wikipedia follows strict stylistic requirements and sets high standards for accountability. Articles that fail to adhere to these guidelines are marked off by various warning labels, such as "stub", "neutrality disputed" or "may require cleanup". Similarly can entries that manage to meet high standards of completeness, factual accuracy and good writing be nominated and promoted to special "featured articles". Contributors may also nominate each other for various types of distinctions based on their merits and effort, resulting in badges of appreciation on their individual user pages. Contributors may rise in rank, followed by extended

² Counting commercial sites, Wikipedia ranks as number five.

³ <http://stats.wikimedia.org/EN/SummaryEN.htm> , <http://stats.wikimedia.org/EN/SummaryNO.htm> <http://stats.wikimedia.org/EN/SummaryNN.htm> (accessed 1 May 2012)

⁴ "Wikipedia Survey – first results", UNU-MERIT, April 2009.

http://upload.wikimedia.org/wikipedia/foundation/a/a7/Wikipedia_General_Survey-Overview_0.3.9.pdf

privileges, such as acquiring a voice in exclusions, pages suggested for deletion or in disputes and so-called “edit wars”.

Wikipedia is generally referred to as an encyclopedia, and stylistically it mimics the traditional encyclopedia in the way it “appropriate[s] norms and expectations about what an ‘encyclopedia’ should be, including norms of formality, neutrality, and consistency, from the larger culture“ (Emigh and Herring 2005). Nevertheless, while the front page of an article (the “article page”) resembles the traditional encyclopedia; backstage Wikipedia contains a set of features that sets it apart in a number of ways. The special wiki software allows for parallel documents, so that behind the article page one finds the “edit page” where edits can be made to the article with immediate effect. Furthermore, the “history page” stores records of all contributions and edits and allows for both comparison and restoration of previous editions of the article. The history page also displays a list of all contributions: who wrote and edited what.⁵ Finally, the “discussion page” is the place for debate, questions and comments related to the development of the main article. Thus, in contrast to the factual and strictly neutral point of view (NPoV) standards of the article page, the developments, disagreements and controversies attached to any topic is visible for all backstage.

Usage, skills, insight, and attitudes to Wikipedia among a group of teacher students

In the spring of 2012 a small-scale pilot survey was conducted among a group of teacher students. The survey involved 39 first and second year students enrolled in the 5 year master programme at the University of Tromsø that specializes in teaching grades 1-7 in primary school. Their average age was 22; 3 of the students were men; 36 women. The results of the survey turned out to be very much in accordance with other studies (e.g. *Digital Tilstand* 2011, Rainie and Tancer 2007, Bruckman and Forte 2006, Head and Eisenberg 2010). These students also report to using Wikipedia to look up information (97%): most of these either once a week (34%) or a couple of times per month (41%). Wikipedia is used for both course-related and private purposes in almost equal shares. These figures are hardly surprising: Wikipedia has grown to become increasingly present and prominent, amplified through the stronghold of the Google search engine. When ‘googling’ something (today practically synonymous with “looking for information on the web”), the first entry on the hit list is highly likely to be Wikipedia. In contrast to the myriad of possible search strategies still common only a few years back, current practices when searching information on the internet tend to fossilize into a predictable pattern containing Google and Wikipedia (Head and Eisenberg 2009, Kennedy and Judd 2011). The survey confirms this pattern: 91% of the students in the present survey report going through Google.

The survey’s main objective, however, was to go beyond the actual usage patterns in order to throw some new light on students’ skill, insights and attitudes concerning Wikipedia. When students say about Wikipedia that they use it although they “know

⁵ Registered users link to their user pages while anonymous contributors leave the IP (Internet Protocol) address. Registered users vary greatly as to how much information they give about their identity and credentials.

