In 2005, Jean-Noël Jeanneney, then President of the Bibliothèque nationale de France attacked the newly announced Google Books project, arguing that its natural English bias would adversely affect access to and interpretation of the rest of the world’s cultural heritage. Coming soon after the Iraq War, Jeanneney’s views were dismissed by some as anti-American rhetoric, or as further evidence of the growing gulf between France and the United States. (Green 2014) While this example may be dated, it provides an excellent example of the tensions between diversity and globalization. In this way, and in light of Google’s increasingly privileged position as an oracle, or source of knowledge that is trusted far more than it should be, perhaps Jeanneney’s comments should now make us stop and question how Google affects how we make sense of the world. (Halavais 2013, 2) Perhaps, too, this critical examination of Google’s structure and function could then help to ensure that comments like Jeanneney’s do not cause such defensive reactions in the first place- by helping both teacher and student alike to develop the transcultural competences that are increasingly necessary in today’s multicultural societies.

This chapter will explore how a critical examination of Google Search can be used in the information literacy (IL) classroom to help develop students’ transcultural competence. The chapter will start by defining transcultural competence and its relationship to IL. It will then move to explore research that looks at how our use of Google can affect our expectations and understandings of the world. The chapter will then draw on the author’s work with foreign language students to demonstrate how an examination of the political, social and cultural
dimensions of information practices can help students question and learn to use Google in a more critical manner. Although the chapter pulls from research on foreign language students in a university setting, these themes could easily be adapted to focus on the development of global competences in a variety of secondary and tertiary institutions.

II. Transcultural Competence

Reactions that rely on stereotypes and ignorance, such as those that met Jeanneney’s comments, are neither unique, nor unusual. However, while part of the solution seems to lie in the incorporation of global perspectives into higher education, in practice, education often tends to focus rather superficially on different cultural and literary traditions, or the one-way acculturation of international students to host-society norms. Transcultural competence, however, aims to move beyond seeing culture as exotic or assimilatory. Instead, as the most recent Modern Language Association into the future of language learning states, it can be defined as an ability to “reflect on the world and [oneself] through the lens of another language and culture”; being able to develop an understanding of different worldviews by seeing oneself as a member of a society that may be foreign to others. (2007, 2) In other words, while the study of cultural narratives is still important, it is clear that stories, legal documents and political rhetoric from different cultures draw upon their own historical and geographic frames of reference. By examining the background realities of these texts, as well as their form and purpose, students can start to consider alternative ways of “seeing, feeling and understanding things” as well as understanding how these viewpoints may be interpreted by other groups and communities. (MLA 2007, 3)

In this way, the development of transcultural competence is particularly important both for work and for life. Globalization means that students must be prepared to “live and work in a society that increasingly operates across international borders.” (ACE 2013, 3) Global markets, services and ideas means that it is no longer just business students who must develop the capacities needed to face global challenges. However, the need for a global outlook can also be
seen at home. In the most recent United States census, over 55 million people speak a second language and millions more live within transnational communities and networks. (United States Census Bureau 2011) These realities mean that there is a need for students to understand difference between and within societies.

Transcultural competence is equally important for information literacy. New global realities are also characterized by the growing importance of information- at work, in the community and in our personal lives. Yet, if these worlds are becoming more multicultural, IL, too, must engage with the new challenges and opportunities. However, IL that is focused solely on teaching students purely functional skills cannot begin to develop the capacities needed to operate within these new multicultural societies. Instead, by basing IL on concepts of transcultural competence, librarians can help scaffold a more holistic and thoughtful way of knowing and acting within different information contexts.

In other words, just as advertising and newspapers (among other cultural narratives) show and can be used to help students understand and interpret differences in meaning and worldview, information too, reflects the shared knowledge and practices of a community. Information cannot be separated from its context; instead it is a product of local social, political and economic realities. In this way, by designing IL that reveals these contrasts, students start to understand that information is culturally specific. In turn, this helps them to see that their own practices are culturally driven, thereby opening the door to understanding difference in international contexts and at home.

III. Google and Information Societies

Google, which is a core tool for many students, provides an excellent way to explore these issues of transcultural competence. Its dominant role in society means that it is vital that students understand their search process as well as search results while its perceived universality often obscures an understanding of how the search engine treats cultural difference.
A brief overview of research in this area will highlight the rationale for this class as well as providing background for class discussion points.

