



Wikipedia: The Group Behind the Screen

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Facilitator's Guide

Lesson Overview (Grades 10-12)

The goal of this lesson is to introduce students to the value of **collective intelligence** as a mechanism for knowledge building. When considering new information, most of us are in the habit of relying on a “central authority” to judge its credibility. But this mindset can obstruct the development of systems that harness the full potential of collective intelligence as a mechanism for knowledge-building.

Collective intelligence represents an alternative mechanism for producing and evaluating information, one that relies more on social processes than on any individual person.

Wikipedia is simply one of a number of online communities that rely on people pooling information and checking one another's claims in order to solve problems more complex than can be met by any individual. A few years ago, nobody would have believed that an online community could have worked together to write an encyclopedia. Asked whether Wikipedia is accurate, its founder, Jimmy Wales, said that this was the wrong question: The right question was “*when* is Wikipedia accurate?”—suggesting that any given entry is always in the process of active revision. Each member is responsible for the reliability of the information he/she posts as well as for fact-checking the information posted by others.

Given the quantity and variety of information that is freely available in the digital age, we clearly need to cultivate the ability of individuals to judge the reliability of information found online. In response to this need, this lesson is designed to introduce students to the ways the Wikipedia site (a system of signs), as it is used by the Wikipedia community (“the group behind the screen,” which acts according to a simple set of norms and rules), provides a means for assessing the reliability of information found on the site. And, in so doing, the lesson suggests some of the new sorts of skills and mindsets that are required for judging the credibility of information found online.

**Ethical-thinking skills highlighted in this lesson:**

- The ability to consider different **roles and responsibilities** within a community.
- The ability to recognize the **community-level consequences** of individual decisions.

New media literacies highlighted in this lesson:

- **Collective Intelligence**—the ability to pool knowledge and compare notes with others toward a common goal.
- **Negotiation**—The ability to travel across diverse communities, discerning and respecting multiple perspectives, and grasping and following alternative norms.
- **Judgment**—the ability to evaluate the reliability and credibility of different information sources.

Learning Objectives**After this lesson, students should be able to:**

- Identify some of the features that enable Wikipedia to function as a collective knowledge-building system.
- Describe some of Wikipedia’s core principles and standards of practice.
- Evaluate whether or not a particular Wikipedia article is credible.

Materials Used

NOTE: This set of activities requires Internet access and access to Wikipedia, a site that is sometimes blocked by school administrators and sometimes by the site itself (if someone from the school has been blocked).

Handouts:

- “Wikipedia Scavenger Hunt”
- “Wikipedia: Core Principles (Five Pillars)”
- “Wikipedia: Basic Rules (Simplified Ruleset)”
- “Wikipedia: Practical Guidelines” (“Writing High Quality Articles” and “Safe Behaviors”)



Lesson Introduction

Take a show of hands:

- How many of you have used a print or online encyclopedia (such as Britannica) to get information about something?
- How many of you have used Wikipedia?

Ask the students to name any differences they can think of between traditional encyclopedias and Wikipedia, and write their answers on the board. Encourage students to note the fact that anyone with Internet access can, in principle, contribute to Wikipedia, which distinguishes it from traditional encyclopedias. Explain that the implications of this distinction, especially in terms of credibility, are the focus of this lesson.

Activity #1: Collective Intelligence

- 1. Brainstorm.** Ask the students to identify topics that they are familiar with and would like to learn more about. The topics can be almost anything, from academic subjects to sports to aspects of popular culture. Write the topics on the board and copy each one onto the top of a sheet of paper, one piece of paper for each topic. Make sure you come up with enough topics to have one topic per group. Ideally, there will be 4 or 5 students per group. For example, if there are 20 students in the class, select 4 or 5 topics.
- 2. Class Knowledge-Building.** Circulate the papers around the room. Distribute the papers so that the student who gets a paper first is not always the same. Ask each student to write anything they can think of about the topics on each paper. Everybody should try to write something on each paper, even if they think they know nothing about the subject. They can write questions for clarification, or ask for a definition of a word, or just write what the topic makes them think about, or related personal stories. Have the students respond to what the others have written and cross out what they think is wrong.
- 3. Group Discussion.** Break the class up into small groups, one for each paper that was circulated. Hand one paper to each group. Groups should look over and briefly discuss what has been written.

Discussion Questions:

- Was anybody surprised at the amount of knowledge that the class as a whole was able to contribute to the topics/subjects?
- What kinds of things did people write?



- Did you learn anything you didn't know?
 - Was there questionable information?
 - What was missing?
 - How might you go about verifying the facts and further filling in the information?
 - If someone crossed out something that you'd written, did you want to respond to ask them why?
4. Use the above exploration of collective intelligence (that took place at the level of the classroom) as a lead-in to **introduce Wikipedia**. Have students look up their topic on the Columbia Encyclopedia site (<http://www.bartleby.com/65/>) or a printed encyclopedia, and also on Wikipedia.
5. Have the students in each group compare **the brainstormed theme sheet**, the print version of the **encyclopedia**, and the **Wikipedia** entry, and discuss the similarities and differences among the different information sources.

Discussion Questions:

- Was the topic you looked up in the encyclopedia? Could you find it on Wikipedia?
- What differences did you notice between the encyclopedia entry and the Wikipedia entry?
- Was the Wikipedia entry better in any ways?
- Was the encyclopedia entry better in any ways?
- Were the lists the class generated more like the encyclopedia or Wikipedia?

Activity #2: Introducing Wikipedia

Show students four videos introducing Wikipedia and exploring how it functions as a community of “knowledge-builders.”

1. Video. “What is a Wiki?”

<http://techtv.mit.edu/videos/805-report-from-wikimania-2006-span-classhighlightwhatspan-span-classhighlightisspan-span-classhighlightaspan-wiki>

Discussion questions:

- What is Wikipedia?
- Has anyone ever edited a Wikipedia entry?



2. Video. “Report from Wikimania 2006: The Spread of Knowledge”

<http://techtv.mit.edu/tags/1423-wikipedia/videos/563-report-from-wikimania-2006-the-spread-of-knowledge>

NOTE: This video is intended to launch a broader discussion about how knowledge is collected and edited on Wikipedia. Introduce the video by explaining that it addresses how and why Wikipedia exists in comparison to other information sources such as traditional encyclopedias.

Discussion Questions:

- What's the difference between the way Wikipedia and print encyclopedias build articles?
- Are there strengths to each approach? Weaknesses?
- Who creates the entries in Wikipedia? Is it okay to edit Wikipedia even if you're not an expert?
- From the video, discuss this quote, “We forget that the bulk of human knowledge is produced by amateurs.”

3. Video. “Report from Wikimania 2006: ‘Where did this come from?’”

<http://techtv.mit.edu/videos/463-report-from-wikimania-2006-span-classhighlightwherespan-span-classhighlightdidspan-span-classhighlightthisspan-span-classhighlightcomespan-from>

Discussion questions:

- How would you explain Wikipedia to someone who has never used it?
- Has anyone here ever visited a talk page?
- Why do some people not trust Wikipedia as an information source?
- Discuss this quote from the video: “You can't get lazy with Wikipedia.”
- Explain the concept of “systemic bias.” How does this phenomenon shape the kinds of information included?
- In general, is it better to have lots of people edit a Wikipedia entry or fewer people?
- What would be the benefits of getting a more diverse group of people to contribute to Wikipedia?

4. Video. “Wikipedia Norms”

<http://www.youtube.com/watch?v=rph7buz826w>



NOTE: Due to the large number of important ideas that are introduced in this video, hand out the discussion questions as something that students can read through and answer while they are watching the video. It is probably best to show the video more than once.

Discussion questions:

- What does it mean to say that an article is neutral?
- What does “verifiability” mean?
- Name two things that Wikipedia isn’t.
- What is an edit war?

Activity #3: Wikipedia Scavenger Hunt

1. Now that the students have been exposed to the norms, processes, and culture of Wikipedia through the videos, they will now **knowledgably explore Wikipedia in action** with this targeted scavenger hunt. In the “Scavenger Hunt” Handout, there is a list of terms and topics to create customized lists for Wikipedia Scavenger Hunt teams.

NOTE: Depending on the size and grade level of your class, you can create an appropriate number of items on the lists. You may want to make mixed-topic or topic-specific lists. The terms listed on the “Scavenger Hunt” Handout are just examples; more terms can be added. The 3 Wikipedia handouts offer possibilities for other important terms, principles, behaviors, and/or ideas that can be added to the list.

2. Pass out the “Wikipedia Scavenger Hunt” Handout to the students. Tell students to **find an article, talk page, or discussion on Wikipedia** that meets each of the terms on their list, and write a short (1-3 sentence) explanation of why the Wikipedia community gave that article that descriptor. Emphasize that their explanations should show that they understand the meanings of the terms and that they understand how those meanings apply to the article they’ve selected. Have students include the URL of the pages and the dates and times they accessed them.

