

## Students Producing Thick Descriptions

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**Abstract:** The work students do to appropriate *talking frames* is a significant element of the coursework for any class. The talking frames provide a viewpoint from which the course material “appears” connected and cohesive, from which “sense” can be made. The actual sense that is made is an explanation. The talking frames are semiotic tools that mediate the in-class discussion led by the teacher and later mediate an online collaboration, *sans* the teacher, in a co-blogging community. Assigned readings and the teacher’s lecture provide talking frames for explaining course material. In the co-blogging environment, the students practice at “speaking” with the talking frames, *appropriating* the talking frames by using them to mediate the collaborative production of *thick description* about phenomena relevant to the course content.

### Introduction

It is the teacher’s job to explain how the elements of the course material fit together. The teacher’s explanations use *talking frames* that compose the semiotic of the targeted field. The *appropriation* (Baker et al, 1999; Koschmann, 2002) of talking frames by the students is a significant element of the coursework for any class. In-class discussion provides some opportunities for the students to learn to explain with these “official” frames, opportunities to explain in the “appropriate” manner. Unfortunately, class time is a limited resource and there is insufficient time for students to practice. Outside of class, there is a coordination problem that makes it difficult for students to practice with one another. Online discourse communities potentially reduce the coordination problem by enabling students to discuss course material even though they work at “explaining” at different times and places. With this scheme, the talking frames are semiotic tools that mediate the in-class discussion led by the teacher and later mediate an online collaboration, *sans* the teacher, in a discourse community, where the students work at appropriating the talking frames. At issue is the form of the discourse community and the content that is produced.

This paper presents a case study of undergraduate students in an Internet & Society course who co-blog throughout the semester. As they co-blog, the students decipher the “codes” that compose the semiotic of the course material, learning how to explain the relevant phenomena with the talking frames they are learning. The students’ online work in the co-blogging community manifests itself as the collaborative production of *thick descriptions* (Geertz, 1973; Ryle, 1968).

### Appropriation of Talking Frames

There is an explanatory framework – the talking frame – and there are explanations. The talking frame provides a viewpoint from which the course material “appears” connected and cohesive, from which “sense” can be made. The actual sense that is made is the explanation. Given a talking frame, students may or may not converge on the same explanation for a piece of phenomena in the target domain.

An example of how this works is the accident at the nuclear power plant at Three-mile Island in 1979 (Gamson, 1992). Nine years before Three-Mile Island there had been a similar kind of incident in Detroit, but at that time the “interpretive packages” available were frames like *faith in progress* or *one step back for every two steps forward*. By the time the incident at Three-Mile Island occurred there were competing frameworks – *public accountability*, *small is beautiful* – for explaining the exact same kind of event.

In a class like Internet & Society the students are both learning the course material and also appropriating the talking frames, which they use to generate their explanations. It is the second part, the appropriation of the talking frames that is the subject matter of this paper. The students practice with the talking frames by using them to generate explanations of the relevant phenomena. This learning process can be described as *appropriation* (Baker et al, 1999):

Children are said to appropriate cultural objects (material and semiotic tools), when they learn from other members of the culture how those cultural objects are used, and what they are used to accomplish. Appropriation is not a process of rote-learning, in which the individual simply adopts the facts and assumptions of the culture. Children appropriate these objects by participating in their use with more expert members of that culture. Learning results from the child’s own experiences and practice with the object under the guidance of an expert. Thus, it is not a matter of information transmission from the expert to the novice, but of the novice “making this tool his own” (Leontjev, 1981).

The goal is for the students to *appropriate* the semiotic of the teacher for discussing the course material. The talking frames the teacher uses in class are the semiotic tools that mediate the in-class discussion. In the blogosphere, the students generate explanations using these frames *sans* the teacher. As the students contribute to the blogosphere, the talking frame, a semiotic tool, is appropriated. The trajectory is from an interpsychological plane with the instructor, to one without the instructor, to an intra psychological plane (Vygotsky, 1978). In each case, the talking frames are the semiotic tools that mediate the activity.

