WIKIPEDIA EDUCATION PROGRAM IN HIGHER EDUCATION SETTINGS: ACTIONS AND LESSONS LEARNED FROM FOUR SPECIFIC CASES IN MEXICO AND ARGENTINA

Programa de Educación Wikipedia en contextos de educación superior: Acciones y lecciones aprendidas de cuatro casos específicos en México y Argentina

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Abstract: This article presents a comparative view of efforts and results that have been accomplished by the Wikipedia Education Program working with higher education institutions. Following the idea that "Wikipedia belongs to education", teachers from all over the world have become interested in including Wikipedia in their courses. This paper analyses experiences and lessons from Wikimedia Argentina and Wikimedia Mexico, both chapters working with higher education institutions, in order to found similar challenges and solutions in the implementation of Wikipedia projects in academic spaces, also in the context of the Initiative for Regional Cooperation for Ibero-America (Iberocoop) that has proposed the creation of a chapter in the region, fostering collaboration and exchange of experiences.

Keywords: Wikipedia; education; assessment innovation; higher education.

Resumen: Este artículo presenta una visión comparativa de los esfuerzos y resultados del Programa de Educación de Wikipedia en el trabajo con instituciones de educación superior. Siguiendo la idea de que "Wikipedia pertenece a la educación", profesores de todo el mundo se han interesado en incluir Wikipedia en sus cursos. Este documento analiza experiencias y lecciones de Wikimedia Argentina y Wikimedia México, en el trabajo con instituciones de educación superior, para encontrar desafíos y soluciones similares en la implementación de proyectos de Wikipedia en espacios académicos, esto también en el contexto de la Iniciativa de Cooperación Regional para Iberoamérica (Iberocoop) que ha propuesto la creación de un capítulo en la región, fomentando la colaboración y el intercambio de experiencias.

Palabras clave: Wikipedia; educación; innovación en la evaluación; educación superior.

INTRODUCTION

This article focuses on specific actions and lessons learned from four Latin American experiences working with the Wikipedia Education Program (WEP) in higher education settings: the Wikimedia Mexico (WMMX) Education Program working with the National Autonomous University of Mexico (UNAM), and the project for universities implemented by Wikimedia Argentina (WMAR) Education Program.

Following the idea that 'Wikipedia belongs in education', teachers have become interested in including Wikipedia in their courses. This work will review some lessons learned from the higher education context in both countries, and also in the scope of the Initiative for Regional Cooperation for Ibero-America (Iberocoop), aimed at fostering collaboration and experience sharing in the region.

Two members of the team working on this article took part in the gathering organized by Ceibal Foundation in July 2017, called 'EdTech Winter School: Emerging trends and new horizons in the study of education and technology', which gave rise to an intensive week of in-depth interaction and discussion between all 37 selected participants. The work we present here falls within two of the lines of research proposed for this event:

"New Ways of Knowing, Learning, Teaching and Evaluating", initiated to "rethink curricular and pedagogical strategies that recognize different ways to learn and to share the knowledge learned, and also to explore to what extent multi-contextual learning (formal, non-formal and informal) supported by technology can influence learning styles and processes", and "Educators in the Digital Age", created to "identify and systematize those practices that allow teachers to be brought up-to-date in the development of new ways to access, process, generate and share knowledge" (Ceibal Foundation, 2017).

As Wikipedia is by all means a central part in the two lines of investigation, this article aims to identify the lessons learned and challenges of some specific initiatives of the Wikipedia education programs in both contexts.

WIKIPEDIA IN HIGHER EDUCATION SETTINGS: THE RESEARCH

Beyond encyclopedic consultation, there are several ways in which Wikipedia can be used as a learning strategy in the classroom. In the research discussed below we explore some evidence of the benefits of getting students actively involved in the tasks of editing and improving Wikipedia articles.