One of the first issues that affects culturally focused information practices centers on how Google ranking limits access to authentic cultural materials. User studies show that people expect success from the first few results of a search and rarely click past the first page. In this way, Google has to focus on catering to majority interests to maximize perceptions of success, which has the effect of rewarding large, popular sites that have either been established for longer, or that can afford to employ search engine optimization experts. (Morozov 2013, 147) Culturally relevant websites, which tend to be minority interest as well as newer or unable to game the system, are therefore less frequently featured on the first page of results. This means that top results for cultural topics are more likely to rely on translations or majority viewpoints rather than culturally authentic materials. Sites in a non-English language are further disadvantaged. Studies have shown that US sites are significantly more likely to be indexed than sites from China or Singapore. (Jiang 2014) In addition, there is a very low rate of overlap between country versions of Google (for example between google.com.mx and google.com) meaning that unless students know about different versions of Google, they are restricting their searches even further. (Jiang 2014)

A complicating factor has been the introduction of personalized search. Studies show that previous search history and geographic location affect about 12% of searches. (Hannak et al. 2013) Personalized search results are therefore automatically constrained to hide or filter information that we or people in the same region don’t agree with, which has obvious implications for finding different points of view. This effect can be seen most poignantly in Graham and Zook’s work, which shows that a search in Google maps for the English, Arabic and Hebrew word for restaurant finds completely unique results. (2013) While the filter bubble, as it has become to be known, may not be any more selective than offline personalisation, it is clear that these trends change our access to the online world. This was most famously
demonstrated by Eli Pariser, whose search for “Tahrir Square” returned either links to news reports or travel agencies. (Gillespie 2012)

A second major issue centers on how Google’s algorithms can promote racial and cultural stereotypes. Google prides itself on the impersonal algorithms that it uses to order information, claiming that this automated process gives it a credibility that transcends typical media biases. However, it is clear that human editorial judgment is used in the construction of the ranking algorithm, through decisions about which factors to include, what weight to assign each factor, and the value of the content. (Grimmelman 2013) In other words, algorithms are socially constructed, representing “a particular knowledge logic, one built on specific presumptions about what knowledge is and how one should identify its most relevant components.” (Gillespie 2013) This causes problems in different cultural environments as Google’s judgments represent a particular point of view that may fail to consider cultural context, as the Sahara reporters whose work was censored for being too brutal, demonstrates. (Morozov 2013)

In turn, these ‘objective’ algorithms mean that oftentimes, Google actively presents negative stereotypes of cultural identities. Sweeney discovered that “a greater percentage of ads having “arrest” in ad text appeared for black identifying first names than for white identifying first names.” (2013) Umoja Noble (2013) and Baker and Potts (2013) discovered that Google search and Google autocomplete respectively display extremely negative results for minority groups. This becomes especially problematic as these stereotypes appear normal and unavoidable. As such, it is clear that although early users thought the web would help them escape cultural or racial biases, in fact, “online discourse is woven of stereotypical cultural narratives that reinstall precisely those positions.” (Baker and Potts 2013, 187) Combatting this discrimination is just as important online.

These issues are compounded by the search engine’s perceived universality, which makes it hard to detect the subtle yet potentially damaging effect on our understanding of the
world. In this way, IL that centers on revealing and scaffolding cultural differences will prepare students to step out and act in global information societies.

IV. Class Structure

This class was designed to help students develop their transcultural competence through engaging with Google. Originally developed for an advanced undergraduate Spanish writing class, full details are provided here so it can be adapted to meet different needs.

IV.a Instructional Purpose

The class centers on scaffolding a critical engagement with Spanish information environments. This was perceived as the most effective way to move students away from a superficial engagement and understanding of difference. In this way, class was structured around questions about the political economies and cultural authority of knowledge, or, in other words, debate about knowledge—what it is and who decides and creates it. These types of questions, while complicated, help break down the perceived universality of information practices while also helping students to understand the background from which Spanish cultural narratives draw. In this way, the research process was seen as the bridge point between cultures.

At the same time, by structuring the class as a way to explore difference between two cultures, neither culture was positioned as exotic or “normal”. This approach is far more inclusive in a class that could contain heritage Spanish speakers (defined as students who grew up in Spanish speaking households) as well as traditional Anglophone students. Similarly, instead of being presented with strategies or checklists for evaluation, the class draws from personal experience. This approach acknowledges prior knowledge, as well as enabling more scope for critical analysis.

IV.b Student Learning Outcomes

1. Students will develop a variety of search and evaluation strategies in order to use the everyday and scholarly Spanish sources that are most appropriate for their research
question.

2. Students will demonstrate an awareness of Spanish research practices across different communities, including how each contextualizes and produces information, and how these differ from English language practices.

**IV.c Step-by-Step Instructions**

The librarian’s involvement with the class is centered around one in-class seminar, and three reflective surveys. The in-person seminar is designed to focus on discussion and hands on practice, with most of the time dedicated to engaging students in questions about the differences between Spanish and English research, and generating resources and strategies designed to help students in their research process. The reflective surveys inform teaching needs as well as student learning needs, and draw upon the work of Troy Swanson, who is one of the few people to provide explicit examples of this type of IL in the classroom. (2010) The first survey is designed to help students start to think about their research project while also assessing student needs and prior knowledge. The second survey helps students continue the reflection process by thinking about their learning, while enabling the librarian to assess application of concepts. The third survey is completed at the end of the semester to enable students to reflect on their process after a whole semester of work, while also gauging retention of these concepts.

1. **First Reflective Survey**

   ○ *At least one week before class, administer survey:*

     ■ What do you already know about your research topic?