it's bad" the aim of the survey has been to identify the criteria on which such judgments are founded. Are they based on real, informed insights or prejudice? To what extent do such attitudes as expressed in the quote correlate with skills? In this context, skills refer to both practical, technical skills and a more general, wider-reaching *insight* into the processes and functionalities which generate content. 94 % of the students in the survey had never made an edit to Wikipedia.⁶ This, too, correlates with other studies that generally confirm the "90-9-1 rule": that participation in the 'participatory web' is limited to a small minority.⁷ To some extent, this can be explained by a general lack of practical skills required to make edits. Wiki technology is both less familiar and less intuitive than for instance writing a blog entry and most people would require some initial guidance. Yet, a surprisingly high proportion of these students display a lack of wider insight as well: roughly 40% per cent of the respondents in the survey are not aware that editing possibilities exist, and do not know of the "backstage" features such as history and discussion pages. As such, these students not only lack the practical skills to make contributions but are unaware of how or even that they themselves can write on Wikipedia. As many as 28 % of the students in the survey believed that Wikipedia contributors had to be approved by Wikipedia before editing articles, 53 % believed that contributors had to use full names, nearly 79 % that contributors had to register prior to editing (all of these are incorrect). To the question *Who runs and owns Wikipedia?*, as many as 90 % answered "I don't know". The question *How is Wikipedia financed?* had pre-defined multiple answers and revealed that 64 % did not know whereas 18 % reported advertisements and 27 % (correctly) "donations". The question *Is Wikipedia monitored by anyone?* revealed that 46 % don't know, 18% think that is isn't monitored, and the remaining 36% were (correctly) aware of Wikipedia being monitored. In sum, these students exhibit a low level of insight into even the most fundamental principles of Wikipedia. Although being massive consumers of Wikipedia content they display little or no knowledge about the "backstage" features such as the history and discussion pages, the processes of patrolling and monitoring, who the contributors are, how the site is run and of ownership issues; the very characteristics that set Wikipedia apart from the traditional paper encyclopedia.

Finally, this small survey wanted to check attitudes. On a scale from 1 to 5, the students were asked to agree or disagree on a series of statements. To the statement *Wikipedia cannot be trusted* and *Wikipedia is a good alternative to traditional encyclopedia* most respondents place themselves in the middle. The statements *Wikipedia contributes to a deteriorating knowledge level in our society* and *Wikipedia is full of errors* are less accepted. In sum, it appears that on average these students find Wikipedia to be a good project, that is convenient and accessible and that it is not full of errors. Yet, most of them report having teachers in high school who were negative: ranging from the mildly sceptical and cautious to teachers who ban Wikipedia use altogether. Most of them say their teachers told them to be critical and double check Wikipedia sources, and to use other sources either instead or in addition to Wikipedia. The same goes for their teachers at university; according to

⁶ Half of those who had made entries had not made serious attempts but "just written something for fun to see what would happen".

⁷ Consisting of "90 % Lurkers, 9 % Commenters, 1 % Creators" (Nielsen 2006)

the students also these are generally critical and sceptical: *“I think that most of them are sceptical since Wikipedia can contain incorrect information”*. In addition, quite a high number (about one quarter) say they don’t know what their university teachers think since it has not been an issue. According to this survey, then, one may assert that the students’ attitudes to Wikipedia are not negative as such. They seem to appreciate its practical usefulness (in the sense accessibility and convenience) and assess its reliability higher than what they assume their teachers do. Another interpretation of these middle-of-the-road positions is that these students do not have very strong opinions on the issue; either because they have not given them much thought or that they do not care (“I don’t know” replies were not an option). A broader survey will aim to catch the distinctions between these possible explanations.

As a final question, these teacher students were asked whether they themselves would consider using Wikipedia with their future pupils: whereas about half say they will, the remaining either won’t (21 %) or don’t know (33 %). Thus, although largely positive or neutral to Wikipedia in general and ardent consumers of its content, the students do not necessarily see a natural place for it in education, neither in their own studies nor in their future teaching careers. One respondent, who even reports to nearly always going to Wikipedia first when looking for information, claims that she probably won’t use Wikipedia with her future pupils: *“(..) because I’ve heard that there is a lot of incorrect information there”*.

Interestingly, only one of the statements they were asked to agree or disagree on received a rather unified result; as many as 42 % disagree completely to the statement *I would like to contribute to Wikipedia*. The others are less certain, yet more on the disagreement end of the scale. Only one respondent says s/he would like to contribute.