Initially the line of arguments, the explanations provided by the teacher are thin, skeletal. The students need to work at making them more bushy, exploring their meaning, seeing how they interact with other ideas and explanations, filling out the details, making it substantial. In the blogosphere, students are deciphering codes and producing *thick descriptions* (Ryle, 1968; Geertz, 1973) of the course content. They are producing “piled up structures of inferences and implication” (Geertz, 1973). Ideas and concepts are poked, prodded, and played with. The goal here is not convergence. The students need to play with the talking frame. Use it. Analyze it. Run it, and see how it works. The externalization of descriptions, reflections, explanations, analyses, and arguments makes them accessible to other students, *sedimenting* (Stahl, 2006) the collaborative sense that is made with the talking frames available to the class. The talking frames become a part of the parlance of the students, but agreement on their exact usage is not required. Because the appropriation of the talking frame requires play, the more the students produce explanations and descriptions with a given talking frame, the thicker will be the set of descriptions, the more it is a part of the assumed background knowledge of the students.

To summarize this discussion:

1. Assigned readings and the teacher’s lecture provide talking frames for explaining course material.
2. In a co-blogging community, the students practice at “speaking” with the talking frames.
3. In a co-blogging community, students appropriate the talking frames by using them to mediate the production of thick descriptions about phenomena relevant to the course content.
4. Through the use and application of the talking frames, the students enrich their common background knowledge, collectively producing better, richer, more nuanced and textured descriptions, explanations, analyses, and arguments.

## Co-blogging as Practice with Semiotic

A *discourse community* is where students question, criticize, explore, negotiate meanings, share expertise, constructing and developing new understanding and a “common mind and voice” (Brown et al, 1993; Wertsch, 1991). Participating in an online discourse community is a social activity. Students can collaborate without “meeting” at the same place or at the same time, thus increasing the opportunities for fruitful discussion.

Within a discourse community, the contributions of the students are published and broadcast to the rest of the class, emerging in an open space, giving students exposure to multiple viewpoints and perspectives (Stahl, 2001; Suthers, 2005). Knowledge communities, arguing to learn, discussion forums, and co-blogging environments are all collaborative activities that to a greater or lesser degree function as discourse communities. The students can explain to one another, argue, negotiate, and reflect, which are all activities that positively impact learning (de Vries et al, 2002; Andriessen et al, 2003; Salmon, 2002; Scardamalia & Bereiter, 1996).

In the study presented in this paper, the students participate in a discourse community: they co-blog throughout the semester. In the co-blogging community, each student has a *blog*. The blog is composed of multiple *posts* written by the blog owner. Students can read each other’s blog posts and *comment* on them. Some features of the student co-blogging activity are:

1. **Volume:** Posts link to other material in the blogosphere or refer to material introduced in other venues like the lecture, but they are also self-contained. Each post is relatively long: the average post length during the semester was 277 words and the median 248 words.
2. **Open format:** Students have freedom to self-select the mode of their contribution, e.g., reflective, argumentative, analytic, or recapitulative (Du & Wagner, 2005). Less scaffolding reduces the time it takes to learn and to use the co-blogging application.
3. **Emergence of identity:** Each student has her own blog, and she has full control over its content, thus establishing personal and intellectual ownership of her work (Ferdig & Trammel, 2004). Students develop an individual style and voice.
4. **Convergence is not necessary:** Students do not converge on any preferred viewpoint. Each post, with its comments, is a self-contained conversation that explores some of the implications of the initiating post. The blogosphere supports a more textured view of complicated ideas without requiring agreement.
5. **Overhead:** Because co-blogging is Web 2.0 technology, the “buy-in” for students is fairly cheap (Glogoff, 2005; Duffy 2008). Because co-blogging has relatively less scaffolding than other forms of discourse community, the overhead in learning to use the co-blogging environment is low: a typical student takes one in-class lab to learn to co-blog.

Students in a co-blogging environment are free to explore talking frames, deciphering their meaning and usage as they explain relevant phenomena. Contributions can vary among alternate modes of discursion, including reflection, argument, analysis, (re-)articulation, and story telling. The openness, volume, and lack of convergence are all contributing factors to the emergence of the co-blogging environment as a space to practice with the semiotic of the course.

## Case Study

In the Internet & Society course taught in Fall 2008, 25 students collaboratively blogged throughout the semester. The course explored the impact of the Internet on society. Topics for the course included the Internet revolution, identity, information versus knowledge, technology and social inclusion, copyright and patent law, and democracy and the Internet. An important part of the class was for the students to integrate what they learned with their general knowledge about the everyday world they live in. The students were undergraduates from a variety of disciplines. There were 3 science majors and 1 science minor in the class. There were 12 students majoring in the social sciences and 8 minoring in the social sciences. The remainder of the class was either in the humanities or fine arts. There were 8 females and 17 males.