Activity #4: Scenarios

1. Instruct students to, in small groups or pairs, **look up a Wikipedia article about a controversial topic**. Controversial topics can range from sports teams like the Boston Red Sox to historical events like the Kennedy assassination to issues like global warming. Encourage



students to try to think of topics about which people may have differing ideas about what kinds of facts are relevant for inclusion in an encyclopedia article.

Wikipedia talk pages reflect ongoing documentation of edits, and can be confusing, especially if one is not experienced in reading them; however, being able to follow them is an essential skill for evaluating credibility on Wikipedia.

2. To be used as reference materials, **hand out each of the three Wikipedia handouts** [“Wikipedia: Core Principles (Five Pillars),” “Wikipedia: Basic Rules (Simplified Ruleset),” and “Wikipedia: Practical Guidelines” (“Writing High Quality Articles” and “Safe Behaviors”)] to each group.
3. Ask the students to work together to follow the conversations on the talk pages of the articles that they have chosen and isolate one or two examples of interactions that seem positive—conflicts that demonstrate productively working through disagreements with the goal of improving the article—and those that seem negative, such as edit wars, vandalism, and soapboxing, where the quality of the article is secondary to the individual biases of contributors.
4. Ask students to present their findings to the class, and lead a discussion about how these interactions do or do not conform to the stated norms of the Wikipedia community (see the “Basic Rules” Handout). Keep in mind that such conflicts may or may not reflect an inaccurate entry. They simply give us a window into viewing the process by which the community argued and reached a conclusion about what kinds of information should be included in the entries in question.

Discussion questions below emphasize the importance of engaging in judgment when deciding how and when to trust or use information available on Wikipedia.

Discussion Questions:

- What are the operative rules that shape how the community has responded to these issues? Does the behavior of the participants encourage or discourage others from making contributions to the site?
- Which of the participants are acting in “good faith”?
- What are the likely consequences of someone “vandalizing” a Wikipedia entry by posting inaccurate or inappropriate content? Who is “hurt” when someone undercuts the reliability of Wikipedia?
- What do these examples suggest about the mechanisms by which the community would correct such misconduct?



- In what ways do people establish (or fail to establish) their credibility when editing Wikipedia, and how can you tell?
- If you needed to, how would you go about verifying the credibility of the information available on Wikipedia?
- What signposts (markers of credibility) can you use to determine the credibility of the information you find on Wikipedia?

Concluding Takeaways

Students are invited to examine the attributes of Wikipedia that enable it to function as a collective knowledge-building system. By introducing students to “the group behind the screen,” it is hoped that students will orient to the process of judging the credibility of information found on the Wikipedia site as a matter of learning to read the social cues and signposts that Wikipedia-as-a-system uses to indicate the status of information, as viewed from the values of the Wikipedia community. In this way, students are guided to think about the credibility of information as a community concern.

Assessment

Through participation in class activities and discussions and/or answers to optional assessment questions, students should demonstrate they can:

- Identify some of the features that enable Wikipedia to function as a collective knowledge-building system.
- Describe some of Wikipedia’s core principles and standards of practice.
- Evaluate whether a particular Wikipedia article is credible or not.

Assessment Questions (Optional)

- What is collective intelligence? What’s good about it?
- What are some pros and cons of using Wikipedia instead of a traditional encyclopedia?
- Describe 3-4 characteristics of a high-quality Wikipedia entry.

Teacher/Facilitator Resource (included)

Jenkins, H. (2008). What Wikipedia Can Teach Us About the New Media Literacies, *Journal of Media Literacy*.



Wikipedia Scavenger Hunt

Student Worksheet

Instructions:

Find an article, talk page, or discussion on Wikipedia that has each of the following terms. Write a short (1-3 sentence) explanation of why the Wikipedia community gave the article that descriptor. Your explanation should show that you understand the meaning of the term and that you understand how it applies to the article you've selected. Please include the URL of the page and the date and time you accessed it.

List of Terms and Topics:

Quality Scale—find an article that is at each level of the quality scale and describe why it was rated at that level.

Featured Article

Featured List

A-Class

Good Article

B-Class

Start

Stub

List

Importance Scale—find an article that is at each level of the importance scale and describe why it was rated at that level.

Top

High

Mid

Low



Find an article that is part of a Wikiproject and list both the article and the project. What other articles are part of that project? What articles, according to the Wikipedia community, still need to be written? Who might be able to contribute to this project?

Find a Wikiproject you would enjoy contributing to. What is an article you might write? What would you need to do to prepare to write the article?

Talk Pages

Find an article in which the following has been negotiated, explain the meaning of the term, and describe how it applies to:

Notability

Vandalism

Original Research

Attack Pages

Banned Users

Soap Boxes

Neutral Point of View

Find a talk page that contains an “edit war.” Describe the nature of the edit war and the different voices in the debate and how it was handled by the community and the administrators.



Wikipedia Core Principles (Five Pillars)

From Wikipedia, the free encyclopedia http://en.wikipedia.org/wiki/Wikipedia:Five_pillars

This page is about the core principles of Wikipedia.

- Wikipedia is an encyclopedia incorporating elements of general and specialized encyclopedias, almanacs, and gazetteers. All articles must strive for verifiable accuracy: unreferenced material may be removed, so please provide references. Wikipedia is not the place to insert personal opinions, experiences, or arguments. Original ideas, interpretations, or research cannot be verified, and are thus inappropriate. Wikipedia is not a soapbox; an advertising platform; a vanity press; an experiment in anarchy or democracy; an indiscriminate collection of information; or a web directory. It is not a newspaper or a collection of source documents; these kinds of content should be contributed to the Wikimedia sister projects.
- Wikipedia has a neutral point of view, which means we strive for articles that advocate no single point of view. Sometimes this requires representing multiple points of view, presenting each point of view accurately, providing context for any given point of view, and presenting no one point of view as "the truth" or "the best view". It means citing verifiable, authoritative sources whenever possible, especially on controversial topics. When a conflict arises regarding neutrality, declare a cool-down period and tag the article as disputed, hammer out details on the talk page, and follow dispute resolution.
- Wikipedia is free content that anyone may edit. All text is available under the GNU Free Documentation License (GFDL) and may be distributed or linked accordingly. Recognize that articles can be changed by anyone and no individual exclusively controls any specific article; therefore, any writing you contribute can be mercilessly edited and redistributed at will by the community. Do not infringe on copyright or submit work licensed in a way incompatible with the GFDL.
- Wikipedia has a code of conduct: Respect your fellow Wikipedians even when you may not agree with them. Be civil. Avoid conflicts of interest, personal attacks and sweeping generalizations. Find consensus, avoid edit wars, follow the three-revert rule, and remember that there are 2,910,744 articles on the English Wikipedia to work on and discuss. Act in good faith, never



disrupt Wikipedia to illustrate a point, and assume good faith on the part of others. Be open and welcoming.

- Wikipedia does not have firm rules besides the five general principles presented here. Be bold in editing, moving, and modifying articles. Although it should be the aim, perfection is not required. Do not worry about making mistakes. In most cases, all prior versions of articles are kept, so there is no way that you can accidentally damage Wikipedia or irretrievably destroy content.



Wikipedia Basic Rules (Simplified Ruleset)

From Wikipedia, the free encyclopedia: http://en.wikipedia.org/wiki/Wikipedia:Simplified_Ruleset

This is an information page, and describes communal consensus on some aspect of Wikipedia norms and practices. However, it is not a policy or guideline.

- Wikipedia is a continuous, endless process—if you write something good, it could be around for centuries! While editing, keep in mind the following things, and you will soon find yourself making useful contributions to the project.
- The primary objective of Wikipedia is to produce a high-quality encyclopedia, and most pages are encyclopedia articles. However, given that there is no official structure policing the quality of articles, the Wikipedia community has spawned its own rules, procedures and values, which continue to evolve. Some of these values are informal and you will learn them from observing, asking, or being told by other editors. Some are formal (and their page titles are preceded by "Wikipedia:", like this page). While there are rules and procedures covering everything from serious, right down to fun, a few are really important. These few are mostly common sense about respecting how Wikipedia works and what it tries to do, but also reflect the accumulated experience of hundreds of editors who are constantly learning and refining core values, which help us avoid or resolve conflicts over content, and which guide us in our constant effort to improve articles.
- If you follow these behaviors, you will likely be treated with kindness and respect. As you gain experience, you might learn of additional style guides, handy ways to do things etc. But don't worry too much if you don't understand at first. Someone will clean up after you, and, as time goes on, you'll learn more of the subtleties of how to be a great Wikipedian!
- There is no strict set of rules. Instead there is a set of policies and guidelines, the latter of which you can choose to follow. You might see people do things that are plainly not in accordance with these guidelines, but which may still be well within the actual Wikipedia policies. The "be gracious" guideline applies in those situations too. In many cases, well-informed and well-intentioned editors working on an article just have to sort out among themselves the most appropriate way to improve the article.