This pilot survey was not framed to capture what reasons and motivations that lie behind this attitude. A more focussed survey, supplied by qualitative approaches, needs to explore this in greater depth.⁸ Nevertheless, an educated guess, as well as some of their comments, suggests that these students primarily see themselves as consumers of information, and that Wikipedia content is viewed in rather static terms, as “something put there by somebody”. As students in previous generations never saw themselves as producers of the content of books, the present youth may

⁸ To be conducted in the autumn of 2012 among approx. 250 students *as well as* their teachers (approx.40).

seem to have inherited this passive role, placing themselves at the receiving end only. Although to some extent aware that “anyone can write there” they do express little understanding of exactly how this is carried out and the fact that Wikipedia content changes all the time as a result of user involvement. When asked to mention whether they had ever come across an erroneous entry, one student replied: “*I cannot remember exactly. I seem to recall that the article on Jens Stoltenberg was rather faulty, since anyone can go in and write*”.

Learning in the age of web 2.0

That teachers are sceptical to Wikipedia and express concern over extensive and uncritical use should come as no surprise. Reports of students who ‘copy & paste’ significant parts of their assignments (from Wikipedia) or who never venture outside their comfort zone (using Wikipedia as their single source) are common. The problem is, as Jenkins (2009) observes, “Although youths are becoming more adept in using media as resources (...) they are often limited in their ability to examine the media themselves” (20). As danah boyd (2005) puts it, “students are often not media-savvy enough to recognize when to trust Wikipedia and when this is a dreadful idea”. So although young people use digital media extensively they still lack sufficient abilities to assess and evaluate the sources. What seems to be lacking is basic information literacy: “a generation of students that has grown up with Google [...] over-value expediency when locating and selecting appropriate scholarly information” (Kennedy and Judd 2011, 132). They may know how to utilize the Google search engine, but lack the interpretative skills to handle the results (Brabazon 2007).

A common solution to the problem has been to ban Wikipedia use for academic purposes and to only allow sources that have been through the traditional, quality controlled channels: “We don’t accept students using Wikipedia whatsoever. When studying at university one should keep to information that has been double checked”.⁹ However, such a solution soon runs up against a series of challenges. The problem is not only the students’ misuse of the Wikipedia, or of digital sources in general, it is also an issue of coping with a disruptive technology. Wikipedia represents a radically different model for knowledge production and dissemination that, like the proverbial elephant, is becoming increasingly harder to ignore, also in education.

‘The participatory web’, ‘the read/write web’ or ‘Web 2.0’ are some of the many terms coined to refer to a whole range of technology that has created opportunities for individuals to participate online in a hitherto unprecedented scale. Anyone with a PC and broadband may in principle connect globally with immediate effect, often anonymously and based on common interest. Wikipedia is the archetypal example, but a number of user forums and networks work along the same principles. Two salient features in this development is the replacement of taxonomies by *folksonomies* (where the principles for organization and categorization are based on the users’ tagging and ranking and what they perceive as entertaining, important or useful) and the emergence of *meritocracies* (where users are awarded credibility, status and privileges according to the energy invested in a particular project and to what extent their efforts are appreciated by the user community). This development often involves

⁹ Professor Trond Berg Eriksen, quoted in Svendsen 2007, <http://pub.nettavisen.no/nettavisen/ibergen/article911809.ece> (my transl.)

the dissolving of traditional hierarchies and a shrinking distance between the learned and the unlearned (and may hence be said to display a significant democratic vein). In the case of Wikipedia, there is no doubt that the development poses a challenge to previous ideas of more unified and stable knowledge hierarchies. Whether one chooses to praise or lament this development, one must accept that it has become an increasingly significant part of peoples' lives; of how we entertain ourselves, socialize, and learn. Edited books and qualified experts are neither our first nor only sources anymore. As a consequence, responsibility resides no longer only with the producer (author) but must also, somehow, be activated in the recipient. Educational institutions, as we know them in the Western world, favour individual achievement and individual assessments; conventionally imply a transfer of static, controllable content created and appropriated by experts to the specific teaching/learning context. A participatory, collectively edited platform like Wikipedia runs counter to all these principles:

(...)while the epistemological framework and practices of Web 1.0 are firmly rooted in an industrial/information age hierarchical mindset, all that follows, namely Web 2.0, 3.0, etc. is informed by a very different, post-information-age, participatory worldview. Post-Web 1.0 (...) environments are those that take a more deconstructive and open stance to knowledge construction [and] encompasses a radically different set of intellectual priorities and epistemological preoccupations. Whether for better or for worse, the shift away from Web 1.0 signals an irrevocable epistemological paradigm shift. (Eijkman 2010, 175)

As also the aforementioned survey indicates, this 'epistemological paradigm shift' brought on by Web 2.0 technologies such as Wikipedia urgently calls for new skills and understandings. A growing body of scholarship is concerned with defining what an appropriate concept of *literacy* in 21st century should contain.¹⁰ Jenkins (2009), for instance, presents a list of "core media literacy skills" to supplement rather than replace traditional definitions of literacy. Building on the basic skills of reading and writing, students today must also develop research skills, technical skills, a critical understanding of media, and, Jenkins adds, social skills: "new media literacies should be seen as [...] ways of interacting within a larger community, and not simply as individualized skills to be used for personal expression" (32). As such, literacy also involves seeing one's self as a part of a bigger whole. As Jenkins asserts: "the new media literacies should be seen (...) as ways of interacting within a larger community", and "a more empowered conception of citizenship" (ibid).

The abilities of the teacher students in the survey above seem to be lacking in several of these areas, in particularly in terms of how they place themselves in relation to what they seem to perceive as an authoritative, yet flawed, encyclopedia. As

¹⁰ "Digital literacy" is now one of five "basic skills" in the Norwegian national curriculum in primary and secondary education. With its 2012 revision it aims to look beyond a previous focus on access, tools and software and on to "the cognitive dimensions such as attitudes, understanding and communication" [my transl.] <http://www.udir.no/Lareplaner/Forsok-og-pagaende-arbeid/Gjennomgang-av-norskfaget/Endring-av-betegnelse-pa-to-av-de-fem-grunnleggende-ferdighetene/>

Buckingham (2006) notes when reviewing literature on how children make sense of online resources: “digital content was often seen as originating not from people, organisations, and businesses with particular cultural inclinations or objectives, but as a universal repository that simply existed ‘out there’”. The same attitudes are found among these students in relation to Wikipedia; they show little or no knowledge of how content ends up there; information is just ‘there’, put there by ‘somebody’.

Wikipedia: from a source for information to a tool for learning?

The ‘epistemological paradigm shift’ calls for new ways of organizing learning processes. One way to promote literacy in a digitalized, contemporary setting would be to bring Wikipedia into the classrooms by enabling students and their teachers to contribute to writing Wikipedia articles themselves; to move from being consumers to producers and learn how to edit existing articles or start new ones from scratch.¹¹ In the following I will suggest a few ways where Wikipedia may prove effective. Bass and Rosenzweig (2011) conclude that the most successful educational uses of digital technology fall into the broad frameworks of either 1) inquiry-based learning, 2) bridging reading and writing through online interaction, and 3) making student work public in new media formats (pp96). By combining subject-based learning and literacy skills, Wikipedia writing might meet all of these in one.

Many of those who have ventured bring Wikipedia into classrooms and lecture halls have focussed on it as a reference source in order to have students assess its quality by comparing it to other sources. Although this is a step in the right direction as it draws attention to the importance of reading sources from a critical perspective, this approach still remains within the framework of treating Wikipedia as a stable rather than a dynamic system. As Eijkman’s (2010) survey shows, Wikipedia is gradually becoming acceptable as a “first start” in the research process, also by academics. Students report it as a good place to “gain an overview before going on to serious sources” and are also discovering the usefulness of the Wikipedia article’s list of reference to primary sources. Yet, if the shift is made from simply relating to Wikipedia as a source to actively engage in contribution, a series of additional factors may be set in motion which might make the learning outcome much greater. I will suggest that major factors in this process connect to *purpose* and *accountability*.