Lectures were presented using slides that summarized the key points of the lecture. At the beginning of each lecture, hard copies of the slides were handed out to support student note taking. PDF versions of the slides were downloadable from the class website. The lecture slides were used as a basis for identifying the important course topics and themes.

The co-blogging environment has been developed over a number of years in several different courses (Larsson & Alterman, 2009). The students were required to blog at the pace of one post per lecture: there were two lectures per week. A typical post was 2 paragraphs in length. The students were also required to read and comment on other contributions to the blogosphere. The co-blogging work of each student counted for 35% of his or her grade.

All of the students' online work was automatically recorded in a transcript, which enabled both quantitative and qualitative analyses. The transcripts can be treated as an event log file and accessed using database queries. Additional tools enable a large variety of alternate analysis methods, including discourse and ethnographic.

At the end of the semester a survey was distributed; questions were on a 6-point Likert scale (from 1, not useful, to 6, very useful); the survey also included open-ended questions. Student assessment of the co-blogging activity was positive. When the students were asked to rate the value of their online co-blogging work as a means of giving them first-hand experience with online collaborative learning, the average response was 5.6. In response to the question of whether the students felt the co-blogging community was useful, the average response was 5.3. When queried about the usefulness of the blogosphere for writing papers, the average response was 4.5. When asked as a yes/no question whether re-reading and reusing the blogging text helped the students write their papers, 67% answered in the affirmative.

## The Blogosphere

The lecture and discussion in the class is a collaboration between the teacher and the students to understand the material. But the collaboration is of a particular kind. The collaboration is asymmetric. There is an authority, the teacher, who is the presenter – the “guardian” of the “official story” on the course material. The teacher employs talking frames that reveal important relationships within the material. The texts of the course are “coded” in the semiotic of the field, couched in forms and terms that compose an “authentic” discourse. When the discussion moves to the blogosphere, the conditions of the collaboration change significantly. The blogosphere is a student-owned space (Oravec, 2002). The students must “appropriate” the teacher led dialogue. The students learn to “talk” in their own “voices” about the material: they are practicing and learning to talk and reason about the material, firming up their “grasp” of the material, collaboratively thickening the initial descriptions and explanations, embellishing and adding to the skeletal structure that was first presented in an assigned reading or during lecture.

Contributions to the blogosphere refer to and re-articulate course topics and themes, developing the associated talking frames. The contributions explore the semiotic of the course, deciphering codes as they layer descriptions of the relevant phenomena.

Contributions also refer to the common background of the students, either as co-participants in the class (e.g. their common experience of reading an assigned text) or as undergraduates at the same institution (e.g., using Google to help do their schoolwork). The cases, examples, issues, analyses, and arguments that are drawn from the common, shared, and individual backgrounds of the students further ground each contribution and the conversation it engenders.

Contributions to the blogosphere have one or more talking points, issues that are addressed in the post or comment. The talking points function to coordinate student effort to expand on, and refine, the individual and collective conception of codes and their application. The bulk of a post is grounded in examples and cases

(Kolodner, 2006), which may be drawn from personal experience or transcribed from other course-related activities like lecture or reading the text. The *mode* of a contribution can vary: an individual post can alternate between discursive modes of argument, (re-)articulation, reflection, analysis, and story telling.

The opening text of a blog post is where a student directly or indirectly connects his or her commentary to what he or she assumes is common knowledge among the students in the class (see Figure 1). Students explore the semiotic of the class by referring to and quoting the text, explicitly referring to examples, arguments, and distinctions made in the text (1). Other semiotic relevant activities they introduce into the ongoing discourse are in-class discussions (2), and the presentation slides of the instructor (3). Students ground their contributions in experiences that are likely to be common amongst the students like other activity in the blogosphere (4), internships (5), googling (6), and studying abroad. Frequently posts begin with multiple kinds of links, mixing together references to assigned readings and class discussions (semiotic) with common experiences (ground) like pop culture (7) and previously introduced cases (8).