Wikipedia Practical Guidelines

Writing high-quality articles

- **Neutral point of view.** Write from a neutral point of view. This is a fundamental principle of the Wikimedia Foundation, which allows us to make a fair representation of the world around us. Even if material is verifiable, it is still important to put it into a balanced and representative form so that it conveys a fair impression of the various points of view on a subject.
- **Verifiability.** Articles should contain only material that has been published by reliable sources. Editors should cite reliable sources for any material that is challenged or likely to be challenged, otherwise it may be removed by any editor. The obligation to provide a reliable source is on the editors wishing to include the material, not on those seeking to remove it.
- **No original research.** Articles may not contain previously unpublished arguments, concepts, data, or theories; or any new analysis or synthesis of published arguments, concepts, data, or theories that serves to advance a position.

Safe behaviors

The intent of these guidelines is to provide a safe set of rules of thumb. Follow these behaviors, and you'll likely not get into trouble. (And adhering to these ideals may improve the prospects of aspiring administrators.)

- **Be bold!** in updating pages. Go ahead, it's a wiki! Encourage others, including those who disagree with you, likewise to Be bold!
- **Be civil to other users at all times.**
- **When in doubt, take it to the talk page.** We have all the time in the world. Mutual respect is the guiding behavioural principle of Wikipedia and, although everyone knows that their writing may be edited mercilessly, it is easier to accept changes if the reasons for them are understood. If you discuss changes on the article's talk (or discussion) page before you make them, you should reach consensus faster and happier.
- **Clear edit summaries and straightforward and transparent explanations** are universally appreciated. Other editors need to understand your process, and it also helps you yourself to understand what you did after a long leave of absence from an article. Please state what you changed and why. If the explanation is too long, elucidate on the discussion page. It is



a fundamental principle of Wikipedia that anyone may edit articles without registering, so there are a lot of changes to watch; edit summaries simplify this.

- **Assume good faith;** in other words, try to consider the person on the other end of the discussion to be a thinking, rational being who is trying to positively contribute to Wikipedia. Even if you're convinced that they're evil reptilian kitten-eaters from another planet, still pretend they're acting in good faith. Ninety percent of the time, you'll find that they actually are acting in good faith (and wouldn't you have looked stupid if you'd accused them of being evil).
- Particularly, don't revert good faith edits. Reverting is a little too powerful sometimes, hence the three-revert rule. Don't succumb to the temptation, unless you're reverting very obvious vandalism (like "LALALALAL*&*#@#@THIS_SUXoRZsammygoo", or someone changing "4+5=9" to "4+5=30"). If you really can't stand something, revert once, with an edit summary something like "(rv) I disagree strongly, I'll explain why in talk." and immediately take it to talk.
- **Be gracious:** Be liberal in what you accept, be conservative in what you do. Try to accommodate other people's quirks the best you can, and try to be as polite, solid and straightforward as possible yourself.
- **Signing.** Sign on talk pages (using ~~~~ which gets replaced by your username and timestamp when you hit submit), but don't sign on mainspace articles.
- **Use the Show preview button;** it prevents cluttering up the page history.
- **Foundation issues:** There are only five actual rules on Wikipedia: *neutral point of view, a free license, the wiki process, the ability of anyone to edit, and the ultimate authority of Jimbo and the board on process matters*. If you disagree strongly with them, you may want to consider whether Wikipedia is the right place for you. While anything can theoretically be changed on a wiki, the community up to this point has been built on these principles and is highly unlikely to move away from them in the future. A lot of thought has been put into them and they've worked for us so far; do give them a fair shake before attempting to radically change them or leaving the project.
- **Don't infringe copyright.** Wikipedia uses the GNU Free Documentation License. Everything you contribute must be compatible with that license.
- **Ignore all rules**—rules on Wikipedia are not fixed in stone. The spirit of the rule trumps the letter of the rule. The common purpose of building an encyclopedia trumps both.

NOTE: The above mainly focuses on practice, rather than actual content; for content discussions, see 'List of bad article ideas' for a discussion of article ideas that show up (and get deleted) frequently on articles for deletion, Wikipedia's method of removing articles that don't constitute vandalism in and of themselves.

What Wikipedia Can Teach Us About The New Media Literacies

BY HENRY JENKINS

In the winter of 2007, Vermont's Middlebury College found itself the center of a national controversy when its history department took a public stand against students referencing Wikipedia in their research papers.¹ The ban had been inspired by one faculty member's discovery that a large number of his students were making the same factual error (dealing with the role of Jesuits during the Shimabara Rebellion in 17th century Japan) which could be traced back to a bit of misinformation found in one entry of the online encyclopedia. Despite the publicity that surrounded it, the statement was scarcely a condemnation of Wikipedia: "Whereas Wikipedia is extraordinarily convenient and, for some general purposes, extremely useful, it nonetheless suffers inevitably from inaccuracies deriving in large measure from its unique manner of compilation." Students were asked to take responsibility for the reliability and credibility of the information they used in their papers; Students were told not to use Wikipedia as a scholarly source.

Jimmy Wales, the co-founder of Wikipedia, publicly supported the Middlebury History Department's decision: "Basically, they are recommending exactly what we suggested—students shouldn't be citing encyclopedias. I would hope they wouldn't be citing Encyclopaedia Britannica, either. If they had put out a statement not to read Wikipedia at all, I would be laughing. They might as well say don't listen to rock'n'roll either."² Despite Wales's statement, Middlebury's announced policy inspired a series of

national editorials; leading journalists and scholars weighed in on the perceived merits of the Wikipedia and on the credibility of online information more generally. The Middlebury History faculty were cast as poster children in the backlash against Web 2.0 and its claims about the "wisdom of crowds."

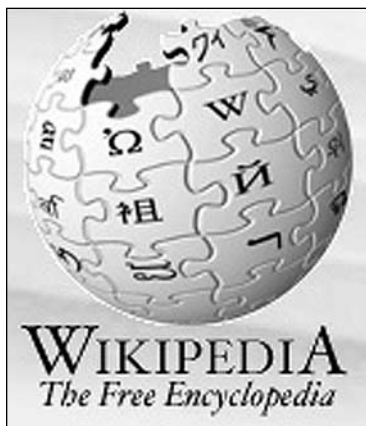
Wales's analogy between Wikipedia and "Rock'n'Roll" suggests that the Wikipedia debate has also become emblematic of the divide separating the generation that grew up in a world where digital and mobile technologies are commonplace from their parents, teachers, and school administrators for whom many of these technologies still feel alien. As Jonathan Fanton, president of the John D. and Catherine T. MacArthur Foundation, wrote in an op-ed piece published on the eve of this conference, "The real gap between tomorrow's digital haves and have-nots will be a lag in competence and confidence in the fast-paced variegated digital universe building and breeding outside schoolhouse walls.... Today's digital youth are in the process of creating a new kind

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of literacy; this evolving skill extends beyond the traditions of reading and writing into a community of expression and problem-solving that not only is changing their world but ours, too... In this new media age, the ability to negotiate and evaluate information online, to recognize manipulation and propaganda and to assimilate ethical values is becoming as basic to education as reading and writing."³

Responding to these challenges, the MacArthur Foundation has committed 50 million dollars over the next five years to support research which will help us understand the informal learning which takes place as children interact within the new media landscape and how we might draw on the best practices that emerge from these new participatory



cultures as we redesign school and after-school programs. I was part of a team of MIT based researchers which drafted a white paper that accompanied the MacArthur announcement and sought to identify some of the core social skills and cultural competencies that young people need to acquire if they are going to be full participants in this new media environment.⁴ And I am the

principle investigator for Project nml, a MacArthur funded effort to develop resources to support the teaching of these skills through in school and after school programs. As it happens, we are just now completing a documentary about the Wikipedia movement and an accompanying curricular guide. This documentary is one of a number of short films produced for online distribution through the Project nml exemplar library.

Here, I will draw on the interviews and research behind the documentary to explore what Wikipedia (and the debate around it) might tell us about the new media literacies. Through looking more closely at what young people need to know about Wikipedia,

I hope to suggest some of the continuities (and differences) between this emerging work on New Media Literacies and the kinds of concerns that have occupied the Media Literacy community over the past few decades.

THE NEW MEDIA LITERACIES

According to a recent study from the Pew Center for Internet & American Life, more than half of all teens have generated media content and roughly a third of teens online have shared content they produced with others.⁵ In many cases, these teens are actively involved in what we are calling participatory cultures. A participatory culture is one where there are relatively low barriers to artistic expression and civic engagement, where there is strong support for creating and sharing what you create with others, where there is some kind of informal mentorship whereby what is known by the most experienced gets passed along to newbies and novices, where members feel that their contributions matter, where members feel some degree of social connection with each other at least to the degree to which they care what other people think about what they have created.⁶

A growing body of scholarship suggests potential benefits of these emergent forms of participatory culture, including opportunities for peer-to-peer learning, a changed attitude towards intellectual property, the diversification of cultural expression, the development of skills valued in the modern workplace, and a more empowered conception of citizenship. Access to this participatory culture functions as a new form of the hidden curriculum, shaping which kids will succeed and which will be left behind as they enter schools and workplaces.