     ■ What do you need to know about your topic?

     ■ Where might you discover this information?

     ■ If you wanted to find information about, for example, solid waste in Guatemala, where would you look?
When you use Google, how would you look for information in Spanish?

2. Class Activity
   ○ Students will work in groups to find the following specific resources, bearing these questions in mind:
     ■ Find a Spanish resource through Google and record it in this online form.
     As you work in your group, consider the following questions:
     1. How did you find this resource? How did this differ from English searching?
     2. What keywords did you choose?
     3. When you were looking at the list of results, what type of resources did you find? What didn’t you find?
        a. Who can publish on a specific topic?
        b. Who can't? And why?
     4. What tips do you have for your classmates? (e.g. a great webpage, a search tip etc)
     5. Why did you choose that resource? How did you evaluate the results?
     ○ After each group has found at least one resource (10-15mins), start the class discussion about what they found and strategies they employed. Build up a list of search strategies for the class, and a list of criteria to evaluate resources. Probe students for their thoughts and experiences about the more critical questions.
     ○ Repeat process using the library webpage (if appropriate)

3. Second Reflective Survey
   ○ No more than one week after class, administer the second survey:
     ■ What changes did you make to your initial searches in order to improve
results?

- What prompted you to make those changes?
- What are some of your research challenges? How have you dealt with them or what do you need help with?
- Thinking about the information sources you have found so far, what information do you trust? What causes you to disagree with a piece of information?

4. Third Reflective Survey
   - A couple of weeks before the end of semester, administer the third survey
     - Who can publish on a specific issue? Who cannot and why? Whose voice is included/excluded?
     - What information is trusted by society? Do you agree?
     - What takeaways from this project or process will you use in your future career or studies?
     - You have been offered a position teaching English in Costa Rica. You have 2 sessions to teach students who are about to study abroad how to conduct research in the US. What points will you emphasize, knowing what you know about the differences between Spanish and English research?

IV.d Time Required

This program requires one class session (60-90 minutes) and additional homework time out of class. Activities could be spread over more classes if the students needed more structure.

V. Results

Various research studies demonstrate that before a research class, Spanish majors have little knowledge of how their usage of Google affects their search results. In a pre-test of 32 students enrolled in a basic Spanish writing class at the University of Colorado, Boulder
(UCB) less than 25% of students knew that different country versions of Google exist, while just under half knew that the Google’s advanced search could be used to change the language or regional settings. (Hicks forthcoming) In a study of students enrolled in an advanced Spanish writing class at UCB, a pre-test showed that although most students recalled at least one way to find Spanish results in Google, a sizeable majority also indicated that they would expect to find relevant Spanish materials in sources that they use for English research papers, for example, JSTOR. (Hicks forthcoming(b)) This data bears out findings from Project Information Literacy that highlights how students rely on the same set of tried and tested resources. (Purdy 2012) It also validates the need for this class.

After the class, however, students showed a far greater awareness of strategies they could use to find more culturally relevant results in Google. Furthermore, students demonstrated that they valued these lessons, with over half of students in the basic Spanish writing class indicating that their greatest takeaway from the class was either learning how to use Google or finding materials in Spanish more generally. Students also showed an impressive grasp of the differences between Spanish and English research, being able to reflect on, for example, the lower visibility of Spanish in traditional information systems:

“Para mi, una investigación española requiere que uno busca más en el internet que los otras fuentes de información.”

[For me, Spanish research requires one to look more in the Internet than other sources of information]

They also recognised the difficulties that smaller cultural groups faced to be heard in modern information societies:

“Mucha de la gente, los pobres o los que no tienen acceso a educación o tecnología, no puede publicar sobre un tema. Sus historias son importantes pero ellos no tienen voces. [Many people, the poor, or those who don’t have access to information or technology can’t publish on a topic. Their stories are important but they don’t have a
In this way, it is clear that students are using these class experiences to start to reflect on differences between doing research in English language contexts and the difficulties and realities of research in the Spanish context. Most importantly, these challenges have made them question and think about their Anglophone privilege and how this plays out in information systems; a step on the road to developing true transcultural competence.

VI. Conclusion

In conclusion, this chapter details the development of IL instruction strategies that focus on developing transcultural competence. The internationalization of campus means that multicultural information realities are more likely than ever before. In turn, this necessitates an approach to IL that takes these contexts into account. This also means that librarians may have to rethink their approach to IL, moving beyond database navigation towards a deeper understanding of students needs and capacities in today’s information societies.

Google, as a core source in many workplace and academic information environments, serves as an ideal basis for thinking about questions of transcultural competence. At the same time, this chapter is not just about Google; instead, we must teach students to critically engage with all information systems. However, Google’s dominance means that any bias has a much greater effect than with other any other search engine, which implies that it is a good place to begin. Ultimately, however, this chapter draws attention to the tensions between the perceived homogenizing effects of globalization and the underlying diversity that can only be grasped through transcultural education. A careful study of Google can offer students and librarians alike an excellent entry point into this complex subject.

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