In the field of economics, Freire and Li report a positive impact due to the open nature of improving or creating Wikipedia articles, because the feedback was received not only from the teacher but also from the Wikipedia community, and this led to "a large increase in the number of students who checked assignment feedback and made modifications to their assignments based on this feedback" (2014; p. 1179). Regarding

the formal use of Wikipedia with groups of final-year medical students, Azzam and his colleagues have found meaningful improvements, not only in the articles they edited, but also in the sense of agency as medical volunteer editors "providing accurate information to communities that do not have access to other resources" (2017; p. 197). The research also shows aspects to be improved, as Azer has concluded after reporting that Wikipedia articles on the topic of the "nervous system" have "deficiencies and scientific errors in most Wikipedia articles evaluated", but this is precisely where the opportunity lies because: "Wikipedia articles could be a resource for critical evaluation and content improvement" (2016; p. 134).

Regarding improvement in writing abilities, Di Lauro and Johinke have worked both with undergraduate and postgraduate academic writing, and have found that "students are more motivated to participate in formative assessment activities when their contributions (both individual and collective) receive measurable exposure" (2017; p. 479), that is to say that being aware of a real and quantifiable audience plays an important role in motivation. Meseguer-Artola and his colleagues have worked on a model "to understand what the main factors are that influence the teaching uses of Wikipedia among university faculty" (2016; p. 1224). They have found that factors such as the opinion of the colleagues (sharing attitude and image), as well as the institutional recognition and support are relevant: "it will be useful to explicitly acknowledge these kinds of practices as an important element in assessing teaching skills and innovation" (p. 1231).

In the same direction, Konieczny finds that "we need to encourage institutional support for contributions to Wikipedia by researchers and students, through popularizing 'Wikipedia initiatives', and recognizing participation in them through awards, career evaluations, and simple peer acceptance" (2016; p. 1532), and goes further presenting two main reasons he found for the rejection of Wikipedia: one of them is the misperception about Wikipedia being a profit organization and the second one is "the negative attitude toward knowledge produced outside academia" (p. 1527).

Blikstad-Balashas explored student's perception of Wikipedia and concludes that "the question is not about saying 'yes' or 'no' to Wikipedia, but a question of how schools should address the fact that students' literacy practices rely heavily on this one particular site". Also, she has found that: "Wikipedia's credibility problems among teachers become the only *de facto* problem for many students. This discrepancy between student and teacher attitudes towards Wikipedia suggests that there is a need to actually discuss Wikipedia in the classroom to a larger extent" (2016; p. 603). In other words, students ask themselves why the teacher disapproves Wikipedia, but this topic is never on the table in the classroom.

Aside this negative perception, the construction of successful educational experiences with Wikipedia requires multiple previous decisions, such as the tools, goals, assessment strategies of the projects, et cetera. Those who start such a project often struggle with doubts about how to design, implement and evaluate activities. The

Wikipedia Education Program (WEP) was created on the basis that educators and students around the world can contribute to Wikipedia and other Wikimedia projects in academic settings, and in its origins had "a strong focus on higher education, supporting professors to incorporate Wikipedia writing assignments into their lessons" (Wikipedia Education Program, 2018: p. 8).

Our intention here is to share some of the lessons learned which we have gathered through four specific cases that have integrated Wikipedia into academic settings. These cases were selected based on the following criteria: they are recent, successful and represent milestones in the work with higher education institutions.

ABOUT WIKIMEDIA ARGENTINA (WMAR)

Wikimedia Argentina is a nonprofit organization founded in 2007. It is comprised of three programs: Education, Promotion of Cultural Institutions and Community Support. The Education Program carries out activities and training courses at high school and university level (educators and students) on the use of Wikipedia as an educational tool. The focus of the activities with academic institutions is to highlight the importance of addressing social conflicts that appeal to the realities of the people who participate in our projects. Within the frame of free and digital culture, WMAR projects promote collaborative teaching and learning practices, intellectual authorship, multiplicity of voices and the construction of consensus through dialogue. WMAR's Education program focuses on promoting activities led by teachers using Wikipedia in the classroom, making sure these activities get students actively involved as editors, and getting new counterparts involved to make the program grow both at local and regional levels.