Not all of these skills are dramatically new—they are extensions on or elaborations of aspects of traditional research methods, text-based literacies, and critical analysis that have long been valued within formal education. In some cases, these skills have taken on new importance as young people move

into emerging media institutions and practices. In some cases, these new technologies have enabled shifts in how we as a society produce, dissect, and circulate information.

While some have argued that these new media skills represent the different mindsets of “digital natives and digital immigrants”, that analogy breaks down for us on several levels. First, the participatory cultures we are describing are ones where teens and adults interact but with less fixed and hierarchical relations than found in formal education. It is a space where youth and adults learn from each other, but it would be wrong to see young people as creating these new institutions and practices totally outside of engagement with adults. Second, the “digital natives” analogy implies that these skills are uniformly possessed by all members of this generation; instead, young people have unequal access to the technologies and cultural practices out of which these skills are emerging and so we are facing a growing participation gap in terms of familiarity with basic tools or core cultural competencies.

Even if we see young people as acquiring some of these skills on their own, outside of formal educational institutions, there’s still a strong role for adults to play in insuring that young people develop a critical vocabulary for thinking about the place of media in their lives and engage in meaningful reflection about the ethical choices they make as media producers and participants in online communities. While the MacArthur researchers take seriously youth innovations through media and respect the meaningful role that these experiences play in young people’s social and cultural lives, they also value what teachers, parents, librarians, youth workers, and others bring to the conversation. We want to help these adults respond to the changing circumstances young people face in a period of prolonged and profound media change. It is our belief that these new media literacies need to inform all aspects of the educational curriculum; they represent a paradigm shift in how we teach

English, social science, science, math, and the other schoolroom subjects. If these skills are going to reach American young people, it is going to require the active participation of collaboration of all of those individuals and institutions who impact young people’s moral, intellectual, social, and cultural development.

Our initial report raised three core concerns, which suggest the need for policy and pedagogical interventions:

- 1. The Participation Gap**—the unequal access of youths to the opportunities, experiences, skills, and knowledge which will prepare them for full participation in the world of tomorrow.
- 2. The Transparency Problem**—the challenges young people face in learning to see clearly the ways that media shapes our perceptions of the world.
- 3. The Ethics Challenge**—the breakdown of traditional forms of professional training and socialization which might prepare young people for their increasingly public roles as media makers and community participants.

Educators need to work together to insure that every American young person has access to the skills and experiences needed to become a full participant, has the ability to articulate their understanding of the way that media shapes our perceptions of the world, and has been socialized into the emerging ethical standards which should shape their practices as media makers and participants in online communities.

This context places new emphasis on the need for schools and after-school programs to foster what we are calling the new media literacies—a set of cultural competencies and social skills which young people need as they confront the new media landscape. Participatory culture shifts the focus of literacy

training from individual expression onto community involvement: the new literacies are almost all social skills which have to do with collaboration and networking. Just as earlier efforts at media literacy wanted to help young people to understand their roles as media consumers and producers, we want to help young people better understand their roles as participants in this emerging digital culture.

In the discussion of Wikipedia that follows, I am going to be emphasizing four of the eleven skills we identify in our report:

Collective Intelligence—the ability to pool knowledge and compare notes with others towards a common goal.

Judgment—the ability to evaluate the reliability and credibility of different information sources.

Networking—the ability to search for, synthesize and disseminate information.

Negotiation—the ability to travel across diverse communities, discerning and respecting multiple perspectives, and grasping and following alternative sets of norms.

WIKIPEDIA RECONSIDERED

Many educators express concern about young people's increased reliance on Wikipedia as a resource for their homework assignments and research projects. These teachers worry that youth aren't developing an appropriate level of skepticism about the kinds of information found on this particular site. There are legitimate concerns about the credibility of online information and the breakdown of traditional notions of expertise which should be debated. Our documentary project, and this article, reflects our assumption that these vital debates need to be shaped by a clearer picture of the Wikipedia movement. Our ultimate goal is not to convince you to use Wikipedia in your classes,

but rather to argue that in a world where many young people are turning to this as a key source for information, educators need to understand what is going on well enough to offer them meaningful advice and guidance.

Much as educators responded to the debates in the 1990s about "political correctness" and multiculturalism by arguing that we should "teach the debate," today's educators should help young people to understand competing arguments about the value of Wikipedia. In this context, it is not enough to construct policies restricting the use of Wikipedia as a source if we don't help foster the skills young people need in order to critically engage with a site which has become so central to their online lives.

I am reminded of a powerful statement by Renee Hobbes about the role that media literacy education should play in shaping young people's relationship to news and information: "Some students, when asked to ask questions about the believability of media texts, may respond from deep within the familiar adolescent state of alienation and mistrust. In a more or less conscious way, they may answer, "I can't believe in any of this information. Nothing is believable." This cynical perspective is the antithesis of what the educational experience strives to foster. It is informed skepticism and a sense of the power of communication as a form of action to transform and shape society that educators hope to impart to students."⁷ The same might be said of teachers and their relationship to Wikipedia: educators need to adopt an "informed skepticism" rather than a dismissive attitude. Wikipedia is a very rich site for teaching young people about many of those things that have historically been at the heart of the media literacy movement but we can only capitalize on its potentials if we understand how it works and what it is trying to do.

Here's what the About Wikipedia site tells us about the project: "There are more than 75,000 active contributors working on some 5,300,000 articles

in more than 100 languages. As of today, there are 1,843,251 articles in English; every day hundreds of thousands of visitors from around the world make tens of thousands of edits and create thousands of new articles to enhance the knowledge held by the Wikipedia encyclopedia.”⁸ All of this development has occurred since Wikipedia launched in 2001. This volunteer army of writers, editors, and fact-checkers has been supervised, if we can use that word, by a paid staff of roughly five people. So much negative attention has been directed against Wikipedia that it is easy to forget the idealistic goal which motivates all of this activity. As Jimmy Wales explains, “Imagine a world in which every single person on the planet is given free access to the sum of all human knowledge. That’s what we’re doing.”⁹

Wikipedia has benefited enormously from its use of the encyclopedia analogy. People already know what an encyclopedia looks like; they start from a shared understanding of the kinds of information it contains, language it deploys, and functions it serves. This familiarity with basic genre conventions allows large numbers of people to roll up their sleeves and starting working and even more people to go to use Wikipedia as a central reference work.

Yet, like most analogies, calling Wikipedia an encyclopedia clarifies some aspects of the phenomenon while obscuring others. Describing it as an encyclopedia emphasizes Wikipedia as a product rather than focusing attention on the ongoing process by which its community pools information, debates what knowledge matters, and vets competing truth claims. Encyclopedias we have known in the past were depositories of an always already completed process of writing and research.

Wikipedia is something different. Andrea Forte, a Georgia Institute of Technology researcher who has studied Wikipedia, told our production team, “When you first come to Wikipedia, it really seems like a collection of articles. It seems like a bunch of pages about different topics. Now when you talk to people who are very involved in Wikipedia, it

becomes a collection of people who are carrying out a project... Wikipedia was a place where people were coming together to write about the world and figure out what’s true about the world and what kinds of facts are important to know about the world. These are the kinds of things I think students should be doing.”

Critics also argue that the analogy to an encyclopedia is misleading. Robert McHenry, a former editor of the Encyclopedia Britannica, argues, “To the ordinary user, the turmoil and uncertainty that may lurk beneath the surface of a Wikipedia article are invisible. He or she arrives at a Wikipedia article via Google, perhaps, and sees that it is part of what claims to be an “encyclopedia.” This is a word that carries a powerful connotation of reliability. The typical user doesn’t know how conventional encyclopedias achieve reliability, only that they do.”¹⁰

WIKIPEDIA IS A VERY RICH SITE FOR TEACHING YOUNG PEOPLE ABOUT MANY OF THOSE THINGS THAT HAVE HISTORICALLY BEEN AT THE HEART OF THE MEDIA LITERACY MOVEMENT BUT WE CAN ONLY CAPITALIZE ON ITS POTENTIALS IF WE UNDERSTAND HOW IT WORKS AND WHAT IT IS TRYING TO DO.

Surely, the appropriate response to the problem which McHenry identifies is not to turn our backs on the enormous value of the Wikipedia project but rather to help young people place Wikipedia in a larger context, developing a deeper understanding of the process by which its information is being produced and consumed. Wikipedians would push us further, arguing that we also should develop a more critical perspective on other, more traditional sources of information. If McHenry is correct that most people don’t know how conventional encyclopedias achieve reliability, that should be an

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Teaching the New Media Literacies Framework

BY ALICE J. ROBISON

How are we preparing MIT's graduate and undergraduate students for the work they are doing on Project NML?