Perhaps the most immediate sense of accountability is related to the use of sources and to being discerning about using them. As with any scholarly piece of writing, all statements on a Wikipedia entry must be verifiable and refer to published articles and verifiable resources:

It must be *possible* to attribute all information in Wikipedia to reliable, published sources that are appropriate for the content in question. However, in practice it is only necessary to provide [inline citations](#) for quotations and for any information that has been challenged or that is likely to be challenged. Appropriate citations guarantee that the information is not [original research](#), and allow readers and editors to check the source material for themselves.

¹¹ In the past couple of years, this approach has made its way into higher education, especially in the United States. A list of current projects can be found at http://en.wikipedia.org/wiki/Wikipedia:School_and_university_projects

Any material that requires a citation but does not have one may be removed. Unsourced contentious material [about living people](#) must be removed immediately.¹²

Failing to adhere to these guidelines may ultimately result in removal of edits. With such strict requirements, writers are constantly reminded to ask themselves two important questions: where do I have this information from? Is what I think to be true accurate? To find, assess and use valid sources for a Wikipedia entry demands a type of accountability that is difficult to achieve to the same effect in an assignment where the teacher is the only intended reader.

Bass and Rosenzweig (2011) mention “bridging reading and writing through online interaction” as another area where technology has proved especially beneficial. That most kinds of writing solidifies understanding, “makes thinking visible” and plays a crucial role in processes of learning is a well-established fact, and as most teachers will have experienced, the most impressive kind of learning takes place when actively creating and not so much when reading. When this happens online the added possibilities for discussion and interaction, for articulating and exchanging subject material with peers outside the educational setting adds the dimension of the public eye. As such, it activates a series of factors such as accountability and genuine purpose that will not be achieved to the same extent in offline settings such as the traditional classroom. When writing on the world’s 5th most visited internet site, the awareness of writing something that is very likely to be read makes these even more acute. As expressed by one of Norway’s most active contributors: “there are endless numbers of texts about Knut Hamsun. But the text I have written is the one most widely read. That is both a little frightening and very motivating to think about”.¹³ The anticipation of the critical comments, as well as a sense of responsibility for younger, less experienced readers who perhaps take all at face value, play an important role in helping students monitor the quality of writing.

As Jenkins noted above, a central added dimension to modern literacy is social skills, as so much of today’s information is shared and networked. On Wikipedia, when registered users make a first edit they are met with a welcoming note from an experienced contributor. The contributions may be criticized or even deleted as the strict formatting and content criteria may dismiss even the best of attempts. Similarly, praise and encouragement from experienced users may be very motivating and create a sense of being gradually initiated into a community. Wikipedia is, in addition to being an encyclopedia, a social infrastructure where newbies may find themselves as apprentices with all that apprenticeship entails.

Most importantly, perhaps, is that Wikipedia contributors are not only faced with their own professional development but also become involved in the collective, collaborative processes of knowledge building. Behind the scenes, on the history and discussion pages, the controversies and negotiations are visible, and demonstrate not only the difference between fact and argument but also how knowledge is situated and contested. Here in the words of Brown and Thomas (2011):

¹² <http://en.wikipedia.org/w/index.php?title=Wikipedia:Verifiability&oldid=492288821>

¹³ Morten Haugen, interview [my transl.] The quote is also interesting in the way the writer reveals a sense of ownership by referring to the text as “his” although it is a collaborative enterprise.

a quick glance at any Wikipedia entry reveals not only what the current, ephemeral status of a given piece of knowledge is; it also discloses the history of any discussions, resolutions, and subsequent alterations to the entry that has given rise to its current form...Printed resources (...) are forced to make choices that include or exclude similar material for reasons of form, content or even organization. And by doing so, they render that information invisible (46-47)

Backstage Wikipedia gives the reader first hand access to what is normally excluded, and may hence provide understanding of “facts” and what we normally accept as “valid, normal or true” as rather being results of perpetual negotiations and renegotiations. As historian Roy Rosenzweig points out: “Although Wikipedia is problematic as a sole source of information, the process of creating Wikipedia fosters an appreciation of the very skills that historians try to teach” (2011, 138) As such, Wikipedia editing opens up understandings far beyond the merely technical or subject-related, and could be a way to meet what Jenkins (2009) identifies as *the transparency problem*: “the challenges young people face in learning to recognize the ways that media shape perceptions of the world” (xii).