As universities formed a strategic alliance to strengthen the Wikimedia education experience in academic spaces, during 2016-2017, WMAR released a proposal called *Wikipedia in the University.* The goal of this project was twofold: having students and academic researchers as quality content editors, and also legitimizing the Education program in high-schools, universities at the national level.

An open call was launched for universities in Argentina. Initially, *Wikipedia in the University* was implemented in five national universities: The University of Salta, the University of Rio Negro, the University of Buenos Aires, the San Bartolome Institute of Higher Education (Rosario) and the Social Services College (Chivilcoy). Educators teaching their classes during the first part of the year, subjects that were largely absent from Wikipedia, were selected and encouraged to incorporate editing Wikipedia as an assignment. For this reason, we have worked with classes on paleontology, nutrition, medicine, local heritage and economy with a gender perspective.

Educators were trained both online and in-person and they could choose whether to work on the improvement, creation or translation of content. At first, students edited their articles in sandbox mode and then their work was published under the supervision

of the WMAR team and volunteers. This semester 86 articles were created at university level in this project.

Case 1: Project at the School of Architecture (UBA)

In the subject of History of Architecture, in the University of Buenos Aires, WMAR developed a photography project for the documentation of emblematic buildings and neighborhoods in Buenos Aires City and the province of Buenos Aires; students uploaded their photos to Wikimedia Commons and enriched articles in Wikipedia with such images.

This first experience took place during 2016, and involved onsite training for 100 students on how to edit Wikipedia and how to create new free content in Wikimedia Projects. In this first activity, students were divided into small groups and, in a collaborative way, resolved their doubts and did their exercises. They uploaded 58 new images to Wikimedia Commons under free licenses. Students also enriched the Wikipedia articles related with Argentinian architecture, adding pertinent images to articles that did not have any, as in the following Wikipedia pages: Palacio Raggio (Monserrat), Iglesia de San Ignacio (Buenos Aires), Convento de Santo Domingo (Buenos Aires), San Telmo (Buenos Aires), El Viejo Almacén, Librería de Ávila, La casa mínima, Parroquia Inmaculada Concepción (Belgrano), Museo Histórico Sarmiento.

Case 2: Wikilesa project at University Level

During 2015-2017 WMAR carried out four activities called "Wikilesa", designed to edit existing information on Wikipedia about the Human Rights Violations that took place in Argentina during the last Military Dictatorship (1976-1983). In partnership with Cosecha Roja, a specialized news portal about justice and human rights, WMAR trained teachers, university students, activists and researchers to learn how to use Wikipedia and how to edit existing information, improve and create new content. In only two years, Wikilesa became one of WMAR's main education activities at university level. WMAR designed specific training with students from different Universities to promote, through Wikipedia, social condemnation and to contribute to the processes of memory, truth and justice in our country. WMAR also took Wikilesa to new institutions that were interested in working on the subject, and worked with them to replicate it in different educational and cultural spaces. This strategy gave it more visibility and promoted the Wikilesa project as a reliable activity when it comes to talking about Human Rights in the educational and research community. The audience is used to writing about this specific subject, so they are well prepared to create quality content. The five-hour long editing day, goes on using an edit-a-thon format that includes a main presentation of the subject and then the participant's work on Wikipedia. During these experiences, we realized that involving the educational community in sensitive issues such as the military dictatorship in Argentina

posed an emotional challenge to those who participated, but also allowed them to discover Wikipedia as a space for social demand (cfr. Ferrante y Ludueña, 2017).