Teaching students to be critical thinkers, readers, and writers is difficult in just about any academic setting, but it can be especially challenging for media literacy educators. Popular media might often seem to be in competition with schools' content learning goals, where war metaphors are often used to describe the "barrage" of "bullet-like" messages "bombarding" our students minds and "occupying" their free time. Media Literacy has long sought to help students develop the critical skills needed to be discerning consumers and more frequently, active producers of media content.

Yet, the new media literacies push us further—to think about their roles as active participants in online



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communities, gaming guilds, fan cultures, and social networks. Here at MIT, the New Media Literacies Project seeks to help educators develop professional techniques, ideas, and strategies for working with new media, as Henry Jenkins (this issue) explains.

How do we make the ideas and framework of the New Media Literacies Project useful to pre-service educators, educational technologists, librarians, legal scholars, literacy specialists, or for that matter, students in media studies?

This past spring, I was invited to teach a graduate course titled New Media Literacies that would expand and support the concepts put forth in the New Media Literacies white paper, published in October, 2006 for the MacArthur Foundation's Digital Learning Initiative. The purpose of the course was to provide students with a solid theoretical understanding of what it means to think about media production and consumption as literacy practices. At the same time, I wanted to give students the opportunity to act as educators themselves and design materials for teaching new media literacy concepts that themselves represented the new ways of thinking about both interpreting and making media. The course was offered as a special topics mixed undergrad/grad course in the Comparative Media

Studies Program; it enrolled ten students total and a handful of auditors who joined us regularly.

The syllabus I created was designed to provide students with some rapid reading in the area of contemporary media literacy by introducing them to some of the progressives in the area, including Renee Hobbs and David Buckingham. At the same time, we read from the print-based literacy tradition, beginning with Plato's Phaedrus, in which he expresses his deep skepticism of written language. Positioned opposite Plato was Walter Ong's "Writing is a Technology that Restructures Thought," in which Ong, once a student of Marshall McLuhan's, argues that the process of writing—of making meaning—is closely tied to thinking. "To say writing is artificial is not to condemn it but to praise it," says Ong. "Like other artificial creations and indeed more than any other, writing is utterly invaluable and indeed essential for the realization of fuller, interior, human potentials. Technologies are not mere exterior aids but also interior transformations of consciousness, and never more than when they affect the word" (23). The comparison between Plato and Ong helped students understand why similar debates arise with regard to digital technologies, and how perhaps both Plato and Ong might be viewed as privileging the technology more than the practice of using it.

I wanted to teach them about the "new" and "literacy" parts of new media literacies. Since my training as a literacy scholar was largely based in what is now called the New Literacy Studies (NLS), I assigned readings from NLS scholars who argue for an even further extension

of Ong's theories. Among the New Literacy Studies scholars are Deborah Brandt, James Paul Gee, Brian Street, Gunther Kress, Colin Lankshear, and Michele Knobel, all of whose work we read in the course. Jumping straight into the New Literacy Studies scholarship enabled students to think critically about where meaning is situated. Plato had argued that meaning comes from oral dialogue; Ong positioned meaning in the printed word. The New Literacy Studies looks instead at meaning-making as a process, as a "coming to know," as a series of both oral and print-based activities within particular contexts and social groups. Much of the NLS research is anthropologically-based and driven by topics of social justice, but what resonated most with the class were the concepts of multimodality (Kress and Van Leeuwen) and D/discourse analysis (Gee). But most important for these media studies graduate students, thinking in "new" ways about literacy enabled them to see why

participating in media production and consumption communities is a rich and cognitively valuable experience.

Students remarked that the practical applications of the theories we discussed were the most helpful when thinking about media literacy education. Nine of the fifteen weeks were devoted to heavy, theory-driven readings in media, literacy, and learning. During the other six weeks (interspersed throughout the semester), students wrote their own media literacy lesson plans. They focused on the skills and competencies of the NML framework (e.g., transmedia navigation, networking, judgment, play) and developed theoretically-informed activities which we then practiced in-class. Highlights of these student-led teaching days included lessons on editing digital video, making a podcast, and constructing a wiki. Combined with the regular sharing of viral videos, memes, and fun new

technology toys, these teaching days made for a nice counterbalance to a challenging set of course readings.

Final projects for the course, student-written lesson plans, photos, videos, readings, notes, and the course syllabus will soon be available free for download via MIT's Open Courseware project, located at [HTTP://OCW.MIT.EDU](http://ocw.mit.edu). *

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indictment of how our schools teach research skills, not an excuse to blindly accept Britannica.

The Wikipedians sought to make the production of knowledge more transparent to everyday people. The practices around Wikipedia preserve traces of the disputes and disagreements that typically go on behind the scenes through the editorial processes that shape traditional reference works. Jason Mittell, a media studies professor at Middlebury College, explains, "Wikipedia is transparent in its goals and rules, explicitly listing its policies and guidelines. As far as I know, other encyclopedias offer no such reflexivity as to what they are, how they work, and what type of content and form they

follow. As an educator, transparency provides an excellent teaching opportunity to get students to reflect on sources and their usage."¹¹ Mittell's blog documents some of the teachable moments as his students tried their hands at producing their own Wikipedia entries:

"Aaron was one of the first to dive into Wikipedia, choosing to edit an entry on a Columbian volcano that he'd previously written a research paper about. As he blogged about his experiences, the act of becoming an editor made feel invested in a topic that he'd otherwise just learned about as an assignment. Simply the act of sharing his knowledge made him feel like an expert and care about a remote subject. He followed up by considering how other

people's edits to his information made him feel part of a community, even though the other editor was anonymous and remote...

"Paxson created a new entry on Eagle Peak, a mountain near his hometown in Alaska. He discovered that unlike Aaron's entry, nobody seems invested in this topic, as he's the only editor who has contributed. But he did learn a lesson about copyright, as he uploaded his own photo of the mountain, which was immediately tagged for lacking

of media when they have engaged in production activities, young people ask better questions about the nature of scholarship and research when they contribute to Wikipedia.

Educators ask the wrong question when they wonder whether Wikipedia is accurate, because this implies a conception of Wikipedia as a finished product rather than a work in progress. Wikipedians urge a more skeptical attitude: "Wikipedia's radical openness means that any given article may be, at any given moment, in a bad state: for example, it could be in the middle of a large edit or it could have been recently vandalized. While blatant vandalism is usually easily spotted and rapidly corrected, Wikipedia is certainly more subject to subtle vandalism than a typical reference work."¹³

The key word here is "at any given moment." The community has taken on responsibility to protect the integrity and accuracy of its contents; they have developed procedures which allow them to rapidly spot and respond to errors, and the information they provide may be more up-to-date than that found in printed encyclopedia which in school libraries might sit around for decades. As historian Roy Rosenzweig explains, "Like journalism, Wikipedia offers a first draft of history, but unlike journalism's draft, that history is subject to continuous revision. Wikipedia's ease of revision not only makes it more up-to-date than a traditional encyclopedia, it also gives it (like the web itself) a self-healing quality since defects that are criticized can be quickly remedied and alternative perspectives can be instantly added."¹⁴

Yet, the accuracy of an entry has to be judged "at any given moment." Some entries, which receive heavy traffic, also receive more regular attention than others which might represent tide pools that lay stagnant for extended periods of time. Someone using Wikipedia needs to assess the state of a current entry. The good news is that Wikipedia provides a series of tools that help us to trace and monitor the process by which an entry is taking shape.

EDUCATORS ASK THE WRONG QUESTION
WHEN THEY WONDER WHETHER WIKIPEDIA
IS ACCURATE, BECAUSE THIS IMPLIES A
CONCEPTION OF WIKIPEDIA AS A FINISHED
PRODUCT RATHER THAN A WORK IN PROGRESS.

the proper copyright - he needed to give it a public domain, GPL, or Creative Commons license to fit with Wikipedia policy. Although we'll be reading about copyright issues later in the semester, this hands-on experience with the practicalities of the system are far more pedagogically striking. "

"...Scott had a less productive experience - he created an entry for the Middlebury College hockey team, which was "speedy deleted" for not justifying its notability. Scott and I sat down and together rebuilt the entry, following the template for other college sports teams with me teaching him some of the language and protocols for wiki editing, an experience which certainly increased his fluency and strengthened his awareness of how Wikipedia functions as a self-regulating process."¹²

Wikipedia empowers students to take seriously what they have learned in other classes, to see their own research as having potential value in a larger enterprise, and to take greater responsibility over the accuracy of what they have produced. Much as young people become more critical consumers

We can see this process in action if we visit the entry on the Shimabara Rebellion which caused such controversy at Middlebury. At the top of the site are two warning tags. The first tells us that “This article or section is in need of attention from an expert on the subject” and if we follow a link there, we find ourselves in a Talk section where participants weigh in about the contents of the entry, including discussing extensively the criticisms raised by the Middlebury history faculty.¹⁵ This section tells us the entry is being reviewed by the WikiProject Japan, which is seeking to improve the quality of entries on Japanese history and culture and by the Military History WikiProject, which gives the entry a B for its overall quality. The section includes a list of details under dispute and tasks which still need to be completed.