1. Information vs. knowledge is an important distinction presented in *The Social Life of Information*. I have to agree that information on its own is not good enough, not complete enough to qualify as knowledge. I see knowledge as ...
2. Talking in class about limits of information on the internet made me think that we cant expect internet to solve all ours problems at once. The cant expect that Amazon will buy us book automatically catered to our preference. We cant expect...
3. I've been thinking a bit about the limits of information, especially the second to last question asked in the slides: "What kind of critical commentary does this lead you to make about the huge amounts of information that are being generated on the Internet?"
4. After doing some reading and viewing some blogs, I began to feel that the amount of information that is offered to internet users is having a major effect on the world and the type of news that is being presented. One of the blogs commented on the question that was presented in one of the class slides: "What kind of critical commentary does this lead you to make about the huge amounts of information that are being generated on the Internet?"
5. Each summer millions of students participate in summer internships in a diverse range of industries. Students spend countless hours researching the fields they are interested in. Students acquire information about the technical skills necessary as well as the soft skills they will need to apply in the workplace. This is the accumulation of information. Last summer I engaged in my first investment banking internship ...
6. What I found to be very useful whenever I have problems with my computer is to google it...
7. On page 21 of their book, John Seely Brown and Paul Duguid assert that companies that use the prefix "info" multiply their market values. Considering how so far about 4 people have read my blog, I'm expecting 12-16 comments for this one. I'm going to continue with the pop-culture themes I've used in my other blogs, because, well, that's how I think....
8. On the other hand, like Nadine mentioned how her friend and her dad works from home. I know that I can't concentrate when I am in my room... but when I am able to concentrate I can do the work anywhere. I get distracted when I am in my room, then again when I have a test or something it does not matter to me where I study because I stay focus.

Figure 1. Excerpts from Posts.

In the blogosphere, the range of discussion is broad and bushy with multiple viewpoints, and conversations, emerging. Each post is the root of a new "conversation" tree. Each conversation is self-contained, encapsulated, but it can also link to other blogs and conversations within the blogosphere. Discussions develop as smaller chunks of interaction. The opening of a comment links to the initiating post and/or earlier comments on the post. Each comment on a post links to at least one of the talking points in the initiating post; less often they respond to an earlier comment. Sometimes a contribution to a conversation will link to a different conversation. For each theme or topic several conversation trees may develop. Comments can agree and expiate on a contribution made in the initiating post or negotiate over its conclusion, providing alternate arguments, examples or cases to consider – all of which contribute to the collaborative production of thicker descriptions.

## Co-blogging on the Frame *Working Home Alone*

A tremendous amount of information is produced each day on the Internet. Can this information solve/change everything? Can agents/bots help us to manage all the information? What is the difference between information and knowledge? Does access to information mean that people will be able to *work home alone* and that they no longer need to work in the office? How much does collocation matter? Issues like these are explored in *The Social Life of Information*. Although they have a balanced view, Brown & Duguid (2002) are intent on showing the limits of information. Their exploration of these issues provides many motivating examples, presenting alternate viewpoints, and arguments.

One issue in *The social life of information* concerns the pros, cons, and conditions of *working home alone*. This is a theme that has several topics associated with it. Does the information available on the Internet free people to work home alone? Is collocation at the office still necessary? Working home alone is a talking frame that can be used to explain a number of things regarding the limitations of information, the relation of information to knowledge, and so on.

How does the co-blogging activity of the students thicken the initial talking frame for working home alone? The students re-articulate, clarify, expand upon, and contextualize the semiotic introduced by the lecture and assigned texts. They explore, expand, contest, and re-explain the major arguments. They provide cases and examples that further deepen the discussion, grounding it in the individual and common experiences of the students. In the blogosphere, the students collaboratively develop a thicker description of the course material: a more nuanced and textured position on when and how the talking frame applies to the relevant phenomena and what it means and its limitations.

There were 6 posts and 10 comments on posts with regard to the topic of *working home alone* (see Table 1). There were a total of 3088 words produced collaboratively in the blogosphere on this theme. The average post length was 341 words; the longest post was 507 words and the shortest 113. The average comment length was 104 words. Taken together the posts weigh the pluses and minuses of working home alone versus working with others in the same location. The posts and comments develop descriptions, explanations, and arguments of the conditions under which working home alone will be effective and conditions where collocation matter.