Key findings

In terms of learning outcomes, in the first case at the School of Architecture, we found that teachers want to use something different than their traditional way of teaching in university classrooms. There were some concerns about the viability of using Wikipedia in academic environments, such as if it was a reliable source or not. But, the importance of doing workshops related to their disciplinary areas was the key to understand Wikipedia in a new way, as creators of knowledge and also as a different way of sharing their productions (images in this case). Working in an open platform that receives 31 million visits per day is also a challenge for teachers and students. Through this project a new way of doing and being in the classroom was created by both teachers and students. Beyond the edited articles the most impressive result came afterwards: most of the educators remained active editors of Wikipedia. This is undoubtedly one of our main objectives for this new kind of training courses at university: to make educators feel comfortable with their role as editors, helping them to understand how Wikipedia works and encouraging them to incorporate Wikipedia into classroom activities.

In the second case, #Wikilesa, students and university teachers became aware of the need to write and to value the recovery of the historical memory. Argentinian students and teachers improved their knowledge and skills in relation to Wikimedia projects. In Wikilesa, 82 new users participated in the experience and 21 are still active in Wikipedia, proposing future activities to further extend the experience into the provinces, 130 articles were improved and 30 articles were created. New quality content was uploaded to Wikipedia and Wikimedia Commons and it is hoped that a long-term engagement with cultural and educational partners is developed.

ABOUT WIKIMEDIA MEXICO (WMMX)

Wikimedia Mexico was founded as a Wikimedia chapter in 2011 and since then has been working as a non-profit organization with the mission of disseminating and promoting Wikipedia Foundation projects in Mexico. Currently, the chapter has accomplished strategic alliances with several cultural institutions and is also working to consolidate de Wikipedia Education Program with higher education institutions in the country such as: School of Higher Studies Aragón (UNAM), Faculty of Philosophy and Letters (UNAM), Autonomous Metropolitan University (Iztapalapa campus), University of the Americas in Puebla, Veracruzana University and El Colegio de Mexico. Wikimedia Mexico and the National Autonomous University of Mexico (UNAM) started collaboration in March 2011 with the Faculty of Philosophy and Literature, where WMMX supported the foundation of

the student club. Later on, a social service accreditation program was created: students fulfill this academic obligation by writing or improving articles in the Spanish Wikipedia. In 2012, the UNAM virtual High School (B@UNAM) started a close collaboration with Wikimedia Mexico when the chapter gave Wikipedia talks and workshops to around 300 B@UNAM teachers.   In 2015, the Open University and Distance Education Coordination Office (CUAED) in collaboration with the Coordination of Technologies for Education (DGTIC-UNAM) and WMMX organized the first edit-a-thon in the context of "Scenarios 2020", a one-year-long seminar. Under the hashtag #WikiUNAM, this first edit-a-thon marked the beginning of a more formal and broader approach in the relationship between Wikimedia Mexico and UNAM. There were around 413 participants, 139 of them worked very actively. At the time, the CUAED authorities expressed their intention to keep working in this kind of event (cfr. Gutiérrez, 2015).

A second edit-a-ton was held in 2016, also organized by CUAED (now under a different administration than the previous one), again in collaboration with DGTIC. This time, 250 academics and students created 139 new articles, two translations and 526 edited entries. Also, the participation included representatives of other universities such as the National Polytechnic Institute, the Cuajimalpa campus of the Metropolitan Autonomous University, the Monterrey Institute of Technology and Higher Education, the National Pedagogical University, the International University of La Rioja and the University of Valencia (cfr. López, 2016). Both edit-a-thons, eight hours long each, were extensively covered by national media. Each of them started with the presentation of a successful academic experience within the Wikipedia Education Program, and those are the cases described below.

Case 3: Wikipedia in Language and Hispanic Literature Studies

Since 2010, Dr. Mónica Quijano Velasco has been integrating Wikipedia into her Spanish Language and Hispanic Literatures undergraduate class, in entries such as: Roland Barthes, *El grado cero de la escritura*, Zombi, Minificción, Horror (género), Transtextualidad, Écfrasis.

Dr. Quijano has stated that she privileges the academic quality of the entries, rather than the quantity (Quijano, 2015). She seeks to contribute with information strictly corroborated and always following the five pillars of Wikipedia. As a result, 10-12 articles were created every semester.