Going back to the top level of the page, we see a second and even more troubling flag: “This article does not cite any references or sources” and a link to a page which lays out standards of verifiability: “The threshold for inclusion in Wikipedia is verifiability, not truth.” Verifiable in this context means that any reader should be able to check that material added to Wikipedia has already been published by a reliable source. Editors should provide a reliable source for

quotations and for any material that is challenged or is likely to be challenged, or it may be removed.”¹⁶

If one reads the history pages of most Wikipedia entries, one can see vigorous debates about what counts as reliable evidence. Many of these pages offer compelling case studies that teachers could use to teach the logic through which historians, or other scholarly communities, interpret, evaluate, and contextualize the information they gather.

Wikipedia taps the power of networked culture by providing hyperlinks where-ever possible; this makes it very easy for readers to return to the original source and weigh its evidence for themselves. Wikipedian Kevin Driscoll has proposed a game, much like the popular “Six Degrees of Kevin Bacon,” where students challenge each other to see who can find the quickest pathway between two seemingly unrelated concepts. So, for example, we might ask whether one could trace the connection between William Shakespeare and the Apollo Space Program in five or fewer links: We could go from William Shakespeare to his play, *The Tempest* (move one), from *The Tempest* to the science fiction film, *Forbidden Planet*, which was loosely based on Shakespeare’s plot (move two); from *Forbidden Planet* to the larger category of Science



The screenshot shows the Wikipedia talk page for 'Shimabara Rebellion'. At the top, it says 'Wikipedia is sustained by people like you. Please donate today.' and 'Sign In / create account'. Below that are tabs for 'article', 'discussion', 'edit this page', and 'history'. The main heading is 'Talk:Shimabara Rebellion' with the subtext 'From Wikipedia, the free encyclopedia'. On the left sidebar, there are sections for 'navigation' (Main page, Contents, Featured content, Current events, Random article), 'interaction' (About Wikipedia, Community portal, Recent changes, Contact Wikipedia, Donate to Wikipedia, Help), 'search' (a search box with 'Go' and 'Search' buttons), and 'toolbox' (What links here, Related changes, Upload file, Special pages, Printable version, Permanent link). The main content area includes a 'To-do list for Shimabara Rebellion' with a checklist icon and the text 'Here are some tasks you can do:'. Below this is a box stating 'This is the talk page for discussing improvements to the Shimabara Rebellion article. This is not a forum for general discussion about the article's subject.' To the right of this box are 'Article policies' including 'Be polite', 'Assume good faith', 'No original research', 'Neutral point of view', 'Be welcoming', and 'Verifiability'. Further down, there are two project notices: one for 'Military history WikiProject' and one for 'WikiProject Japan'. At the bottom, there are two '???' entries indicating missing ratings on the assessment and importance scales, and a 'Japan To-do:' section.

Fiction Cinema (move three); from Science Fiction Cinema to *La Voyage Dans La Moon*, one of the earliest science fiction films (move four); and from *La Voyage Dans La Moon* to the Apollo Moon Mission (Move five). This trajectory takes us between high and low culture, across the divides between science and the humanities, across several periods of human history and across three national borders.

In doing so, students follow their curiosity, tap their knowledge, and draw connections between topics that might not seem intuitively linked. As Joseph Wang, one of the people we interviewed at the Wikimania conference, explained, “You have to just, every now and then just step back and say, “What do I think is fun? What do I want to learn?” As you learn more you realize how much there is in the world that you don’t understand. And that’s really fun. And the thing that I find fascinating about Wikipedia is that there is all this cool stuff that I didn’t know I didn’t know.” Just as young people

coming of age in a hunting based culture learn by playing with bows and arrows, young people coming of age in an information society learn by playing with information. This playful relationship to learning and knowledge is one of the things that motivate the community’s participation, though the Wikipedians are quick to stress that they also take on very hard tasks, such as proofreading and fact checking pages.

The practices and tools that sustain Wikipedia are designed to insure the highest degree of transparency—the most controversial entries come with the maximum numbers of warnings. Yet, realistically, many young people are going to the site in search of quick data and may lack the critical vocabulary necessary to use its contents meaningfully. So, at the most basic level, a media literacy practice around Wikipedia needs to focus attention on the basic affordances of the site, so that students are encouraged to move beyond the top level and see what’s going on underneath the hood.

movement emphasizes a new kind of knowledge production Pierre Levy has described as collective intelligence. As Levy notes, collective intelligence exploits the potential of network culture to allow many different minds operating in many different contexts to work together to solve problems that are more challenging than any of them could master as individuals. In such a world, he tells us, nobody knows everything, everyone knows something, and what any member knows is available to the group as a whole at a moment's notice.¹⁹

THE WIKIPEDIA MOVEMENT IS ALLOWING PEOPLE WITH VERY DIFFERENT BACKGROUNDS TO WORK TOGETHER TO SHARE WHAT THEY KNOW WITH EACH OTHER.

Indeed, such groups are strongly motivated to seek out problems that are sufficiently challenging that they can engage as many members as possible: "Members of a thinking community search, inscribe, connect, consult, explore... Not only does the cosmopedia make available to the collective intellect all of the pertinent knowledge available to it at a given moment, but it also serves as a site of collective discussion, negotiation, and development... Unanswered questions will create tension with cosmopedic space, indicating regions where invention and innovation are required."²⁰ What holds a knowledge community together is not the possession of knowledge—which can be relatively static—but the social process of acquiring knowledge—which is dynamic and participatory, continually testing and reaffirming the group's social ties. The Wikipedians bond by working together to fill gaps in their collective knowledge.

Wikipedian Kevin Driscoll proposes a suggestive analogy for thinking about such collaboration: "The only thing that I can think of in my life that's similar in an "off-the-internet" kind of way is sometimes when you go to the beach there will be

a bunch of people making a sand castle. And you can just come over and start making another part of the sand castle and then join them together. And then somebody sees like "wow those guys are making a huge sand castle." And then they get involved and then the thing gets so big, you might not even ask the other peoples' names. You still built the thing together. And nobody owns that sand castle. You all built it together. You're all proud of it. And you all get the benefit of each other's work so you're all really relying on each other. And Wikipedia is like that sand castle except no ocean is going to wash Wikipedia away." Part of what young people can learn through contributing to, or even consuming, Wikipedia is what it is like to work together within a knowledge culture.

It might be helpful to trace some of the ways that this idea of a knowledge-generating culture contrasts with what Peter Walsh has called the Expert paradigm:²¹

1. The expert paradigm requires a bounded body of knowledge, which can be mastered by an individual. The types of questions that thrive in a collective intelligence are open-ended and profoundly interdisciplinary.
2. In the expert paradigm, there are some people who know things and others who don't. A collective intelligence assumes that each person has something to contribute, even if they will only be called upon on an ad hoc basis.
3. The expert paradigm uses rules about how you access and process information, rules which are established through traditional disciplines. Within the collective intelligence model, each participant applies their own rules, works the data through their own processes, some of which are more convincing than others, but none of which are wrong at face value. Debates about rules are part of the process by which knowledge gets generated.

4. Experts are credentialized; they have gone through some kind of ritual which designates them as among those who have mastered a particular domain, most often through formal education. While participants in a collective intelligence often feel the need to demonstrate how they know what they know, this is not based on a hierarchical system and knowledge that comes from real life experience may be highly valued.

Learning how to weigh different claims about expertise should be part of Hobbe's "informed skepticism." We might, for example, ask young people to talk through the differences in the kinds of expertise displayed by a couch and a ballplayer, a librarian and a researcher, an actor and a director, a mechanic and a race car driver, an architect and a construction worker, or a biologist and a nurse. Some of these people gained their expertise from formal education, other through practical experience; they know different things because they play different roles in a shared process; and having all of these people contribute to the production of knowledge is likely to result in richer and more valuable insights than weighing one's perspective above the others. At the moment, I am playing the part of an expert in writing this article. Perhaps some individual readers see themselves as having greater expertise than I do and at least some cases, they may be right. But there's no question that there is more knowledge in the combined readership of this article than I can access at the time I am writing it. The Wikipedia movement is allowing people with very different backgrounds to work together to share what they know with each other.

