

Wikipedia and Academia: a complementary formative assessment in University Courses

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Abstract: Academic perception of Wikipedia has changed significantly: it is now seen as useful teaching resource as well as collaborative knowledge building tool. It can be used for teaching purposes by assigning students to create and edit encyclopedia articles. This can have many benefits such as improving students' understanding of content, the development of intrinsic motivation to learn and the digital competences. With Wikipedia we can also experiment interesting new forms of assessment that complement traditional approach: students can be assessed on the basis, for example, of their skills in Information Literacy and collaborative writing, but also of their skills in dialog and communication when responding to feedback from other Wikipedia editors. This process is very useful for the students, as they must reply to critical comments, learn to sustain their choices with sound arguments and reach a consensus on the content. Essentially, this can be seen as a co-participated formative assessment, no longer carried out only by the teacher but open to actors from outside the University.

Wikipedia the perceptions of students and academic

Students use Wikipedia as an academic resource (Selwyn & Gorard, 2016) because it provides them with a fast, flexible and easy to use source of knowledge (Blikstad-Balas, 2016). University professors, and teachers in general, initially viewed their students' use of the online encyclopedia unfavorably, while admitting that they frequently used it themselves (Head, & Eisenberg, 2010). This negative attitude was due to a number of misconceptions that cast doubt on the effectiveness of Wikipedia's revision, oversight and control process,

given the lack of an editorial board. In general, criticisms have concerned the reliability of content, as anyone can create and edit it, the “shared authorship”, or in other words, the possibility that the author of an article may not be identifiable, and the fear that students will use Wikipedia as a quick way to cut and paste material (i.e. plagiarism).

Indeed, Wikipedia has caused a crisis within the concept of authoring and the “principle of authority“, concepts on which the traditional encyclopaedia has always been based on since the eighteenth century’s famous *Encyclopédie ou Dictionnaire Raisonné des Sciences, des Arts et des Métiers* of Diderot and of Alembert. In Wikipedia reliability/verification of an argument dealt with is related to the concept of a secondary source. In its own rights it is itself a secondary source, which must anyway quote in each of its articles the primary influential source, in which it refers to. From this point of view, the necessity to validate the source is however not only a problem of Wikipedia, but of all the resources found in the internet. Schools and university experience with the free encyclopaedia are now many all around the world. They have supplied a starting point at an institutional level for its direct introduction in the teaching practice.

Educational benefits using Wikipedia

Wikipedia can be particularly interesting in University contexts for mainly three reasons:

- 1) in providing encyclopedic support for disciplinary content as reliable source to consult;
- 2) as an active learning environment for students editing or writing encyclopedic articles on specific disciplinary topics as complementary assessment;
- 3) as a mean to disseminate knowledge in society as students and teachers can contribute to the online encyclopedia.

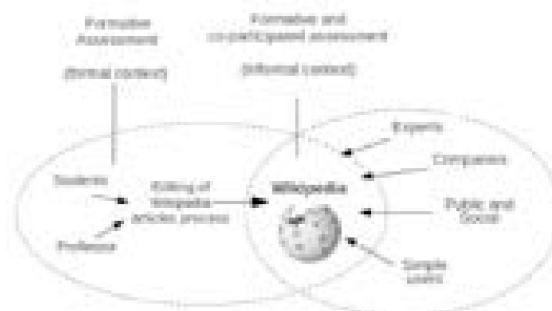
Wikipedia is one of the most successful examples of online collaboration, thanks to the daily contributions of thousands of editors, correcting and improving content using a rigorous approach: it has very strict policies for drafting articles, especially as regards the use of reliable sources. So the academic world’s perception of the online encyclopedia has changed. Many academics have begun to use the encyclopedia more frequently in their research as well as in everyday contexts become authors themselves by creating and editing entries in their own disciplines as well as assigning students to edit Wikipedia articles to create new entries. These activities favour a learning process connected to constructive collaboration and dialogic knowledge (Bereiter, Scardamalia,

2005): there is a creation of shared artefacts on the Web that can be perceived as a useful service to others.