She started this project by herself and later on she requested WMMX support in order to get proper Wikipedia training for her class. She conceives this work as an effort to encourage a collaborative dimension of knowledge, where the concept of authorship needs to be challenged.

Case 4: Chemistry and molecular biology with the use of Wikipedia

Professor Georgina Nieto Castañeda, teacher at the National Autonomous University of Mexico (UNAM), opened the second edit-a-thon with the presentation of a project with Wikibooks to improve the curricular contents of her Chemistry and Molecular Biology class. During the first week of the semester, each student chooses one or two subjects from the program, and once the topics are chosen, each student carries out an in-depth investigation using at least five primary sources. The research is reviewed by the teacher and each student receives feedback to improve or correct their work, only then the content is added to Wikibooks.

Students in this educational project learned that they could improve contents in Wikipedia, and that there are several other projects they can collaborate with. Currently the project involves around 50 students, and around the same number of articles have been created. Nieto Castañeda ended up writing her master's thesis about this experience with Wikipedia (cfr. Nieto Castañeda, 2016). The more freedom is provided to students to collaborate with Wikipedia, create content or edit it, the better the results obtained, since they enjoy the task and conduct research of much better quality.

Key findings

The main line of work in the two Edit-a-thons at UNAM was the creation of entries about different departments, areas or offices at the university, but this kind of institutional articles are often rejected by Wikipedia librarians under the argument of "non-encyclopedic relevance". This is a very frustrating experience for the participants and discourages further editing or creation of entries. Finding the right approach or theme is a challenge for future events, as much as finding a better unit of measurement of success, beyond the number of modifications or entries created. The main goal must be deep and meaningful editing work.

The dissemination of successful academic experiences done at the beginning of each edit-a-thon raised interest in the community, and several teachers ask for more information or future workshops. This shows the need of a more structured Wikipedia Education Program with far more Wikipedia ambassadors, residents or volunteers working in talks, workshops (in person or online) and also in the creation of educational Wikipedia materials.

DISCUSSION

The image below shows, with very simple elements, the contrast between consulting Wikipedia and editing it. The main difference is the kind of learning than occurs:
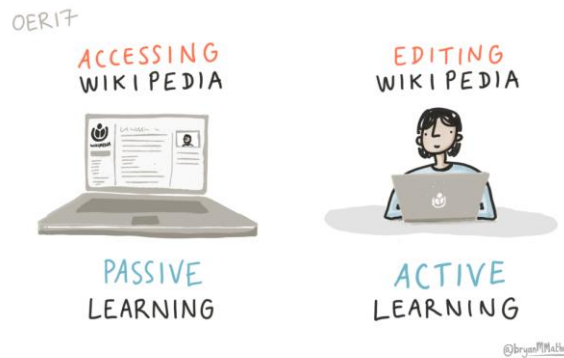
Sketch made by visual artist Bryan Mathers of a thought from Lucy Compton-Reid, Wikimedia UK, when she gave her keynote at the conference #OER17 on April 6, 2017. "The greatest open learning project"

The four cases described are milestones in the relationship between the local Wikimedia chapters and higher education institutions. It would be very convenient to focus only on the positive outcomes, nevertheless we follow here Konieczny's observation (2016, p. 1532): "we need information about when the 'teaching with Wikipedia' assignment fails, so that we can refine it based on constructive feedback". The following table shows aspects we consider successful in these four cases (left side) and the challenges we face in the same area (right side):

Successful actions	Lessons and challenges
Initiatives carried out by higher education professors during a complete semester, give students the opportunity to improve the research and editing of entries session by session.	One semester is a good start. A major challenge is to establish more long-term programs working with Wikipedia Education. Wikimedia chapters need to develop mechanisms to sustain onsite and online support, when the project so demands.
Edit-a-thons work very well in terms of: Gathering people interested in Wikipedia Dissemination of successful experiences. Statistical numbers of the edits or entries created by the participants Visibility in the media for both, the universities and the local Wikimedia chapters.	Thematic editing works very well, especially when the subject touches major national issues as in the Wikilesa case. Finding productive themes is a very important aspect in the planning of an edit-a-thon. The work of faculty members already using Wikipedia must be publicly acknowledged. Meseguer-Artola and his colleagues found that: "documenting these practices (in academic papers, reports, or presentations) is also another laudable strategy that would serve the same purpose" (Meseguer-Artola et al. p. 1231-1232). This is very well done through the Wikimedia blog (https://blog.wikimedia.org) but each university should find a suitable disseminating method or strategy.