Of course, Wikipedia is simply one of a broad range of online activities that involve the collaborative and coordinated production and circulation of knowledge. For example, alternative reality games—large-scale informational scavenger hunts—are being designed so that they occupy the interests of several hundred players working together: any given problem might require a mix of skills and

knowledge drawn across different disciplines and domains.²² Writers like Steven Johnson and Jason Mittell have shown that television narratives are becoming increasingly complex, involving many different characters and subplots, as they are being consumed in very active and collaborative ways by online fan communities.²³

Games researcher T.L. Taylor has shown how the guild structure of a massively multiplayer game such as *World of Warcraft* may encourage people with very different skills to work together to meet challenges that are designed for this kind of coordinated activity; the community may develop its own modes and toolkits that help them to monitor and organize such large-scale activities.²⁴ Similar tools, institutions, and practices have emerged around Wikipedia as the community has sought to flag problems to be addressed and identify people with the skills and knowledge needed to solve them. The Wikipedians we interviewed stressed the broad range of skills needed for the project to succeed.

Participating in the Wikipedia community helps young people to think about their own roles as researchers and writers in new ways. On the one hand, they are encouraged to take an inventory of what they know and what they can contribute. The school expects every student to master the same content, while Wikipedia allows students to think about their own particular skills, knowledge, and experience. Wikipedia invites youth to imagine what it might mean to consider themselves as experts on some small corner of the universe. As they collect and communicate what they know, they are forced to think of themselves writing to a public. This is no longer about finding the right answer to get a grade on an assignment but producing credible information that others can count upon when they deploy it in some other real world context.

On the other hand, participants are encouraged to see themselves as members of a knowledge community and to trust their collaborators to fill in information they don't know and challenge

their claims about the world. Composition theorist Kenneth A. Brufee has emphasized the power of collaborative writing to change how young people think about the relationship between readers and writers: "Most of us are not in the habit of thinking about writing nonfoundationally as a collaborative process, a distanced or displaced conversation among peers in which we construct knowledge. We tend to think of writing foundationally as a private, solitary, 'expressive' act in which language is a conduit from solitary mind to solitary mind....When each solitary reader in the socially unrelated aggregate reads what we write, what happens, we suppose, is that another mind 'absorbs' the thoughts we express in writing. Our goal is to distinguish our own distinct, individual point of view from other people's points of view and demonstrate our individual authority....Once we understand writing in a nonfoundational way as a social, collaborative, constructive conversational act, however, what we think we are doing when we write changes dramatically. The individualist, expressive, contentious, foundational story we have been telling ourselves about writing seems motivated by socially dubious (perhaps even socially immature) self-aggrandizement.... We use a language that is neither a private means of expression nor a transparent, objective medium of exchange, but a community construct. It constitutes, defines, and maintains the knowledge community that fashions it. We write either to maintain our membership in communities we are already members of, to invite and help other people to join communities we are members of, or to make ourselves acceptable to communities we are not yet members of."²⁵ Contributing to the Wikipedia might encourage students to adopt the very different kinds of rhetorical goals and mindset Brufee claims emerges through collaborative writing activities.

Again and again, the Wikipedians we interviewed for our documentary made reference to certain shared principles that shapes the group's activities and offers a framework for adjudicating disputes. Rather than arguing each point, the group agrees to work together to insure that all points of view

get heard. This is what Wikipedians call adopting a neutral point of view, which is understood here as a goal or ideal shaping the writing process as much or more than it is seen as a property that can be achieved by any given entry.

This focus on neutrality takes on special importance when we consider the global context within which the Wikipedia operates. While Wikipedia projects are being created within a broad array of different languages, many of which are dominated by a single national context, all of these groups want to insure that their perspectives are fairly represented in the most widely consulted English language edition. So, we might consider the very different way that a topic like the Winter War, the Russian invasion of Finland during the Second World War, gets represented in Russian and Finnish history textbooks as opposed to the challenges of producing an account acceptable to Russians, Finns, Germans, Americans, and everyone else within the shared space of the English language Wikipedia. Mastering the protocols concerning "neutrality," then, might provide young people with good skills at navigating across the cultural differences that they will encounter elsewhere in the digital domain. Network culture is bring people together who would never have interacted face to face given geographic distances but who now must work together to achieve shared goals.

WHAT KNOWLEDGE COUNTS...

The decentralized nature of knowledge production in the Wikipedia movement results in some surprising gaps and excesses. Historian Roy Rosenzweig notes, "It devotes 3,500 words to the science fiction writer Isaac Asimov, more than it gives to President Woodrow Wilson (3,200); American National Biography Online provides a more proportionate (from a conventional historical perspective) coverage of 1,900 words for Asimov and 7,800 for Wilson."²⁶ Rosenzweig models one of the core critical activities that students might perform in examining Wikipedia: systematically

comparing how the same topic gets dealt with within traditional and emergent kinds of reference works. In doing so, we can flag the selection process which goes into the production of any kind of texts. How do we decide how much space to devote to any given topic?

Remember that the relationship of space to prioritization operates differently within the economy of scarcity that dominated print culture and the plentitude that surrounds a digital resource. The amount of space given a topic in a printed encyclopedia reflected its relative importance because space cost money. Wikipedia space is free and unlimited so the amount of space devoted to a given topic might reflect a range of other factors, including how much the community knows or feels able to communicate about the subject, how many people know about the topic, and what kinds of contexts this information gets used. There isn't someone out there—an editor or publisher—deciding how much space to grant a given topic, though the group may sometimes prune entries that they feel are over-inflated. Rather, someone who cares deeply about a subject takes the first crack towards writing an entry and others who share her interests may also contribute, thus often swelling its word count.

The Wikipedians discuss this issue in terms of what they call “systemic bias.” Our documentary on Wikipedia features the following exchange between Wikipedians Mark Pellegrini and Jim Giles:

Jim Giles: *Some groups of people really like Wikipedia, like scientists, computer programmers, mathematicians. Technically-minded people seem to like Wikipedia. So they write really good articles. So on those topics, Wikipedia is likely to be stronger than on say, poetry.*

Mark Pellegrini: *It's called a systemic bias is how we refer to it as. We, originally our draw was, yeah, people who are really technologically savvy, you know, white males in the Western world. And so the hope is that as we get larger, the systemic bias will kind of go away.*

The greater focused place on a science fiction writer over an American president reflects this systemic bias: early participants in the Wikipedia project were more likely to reflect the biases and values of geek culture. The solution, the Wikipedians argue, is to become more inclusive, to draw together a more diverse range of participants, and thus to expand what topics get discussed and what kinds of information get included. Collective intelligence places new emphasis upon diversity: the more diverse the participants, the richer the final outcome.

WIKIPEDIA SPACE IS FREE AND UNLIMITED SO THE AMOUNT OF SPACE DEVOTED TO A GIVEN TOPIC MIGHT REFLECT A RANGE OF OTHER FACTORS, INCLUDING [...] HOW MANY PEOPLE KNOW ABOUT THE TOPIC, AND WHAT KINDS OF CONTEXTS THIS INFORMATION GETS USED.

Accordingly, the Wikipedians argue that the question isn't what knowledge matters but rather what knowledge matters to whom under what circumstances for what purposes. Indeed, the whole point is to produce a work which can serve many different purposes and thus which may offer many different structures of information. This is consistent with what David Weinberger argues in his new book, *Everything is Miscellaneous*; one of the defining characteristics of a networked culture is that it enables information to be configured and reconfigured in many different ways: “It's not about who is right and who is wrong. It's how different points of view are negotiated, given context, and embodied with passion and interest....It's not whom you report to and who reports to you or how you filter someone else's experience. It's how messily you are connected and how thick with meaning are the links... A topic is not a domain with edges. It is how passion focuses itself.”²⁷ While networked culture will generate many different institutions and

social structures which individually and collectively help us to sort through information, the final decision about which process works rests not with traditional gatekeepers but with the community of participants.

The Wikipedia Project's openness to knowledge not valued in academic settings, for example, has made it possible for young people to more actively contribute:

Ndesanjo Macha: *Most of the kids who come to our Boys and Girls Club are very very good consumers of information tools and knowledge. They know how to chat, how to email, how to do MySpace, Facebook, how to play video [and] computer games, very very good consumers. But they're not producers of knowledge and information. And if knowledge and information are going to be the key elements that are going to define this moment of history, I think it's very very important for kids in schools to start being producers of these things.*

Andrea Forte: *So one of the things that happens on Wikipedia that makes it different from other encyclopedias is [that] people start writing about popular culture. So this is an area where young people far far outstrip their older peers when it comes to being able to contribute new knowledge about the world.*

Kevin Driscoll: *Some of my students are super big fans of a T.V. show or a sports team. And I think that those two are things that people document really heavily. Because what happens is that there's a new--another football game every week. And there's another episode of the TV show. So there's something new to add to the Wikipedia entry.*

Similarly, people from different class, race, religious, ethnic, and gender backgrounds will choose to write about different topics, including many which are under-represented in standard reference works. This again places new emphasis upon the problems caused by the participation gap: by locking some segments of our society (let alone the world's population) out of full participation online, we deny the society at large access to the things they know and the ways they know them.