**The first post** (P1 - 314 words) on this topic begins with a quote of *The Social Life of Information* text. The post mentions some advantages of being able to work home alone – e.g., savings on commute time. It also references the discussion in class of an example presented in the text: the difficulties of fixing technical problems when working home alone. The key talking point analyzes isolation as a potential problem of working home alone, concluding that working home alone should not “eradicate the office place.” The *one comment* (c1) on this post links to the theme of isolation, grounding the commentary in the common student experience of “attending classes and living with fellow students.” In the space of this one post and one comment, links are established to the text and class discussion and the collective description of these topics is re-articulated and thickened with the addition of new talking points on isolation and the common experience of all students in the class.

Table 1: Summary of collaborative thickening of talking frame working home alone.

	LINKS (SEMIOTIC & GROUND)	THICKENING ELEMENT(S)
P1	Text (quote, issue)	Re-articulation; analysis (isolation)
c1	Link to TP in post	Example (college experience)
P2	Text; class discussion	Re-articulation; 2 new cases (Friend's brother; Father); position
c1	Responsive to post	Example (home-business); analysis (discipline)
c2	1 <sup>st</sup> comment (discipline); post	New example (studying library or room)
c3	Discussion (text; class); c1&2;P1	Re-articulate; common exp. (Brandies); analysis (self-discipline)
P3	Other co-blogging activity	Re-articulation; analysis (time); reflection (studying library)
c1	Text (quote, argument); P1&3	Re-articulation; argument
c2	Post (argument)	Example (friends); analysis (social aspect)
c3	1 <sup>st</sup> comment (quote, arg.); P3	Re-explaining post; Re-articulation; position
P4	Common exp. (internship)	2 new Examples (internships); analysis (collocation)
c1	Post (example)	Re-articulation
P5	Text (argument; example)	Re-articulation; position
P6	Text (argument)	2 new cases; argument
c1	Post (argument; example)	Example (Online colleges)
c2	Post; c2 of P2; P3	Re-articulate; analysis(discipline; perseverance); position;example

**The second post** (P2 - 507 words) opens by linking to both the class discussion and book. The bulk of the second post presents two *cases* of people who successfully worked home alone, one is a friends' brother and the other is the poster's father. The third and last paragraphs of the post take a position that counterbalances (qualifies) the two positive cases she just discussed, concluding that working home alone can be very successful but “people need to be able to *motivate* themselves,” the office “will not become obsolete any time soon,” and the office place is still “useful for teaching newcomers the things they need to know.” (The last quote refers to an argument made in the book.)

The *first comment* on this post talks about niche markets and home-based businesses: the example is part time work selling insurance through forums and chat rooms. The talking point picks up on the post's point about motivation: working home alone requires “discipline.” The *second comment* links to the first comment on the discipline to work home alone: the author of the second comment goes to library rather than working in his room, and “totally” agrees with post that this does not mean people cannot get work done in their rooms. A

third comment refers to argument about fixing technology when working home alone that was in the book, discussed in class, and re-articulated in the post. The student also acknowledges the point on self-discipline that was made in the two previous comments. His comment also addresses the talking point of studying in one's room, grounding his discussion in the cost of commuting to school to study: "Why go through all the hassle?" The conversation that emerges from post two is self-contained in the sense that the initial post reproduces enough context for other students to carry on a discussion. Old arguments are re-discussed. For the second time, the point on commuting is explored. Between the first conversation on working home alone and the second, the point on commute time has been explored and the following factors explicated: yes, working home saves commute time (post 1), but loneliness/isolation reduces productivity and collocation increases it (comment on post 1), but on the other hand, with self-discipline (comments 1 and 2 on post 2) and with the evidence provided by two examples of people working home alone (provided by post 2), why should a student go through the hassle of commuting (comment 3)?

**The third post** (P3 - 434 words) was written by the student who wrote the second comment on the second post, roughly two hours after writing his earlier comment. (Over the entire semester, roughly 35% of the reading events occurred while students were authoring blog posts.) The third post begins by linking to the previous blogging activity: "I know there are a few blogs about working home alone, but I still want to write one more just to let my thoughts out." It also specifically links to the second post: "On the other hand, like Nadine mentioned ..." One talking point in this post concerns time management and the skill set of the person working home alone. Working home alone "all depends on the person." This author of the post reflects that he cannot concentrate when he is in his room (reflection); this implicitly refers to previous conversation.) In the second paragraph of this post, the student re-capitulates, in words of this student, the issue of dealing with technical problems when working home alone.