Successful actions	Lessons and challenges
The support of the Wikimedia local chapter has been constant, at no charge and enthusiastic.	Every chapter needs to grow strategically in order to be present in new projects but it should also empower academic members to lead the way in the creation of new clubs, edit-a-thons and events.
There have been important changes in the assessment process, in the cases presented herein, in order to consider Wikipedia entries as final term papers or as accreditation products, as is the case of the compulsory social service at UNAM.	In both contexts (Argentina and Mexico) in the university culture the educator is the leader of the classroom. It is very difficult to change this paradigm, so the projects have to respect this hierarchy as much as possible. Eventually, teachers and students, become active actors in the process of creating and improving information but education at higher university levels tends to be cautious when faced with new ways of assessment, so a good amount of bravery, guidance and support are needed. Work to develop a support methodology and the follow-up of activities will be relevant.
The follow-up of the work of participating student was carried out, in some cases, using the Wikipedia platform tool. https://outreachdashboard.wmflabs.org	The challenge will improve the use of this tool to facilitate the documentation of the project results, to help the teacher monitor groups and also to allow Wikipedia to keep track of the initiatives around the world. The use of this tool may require additional training with the teachers but is a worthwhile action.
University authorities recognized the need to build a strategic alliance with Wikipedia.	Consolidating these alliances will require better communication with the university authorities and in this matter the Iberocoop initiative may play a key role: the exchange of experiences in the region will provide a better scope for successful approaches and strategies.
Providing and constantly updating training courses for teachers and support materials in multimedia formats. For example, WMAR have run seven editions of #Wikipuentes, an online course designed for middle school and university teachers. What worked best was to offer a course not longer than 5 weeks, focused on practicing Wikipedia entry editing. Beyond the numbers of edited articles and people involved, this MOOC has been a successful proposal for providing constant virtual training, which makes educators feel comfortable with using Wikipedia as a learning tool. Redefining the quality criteria in each new edit, it requires more supervision but is helpful in maintaining good results and a good relationship with the community of editors. Wikipuentes MOOC (WMAR) (http://wikimedia.org.ar/wikipuentes)	Projects have a gradual process, at first teacher training is proposed, and eventually, when the teacher feels confident, the editing process is taken into the classrooms. Many times, the editing meetings are held in person, but online tutorials and support materials are also needed. As internet access is not evenly distributed (neither in Mexico nor Argentina), offline activities become important in order to make the most when Internet access occurs. The WMAR expertise with MOOC could be one future line with WMMX in collaboration with UNAM-CUAED. This could be a fruitful experience between chapters and also in the context of the Iberocoop initiative.

These lessons are very closely aligned with three recommendations recently published by the Wikipedia Education Program, based on a 2017 survey:

1. Improve communication both internally and externally about how using Wikimedia projects in education benefits the Wikimedia movement and contributes to global goals for education:
   • Seek out and create opportunities to share impact and collaborate with internal stakeholders
   • Develop communications materials and resources that make it easier for educators to become contributors

2. Revise the scope and workflows of the Education Team in order to better align with the new movement strategy and support the diverse needs of stakeholders at scale:
   • Define the relationship between the Wikimedia movement and the education sector
   • Align the goals of the education team to the new movement strategy
   • Improve communications to potential partners who can help achieve shared goals

3. Develop communications materials that are accurate, up to date, and user friendly for non-Wikimedians:
   • Redesign the logo and other branding materials
   • Develop a portal for Wikimedia and education that is welcoming, inspiring, and informative. It should also be user friendly for non-Wikimedians
   • Develop systems and workflows in partnership with other stakeholders that ensure the information we present is accurate and up-to-date
   (Wikipedia Education Program, 2018).