As Levy suggests, a knowledge culture sees such gaps as an incitement to activity. It is certainly valid to ask what information is not included in the Wikipedia and why. However, critics then should roll up their sleeves and taking responsibility for making sure that topics that matter to them gets full and adequate representation

At their most passionate, they see Wikipedia as part of a larger process of insuring a more democratic culture by taking seriously what each member has to contribute:

Joe Abraham: *The idea that a few "experts" tell us how we should live our lives, what battles we should fight in, is going to, I think, go by the wayside and we as a collective community, as a democracy, as a world of equals will decide together where we should go and what we should learn. "Raymond's law," that is destined to be one of the great comments of history, which is funny because it's a rather geeky expression: "Given enough eyes, all bugs are shallow." That if enough people are looking at something, that you will find the bugs--the errors. And once you identify the error, you will almost always very quickly find the solution.*

Mark Pellegrini: *If you look at the "What the Wikipedia is Not," it says "Wikipedia is not experiment in democracy" and I know that because I wrote it! But it has the trappings of democracy, which is to say it's driven by the collective will of the people.*

Joe Abraham: *What makes a democracy so different is that each of us has our hand on the wheel of the ship of state.*

Kevin Driscoll: *I imagine that Wikipedia is the beginning of a much larger movement for us to be sharing our knowledge with one another in a real, world-wide way. So there are all of these parts of our culture and parts of our society that have not yet been experimented--on the way that the encyclopedia was experimented--on. And Wikipedia proves that it's possible to find a different way to build these things--a cooperative way--that people who don't ever meet each other can work together. But I believe that this idea will endure, because it's so powerful. And people care about it so much. And when you see that happening, that is something that can't be beat.*

If we understand the Wikipedia movement as fostering civic engagement, then it becomes all the more important that we insure the diversity of participation. We should take steps through classroom and after school activities to broaden who gets to participate in this process of knowledge production and evaluation.

WRAPPING UP

I have tried to suggest throughout this essay that the Wikipedian movement might be one space where young people could acquire the kinds of social skills and cultural competencies necessary to meaningfully participate in the new media landscape. The Wikipedia movement is a place where young people and adults work together to achieve shared goals. The group itself has worked to make its standards, practices and protocols as transparent as possible, giving us the tools we need to evaluate the information the group produces. Wikipedia assumes an active reader who asks questions about the factual claims presented, the evidence supporting the claims and the sources that were consulted.

In particular, I have identified several key skills which are potentially enhanced through active engagement with Wikipedia:

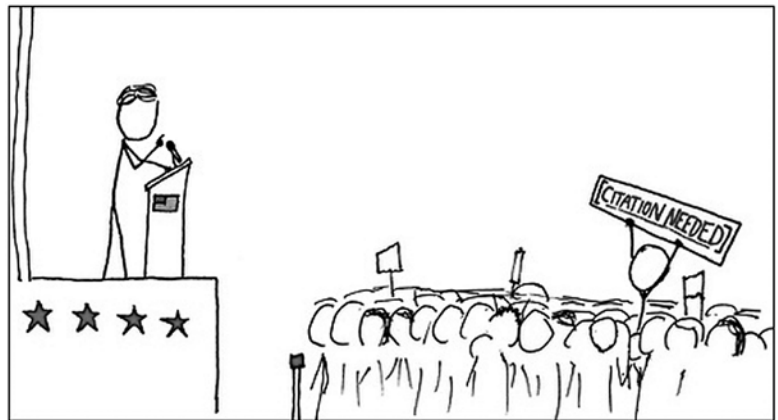
Collective Intelligence—the ability to pool knowledge and compare notes with others towards a common goal.

Judgment—the ability to evaluate the reliability and credibility of different information source.

Networking—the ability to search for, synthesize and disseminate information.

Negotiation—the ability to travel across diverse communities, discerning and respecting multiple perspectives, and grasping and following alternative sets of norms.

But, we need to help our students to develop a larger context for identifying the strengths and limitations



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of its particular model for knowledge production. As we do so, we need to return to the core questions which Project Look Sharp has described as central to the Media Literacy movement and rethink them in relation to this changing context of media production, circulation, and consumption.

- 1. Who made - and who sponsored - this message, and for what purpose?** In this case, we need to understand this question from the perspective not of someone who is consuming media produced elsewhere but of someone who is invited to actively participate in the production and circulation of media content.
- 2. Who is the target audience, and how is the message specifically tailored to them?** In this case, we need to focus on the sets of norms and shared ideologies that are shaping the Wikipedia movement.
- 3. What are the different techniques used to inform, persuade, entertain, and attract attention?** In this case, we need to focus on the rhetorical tools which establish credibility or motivate participation.
- 4. What messages are communicated (and/or implied) about certain people, places, events, behaviors, lifestyles, etc.?** In this case, we need to consider the different kinds of expertise that different participants in the Wikipedia movement bring to the

project, looking at the ways that these diverse perspectives get negotiated through the production of any given article.

5. How current, accurate, and credible is the information in this message? In this case, we need to focus attention on the devices which make the research process more transparent and the ways we need to deploy them to test the reliability of the information.

6. What is left out of this message that might be important to know? In this case, we need to reflect on the systemic biases of the project and how they emerge from the participation gap and from other obstacles which limit individuals ability to access technologies and participate within networked culture.²⁸

Clearly, the media literacy community has lots of work to do if we are going to develop as rich and nuanced an understanding of Wikipedia as we have created together over the past several decades around older media forms such as print advertising or television news. But I hope that this article—and the documentaries and curricular guides being produced by Project nml—will represent a step towards integrating Wikipedia into the range of topics that media literacy education seeks to address.*

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ABOUT PROJECT NML

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MIT's New Media Literacies Project provides educators, parents, librarians, youth workers, and media makers with curricular materials they can use to help respond to the challenges of preparing young people for a more participatory culture. This materials incorporate and expand upon the perspective on production and consumption that has long shaped media literacy education but expand it to focus on the new forms of participation, social networking, and collaborative research within the 21st-century media landscape. Our white paper draws (available for download from projectnml.org) on a range of contemporary research on literacy, learning, new media, play, civic engagement, and grassroots media production. This NML framework reflects a decade plus of profound and prolonged media transformation, including changes in the digital infrastructure, audience behavior, industry structure and logic, governmental policy, educational practice, and theoretical perspectives.

So far, we are translating the framework of the white paper into a series of short digital documentaries which constitute the beginnings of what we are calling the Exemplar Library (projectnml.org/exemplars). These documentaries emerged from our recognition that a growing number of media literacy educators are incorporating media production activities into their pedagogy, yet they often do not have resources for contextualizing the new kinds of media production that have emerged in response to these shifts in the media landscape. They often lack

a vocabulary to talk with their students about what is interesting about these new media practices. We wanted to produce a series of documentaries which focused on the choices -- ethical, aesthetic, and economic -- media makers make as they produce and circulate their work. We wanted to help people understand the contexts within which they worked and the standards by which they judged their own work. The documentaries are broken down into four- to five-minute chunks which are ideally suited for sparking discussions or prompting media production activities.

These exemplars are also designed to implicitly and often explicitly reflect the underlying framework of social skills and cultural competencies we believe constitute the new media literacies. Topics developed so far include the remixing and mashup practices of DJ culture, the public artworks produced by a graffiti collaborative, the steps that go into designing the page of a comic book, videoblogging and citizen media, documentary production in video and radio, special effects, and "big" games. Future topics currently being planned and development include animation, cos-play in the anime fan community, the Wikipedia movement, social networks, and computer game design. Project NML is currently seeking collaborators around the world who will develop short films on their own topics to add to the collection; over time we will make the library fully open source so the students and teachers can develop class projects documenting media production in their own local communities and share them with a larger public.

The short documentaries are supported with curricular materials, including vocabulary terms and definitions and lesson plans which build on the films and often lead into class projects (both high- and low-tech) that encourage young people to put these ideas into practice. Our team have developed instructions for how teachers can dissect the rule system behind a game like *Mafia*, how they can get students to think about the relationship between Thomas Paine's *Common Sense* and contemporary blogs, or how they might learn the difference between remixes and mash-ups by cutting out and pasting together passages from classic poems. Our goal here is not so much to teach students technical skills as to give them exposure to the social skills and cultural competencies needed to deploy those technical processes meaningfully in a participatory culture.

The group's long term goals include the development of larger scale teaching guides which, for example, explore how a better understanding of remixing might transform the teaching of Herman Melville and *Moby Dick* and the development of a casebook designed to encourage young people to reflect on their own ethical choices as media makers and participants in online communities, being developed in collaboration with Howard Gardner and Harvard's Good Play project. All of these efforts are being supported through a generous grant from the John D. and Katherine T. MacArthur Foundation. For more information, see WWW.PROJECTNML.ORG.