The first comment on the third post links to the discussion from an earlier post: it uses the word "isolation" which was originally used in the first post. The first comment also attempts to find neutral ground between the pros and cons of working home alone, repeating a line from the initiating post: "it all depends on the person." The second comment opens by linking to the phrase "it all depends on the person." Where the first comment picks up the theme (from the book and lecture) that working home alone misses the social aspect of office situations and the possibilities for learning, the second comment mentions friends who work "remotely" but would have been more effective in the office. The third comment is written by the author of the initiating post. It is an attempt to clarify his position: he was focusing on how it is possible to work from home, it is an option, but agrees with first comment on social networking – but then again people working home alone may have different priorities.

**The fourth post** (P4 - 248 words) provides two cases, personal examples of internships. In one case the interns collaborated online: 30 interns working in different places were able to interact weekly in an effective manner via a web seminar. In the other case, interns worked in an office. The student intern asked his supervisor whether he thought his job could be outsourced. The answer was no, because financial advising is based on trust, which depends on a face-to-face meeting. The one comment this post received says that there is "a level of employees who need to meet customers in person" but also predicted that "we will see lot more types of internships in the future online."

The first four posts on the topic "working home alone" occur within a week of the lecture that discussed this topic. Half the comments were contributed to the blogosphere within that same time period. After a gap of over two weeks, two additional posts were made on this topic (these were made by students who had fallen behind on their blogging).

**The fifth post** (P5 - 113 words) is short. It refers to an example taken from the text that was also briefly discussed in class. It personalizes the discussion, declaring some people "just prefer to work home alone", explaining that if you can deal with problems that may arise (because you have the needed background), then working home alone may increase productivity and creativity. There were no comments on this post.

**The sixth post** (P6 - 432 words) is the last post on this topic. It is a lengthy post and it makes "the depends argument": it is written in a way that shows the student did not read the earlier discussion on the topic of working home alone. The post extensively discusses each of the student's parents, in one case working home alone was not appropriate and in the other case it worked. In case one, her mom is a project engineer who needs to be in contact with her group. In the case of her dad, he is a software engineer, who does a majority of his work at home. Despite the fact that the focus of discussion in class had moved on to another of the assigned books, this post attracted two comments. The first comment agrees with the points about the dad's job, and claims the post makes the perfect argument against online colleges, which is an example discussed elsewhere in the book. The second comment is made by a student, who earlier, within a week of the relevant lecture, had made a comment on the second post on this topic. The commenter says there is no right or wrong answer. It "boils down" to one's discipline (a recurring talking point) and perseverance to excel/succeed. The student's

commentary is grounded in the example of student study venues: equal number of students who prefer to study at home versus study in library. This example was initially presented in the discussion of the second post: “Students ultimately choose their study spots according to their effectiveness and productivity at these places.” This was also discussed in post 3.

## Thick Descriptions

**Figure 2** shows a tree map of student contributions to the blogosphere on topics related to the book *The future of ideas*. There are five major themes for the book. The theme “control” covers the largest area in the tree, which means there were more topics associated with this theme than any other theme. Since the theme “three layers” (which is in the upper right corner and mostly hidden) covers the least amount of space in the map so it had the fewest number of topics.

Each rectangle within a given area represents a topic. The brighter the color of the rectangle, the greater the number of contributions in the blogosphere on that particular topic. In terms of thickness these are topics that accrued the thickest set of descriptions. For example, the three brightest rectangles for the theme *new rules* are “versus old rules”, “vinyl records and CD’s”, and “new ways of music production and distribution”.