Conclusion

Despite the technological possibilities of the participatory web, the grand majority of us are little but consumers. Most people restrict their online activity to browsing content that others have created; then press “like” or “share” or simply ignore. Based on results from a recently conducted pilot survey among teacher students, this paper has shown that students display a low level of insight into the way the content they consume on an everyday basis is constructed. In addition, they express little interest in the processes, and do not see themselves as partaking in creating content or maintaining the site. This lack of knowledge or interest is perhaps a characteristic of the times, accustomed as we have become to fast, ubiquitous access to entertainment, socialization and information. In the case of Wikipedia, this attitude is paired with an inheritance from pre-internet generations: the inbuilt trust of the written word, especially when it comes in encyclopedic format, as something someone (hopefully qualified) has put there. The combination gives reason for concern, considering the fact than Wikipedia is acquiring an almost hegemonic position as the primary (and, in some cases, only) source of information. In this paper I have also suggested that a way to remedy both lack of knowledge and interest among students towards Wikipedia content would be to actively engage them in creating and maintaining Wikipedia content. Rather than ignoring the looming elephant, teachers should enable their students to take part in both feeding and cleaning up. In material terms, as a collection of facts, Wikipedia is of limited interest, but to learn understand its functions through actively taking part in building it may help foster a kind of literacy that our digital era urgently requires.

References

- Boyd, Dana, "Academia and Wikipedia", in: *Corante*, 4 January 2005 http://many.corante.com/archives/2005/01/04/academia_and_wikipedia.php 20.9.12
- Brabazon, Tara, *The University of Google: Education in the (Post) Information Age*. Aldershot: Ashgate 2007
- Bruckman, Amy and Andrea Forte, "From Wikipedia to the classroom: Exploring online publication and learning", in: *Proceedings of the 7th International Conference on Learning sciences*. Bloomington, Indiana 2006, 182-188
- Buckingham, David, "Defining digital literacy - What do young people need to know about digital media?", in: *The Nordic Journal of Digital Literacy*, Vol. 1(4) (2006) 263–276
- Dennis, Dion and Jabbar Al-Obaidi, "Vanguard, laggard or relic? The possible futures of higher education after the epistemic revolution", in: *First Monday* Vol. 15(3) (2010), <http://firstmonday.org/htbin/cgiwrap/bin/ojs/index.php/fm/article/view/2629/2480>
- Digital Tilstand 2011*, Norgesuniversitetet 2011 http://norgesuniversitetet.no/files/rapport_digital_tilstand_2011.pdf
- Eijkman, Henk, "Academics and Wikipedia: Reframing Web 2.0+ as a disruptor of traditional academic power-knowledge arrangements", in: *Campus-Wide Information Systems*, Vol. 27(3) 2010, 173-185
- Emigh, William and Susan C. Herring, "Collaborative authoring on the web: A genre analysis of online encyclopedias", in: *Proceedings of the 38th Annual Hawaii International Conference on System Sciences*. Vol. 4, 2005 <http://www.computer.org/comp/proceedings/hicss/2005/2268/04/22680099a.pdf>
- Facer, Keri, J. Furlong, R. Furlong, and R. Sutherland, *ScreenPlay: Children and Computing in the Home*. London: Routledge Falmer 2003
- Giles, Jim, "Internet encyclopedias go head to head", in: *Nature*, 15 December 2005 <http://www2.stat.unibo.it/mazzocchi/macroeconomia/documenti/Nature%202006%20wikipedia.pdf>
- Haugen, Morten, "Mitt liv som Wikipedianer" [*My life as a Wikipedian*], in: *Aftenposten* 17 January 2011 <http://www.aftenposten.no/meninger/-kommentarer/article3992885.ece#.T6gyQ1uLmuk> 20.9.12
- Head, Alison. J. and Michael. B. Eisenberg, "How college students seek information in the digital age", in: *Project Information Literacy Progress Report "Lessons Learnt"*, 2009 http://projectinfolit.org/pdfs/PIL_Fall2009_Year1Report_12_2009.pdf
- Head, Alison. J. and Michael B. Eisenberg, "How today's college students use Wikipedia for course-related research", in: *First Monday*, 15 (3) 2010 <http://www.uic.edu/htbin/cgiwrap/bin/ojs/index.php/fm/article/view/2830/2476> 20.9.12
- Jenkins, Henry, *Confronting the Challenges of Participatory Culture. Media Education for the 21st Century*. Cambridge: MIT Press 2009
- Kennedy, Gregor. E. and Terry S. Judd, "Beyond Google and the "satisficing" searching of digital natives", in: Thomas, M (ed) *Deconstructing Digital Natives*.