A formative and “open” assessment

Teaching assignments with Wikipedia can make it possible to test interesting new forms of assessment that complement traditional methods. During assessment, the instructor usually checks the quality of the content of the encyclopedia entries and the bibliographic references cited by the individual student and/or by the work group as a whole. Specific grading rubrics can be used for this purpose. But students can also be assessed on the basis, for example, of their skills in Information Literacy and collaborative writing, or their skills in dialog and communication when responding to feedback from other Wikipedia editors: such feedback generally consists of modifications or deletions in the encyclopedia entry which, if not accepted by the Wikipedia community, necessarily require that the students interact with whoever made the changes. This process is extremely educational for the students, as they must learn to substantiate their choices with sound arguments and reach a consensus on the content (fig. 1): this can be seen as a real formative assessment, “open” as expert outside can interact and suggest article improvements.

fig. 1



The co-participated formative assessment process when students edit Wikipedia articles

This co-participatory formative assessment is no longer carried out only by the professor but is open to experts from outside university, who in general are Wikipedia users with a knowledge of the discipline concerned. Feedback from users as a whole can reach levels of quality that are very close to those of actual experts (Cope, Kalantzis, Abd-El-Khalick, & Bagley, 2013) and the

process is a good example of crowdsourcing (Surowiecki, 2005; Zheng, Niiya & Warschauer, 2015).

These kinds of formative assessment have been shown to be extremely effective, especially in improving student performance, with an effect size of 0.90 (Hattie, 2009), and they are oriented equally towards the process and the product. Indeed, formative assessment takes place alongside the teaching/learning processes, and provides immediate, targeted feedback to the students, thus triggering forms of self-directed learning (Scardamalia et al., 2012; Cope & Kalantzis, 2015).

Possible problems with Wikipedia assignments and assessment

Teaching with Wikipedia can lead to some set of problems. It is interesting to analyze them on the basis of Activity Theory (Engeström, 1999), as illustrated in fig. 2. This theory suggests that each individual's activities are situated and distributed among the subject, the available tools and the community concerned. The relationships between subject and object of the activity are thus always mediated by tools (physical or conceptual), by rules, by the interactions with the community and by collaborative procedures. It is important to point out that every Wikipedia article is a shared digital artifact, and revision methods are codified in rules. These rules must be followed to avoid the risk of being excluded from the community.

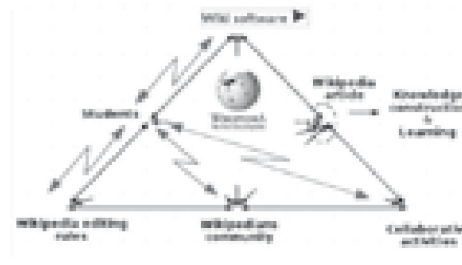
The elements of an activity system frequently exhibit contradictions. Accordingly, if we try to adapt this theory to student's activity with Wikipedia (Bryant, Forte & Bruckman, 2005), we see that it can aid in interpreting the interactions between all of the elements involved: the subjects, the community of Wikipedia, the software tools used, the editing rules and the cooperative/collaborative distribution of work. In order of increasing importance, the contradictions involved here arise:

- 1) in students' participation in the work group creating the article,
- 2) in using Wiki software to edit articles;
- 3) in following the rules for editing and creating Wikipedia articles, and
- 4) in the dialectical relationship with the community of Wikipedia.

Usually, failure to follow the rules in creating encyclopedia articles and the consequent dialectical conflicts with the Wikipedia community are the most critical problems: if unresolved, they can in many cases result in the entry being deleted or in an immediate request for changes. In general, problems involve copying and pasting (plagiarizing) texts from other sources or not

taking a neutral point of view towards facts or people. Often, when there are disagreements the Wikipedia community suggests users not to engage in an “edit war”, i.e., continuing to override deletions or additions for the same content, but to use the “talk page” provided on the Wikipedia editing interface to discuss the question and reach a consensus concerning the content.

fig. 2



The co-participated formative assessment process when students edit Wikipedia articles and possible problems between between actors

Conclusions

As we have seen, Wikipedia can be an interesting learning environment: the process of editing articles is certainly highly educational and could also offer the opportunity to activate processes of cognitive development. The student could experience in a context of real life situation abilities which more than ever seem to be required in the digital society. Wikipedia could then become an efficient tool for the acquisition, and development of reflection, participation and ethical competences. The process of editing the online encyclopedia offers a teaching strategy that complements traditional assessment approaches and can be at the same time a really useful method for a dialogic-based and collaborative approach to knowledge building (Jonassen, 2000).

It is interesting to note that, in this way, the subject taught can be considered as a “boundary object”: on an educational institution level and on a “social level”: it puts the students in contact with a community of other editors of Wikipedia, that comes from an informal world, so the students can experience also in an external assessment context different from the university one. This can be seen as a co-participated formative assessment, no longer carried out only by professors or tutors but open to experts from outside the University. The student could experience in a context of real life situation abilities which more than ever seem to be required of the adult in the digital society. Wikipedia could then become an efficient instrument for the acquisition, and development

of reflection, participation and ethical competences, in the vision of lifelong learning.

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