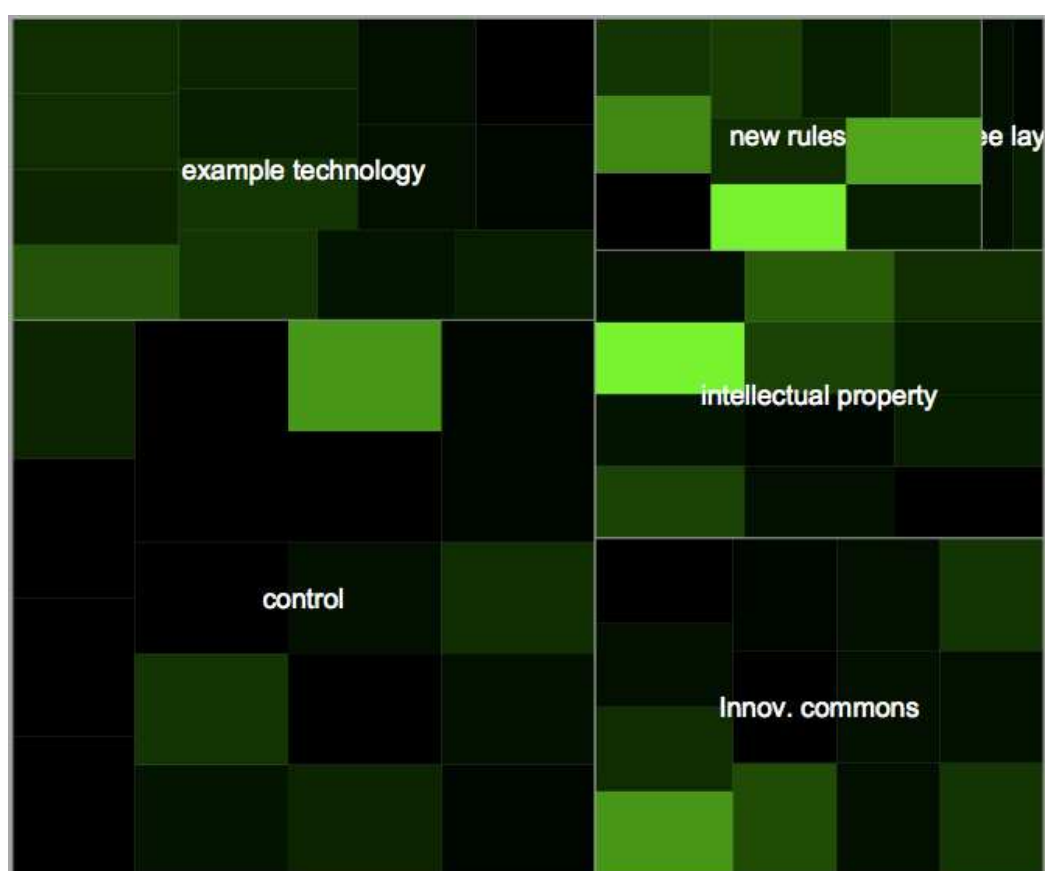


Figure 2. Tree Map of Contributions to Blogosphere on the Book *The Future of Ideas*.

It is not coincidental that the topics where the descriptions were thickest are topics that directly relate to the common interests and experiences of the students: the two brightest rectangles for the entire tree map are “copyright law” and “new rules of music production versus old rules”. Why would students be interested in these topics? The students in the class grew up with the *new rules* of distribution being the norm. The topics for this theme have to do with copyright, distribution and access to multimedia content, and making money. It is easy to ground discussion in the students’ shared interests in music and movies and their concerns about copyright infringement, making money, and being rewarded for creativity. They are the biggest consumers and the largest population of users practicing “civil disobedience” and “youthful rebellion” against the old rules.

## Concluding Remarks

The exploration and appropriation of the *talking frames* is a significant element of the coursework for any class. It is the teacher’s job to explain the course material, explaining how the elements of the course material fit together. The teacher’s explanations use the relevant talking frames. The students *appropriate* (Baker et al,

1999; Koschmann, 2002) these talking frames by practicing at talking with them about the course material and other relevant phenomena in a co-blogging community. The trajectory is from an interpsychological plane with the instructor, to one without the instructor, to an intra psychological plane (Vygotsky, 1978). In each case, the talking frames are the semiotic tools that mediate the activity. The students' online work manifests itself as the collaborative production of a "many-layered sandwich" of *thick descriptions* (Geertz, 1973; Ryle, 1968). Ideas and concepts are poked, prodded, and played with using the talking frames. The talking frames become a part of the parlance of the class. The more the students produce explanations and descriptions with a given talking frame, the thicker will be the set of descriptions, the more it is a part of the assumed background knowledge of the students.

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