- Young People, Technology and the New Literacies*. London: Routledge 2011, 119-135
- Lankshear, Colin and Michele Knobel, *New Literacies. Everyday Practices and Classroom Learning*. New York: Peter Lang 2006
- Lim, Sook, "How and why do college students use Wikipedia?" *Journal of the American Society for Information Science and Technology*, Vol. 60(11) (2009), 2189-2201
- Niederer, Sabine and José Van Dijk, "Wisdom of the crowd or technicity of content? Wikipedia as a sociocultural system". *New Media & Society*, 12(8), 2010, 1368-1387
http://www.govcom.org/publications/full_list/niederer_vandijck_technicity.pdf
- Nielsen, Jakob, "Participation inequality: Encouraging more users to contribute", 9 October 2006 http://www.useit.com/alertbox/participation_inequality.html 20.9.12
- Parry, David, "Wikipedia and the new curriculum: Digital literacy is knowing how we store what we know", in: *Science Progress*, 2008 <http://scienceprogress.org/-2008/02/wikipedia-and-the-new-curriculum/> 20.9.12
- Rainie, Lee and Bill Tancer, "Wikipedia Users", in: *Pew Internet & American Life Project* 2008, <http://www.pewinternet.org/Reports/2007/Wikipedia-users.aspx?r=1> 20.9.12
- Rosenzweig, Roy, *Clio Wired. The Future of the Past in the Digital Age*. New York: Colombia University Press 2011
- Svendsen, Roy Hilmar, "Ikke stol på Wikipedia" [*Don't trust Wikipedia*], IBergen.no 24 February 2007 <http://pub.nettavisen.no/nettavisen/ibergen/article911809.ece> 20.9.12
- Thomas, Douglas and John Seely Brown, *A New Culture of Learning. Cultivating the Imagination for a World of Constant Change*. CreateSpace Independent Publishing Platform 2011
- Thomas, Michael (ed), *Deconstructing Digital Natives. Young People, Technology and the New Literacies*. London: Routledge 2011

Summary

The article departs from a pilot survey among Norwegian teacher students that maps their usage, skills and attitudes in relation to the web based encyclopedia Wikipedia. The survey shows that the students are heavy users of Wikipedia content yet show a low level of knowledge as to how content is constructed or the ways in which Wikipedia differs from traditional, paper-based encyclopedias. The students also express little interest in parttaking in creating content or maintaining the site. The second part of the article argues that a way to remedy both lack of knowledge and interest among students is to bring Wikipedia actively into the classrooms and enable students to take part in creating and maintaining Wikipedia content. This way, Wikipedia may serve as an effective tool with which to address and enhance a range of central 21st century skills.

Biographical note

Hilde Brox, Cand. Philol., works as an English lecturer at the Department of Teacher Education and Pedagogy at Tromsø University. She is presently working on a PhD

project concerning uses of wikis and Wikipedia in Teacher Education. Her research interests include collaborative writing, visual literacy, multimodal texts and the use of web 2.0 tools in teaching and learning. E-mail: hilde.brox@uit.no

Keywords

Wikipedia, web 2.0 tools, higher education, Teacher Education, digital literacy, information literacy