We acknowledge this work is limited to a few experiences and further research is needed to measure accurately the impact of Wikipedia Programs in higher education settings and also in other educational contexts. Nevertheless, the lessons and challenges we summarized, allow us to better understand our respective contexts and also show us viable lines of collaboration.

CONCLUSION

Wikimedia education projects encourage the practice of collaborative editing, research and knowledge construction, or "communities of knowledge" (Latorre, 2015), and these characteristics make evident the relationship between Wikipedia and higher education settings. In October 2017, Stephen Downes, one of the initiators of to connectivist learning approach, presented the following scheme, showing important differences between learning in "groups" and learning in "networks". "Groups" are closely related with

the actual education system, while "networks" learn very much like we see in the Wikipedia community:

Downs (2017). The semantic condition
http://www.downes.ca/presentation/477
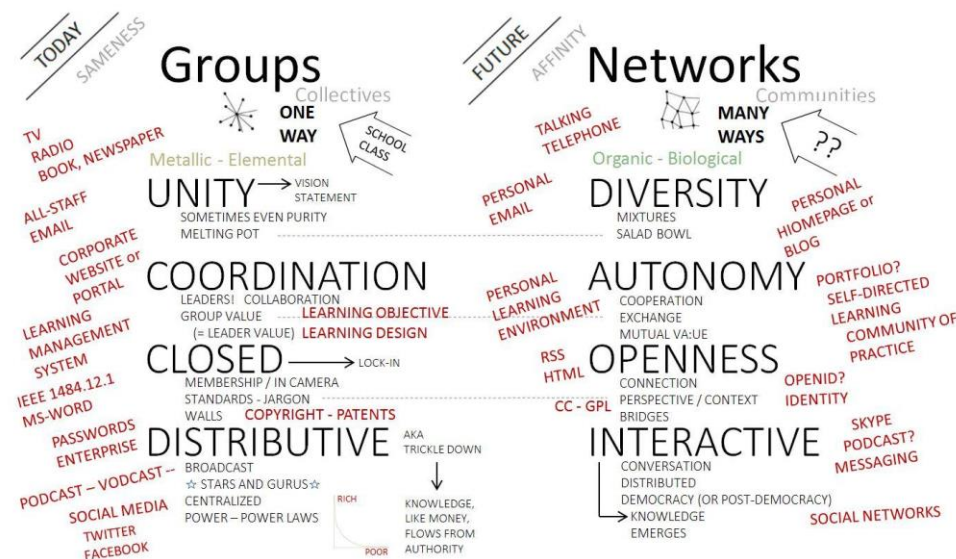
Taking the class beyond the 'group mode' and making it work as a "Network" is a major challenge for education in general, and this is closely related to the difference between people using Wikipedia only as a consultation tool and the active editors.

For some teachers, it might be hard to believe their students are capable of making meaningful contributions to Wikipedia. There seems to be a gap between the actual knowledge we have about the digital literacy of higher education students and what they actually have learned and acquired through their contact with the Internet, and the academic practices they perform outside the classroom. New approaches to digital literacy propose the exploration of "the practices of university students in open learning spaces" in order to observe "the linkages and groupings between the student practices in these spaces" (Figaredo, 2017; p. 105). Learning about these practices may allow us to be more confident with the integration of network-centered learning activities and this is an interesting topic for future investigation.

Wikipedia, is also a space where anyone can argue about meanings and biases. The dynamics of editing in Wikipedia allow us to see the processes in which social discourses are constructed and, being aware of that, the most important thing is how to build consensus. Wikipedia is a space for generating constructive criticism and collaboration based on reliable sources. For all these reasons Wikipedia is a new way of knowing, learning, teaching and evaluating, where educators in the digital age have the opportunity to lead new generations of networked, active and life-long learners.

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