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The Epistemography of a Journalism Practicum: The Complex Mechanisms of Developing Journalistic Expertise

David Hatfield¹ and David Williamson Shaffer

Journalists work hard to report the news and tell the stories of our time. They contribute creativity, energy, passion, critical thinking, doing their best to reflect their community's diversity and behave in an ethical fashion. I've heard people making comments reeking of disdain of our profession, "It's not brain surgery." And I want to say, "Yeah, it's harder."

—Chip Scanlon, Poynter Institute (2008)

Increasingly, bloggers and mobile phone eyewitnesses provide the public with seemingly all the news that's fit to see. At the same time each year, reports (McDonnell et al., 2008) document the decline in newspaper readership, speculating that for the few people who still care about the news, Google and other online services are increasingly the destinations of choice.

With the current commercial pressure to make news reporting profit-generating, the explosion of online information technologies, and the emergence of the amateur journalist-blogger, understanding how journalists develop professional expertise is more important than ever. Such expertise grows out of the "hard" work Chip Scanlon (2008) described on the Poynter Institute website—the work Kovach and Rosenstiel (2001) described as journalism's primary purpose: "to provide people with the information they need to be free and self-governing," gathered and produced through "a discipline of verification" (p. 12).

In this paper, we examine one of the ways journalists develop expertise through an ethnographic study of an intermediate-level reporting practicum course at a large Midwestern university. The main goal of the study was to explore the learning processes experienced by the students in the course. In particular, we examine four participant structures (Shaffer, 2005b), and, using *epistemic network analysis* (Shaffer et al., 2009), we explore emergent relationships between the development of journalistic expertise and these pedagogical structures. Understanding the relationships between these participant structures and student learning should be useful specifically in designing journalism education as well as more generally in adding to the research base on the design of learning environments.

Background

How best to develop professional journalistic judgment has been a perpetual issue in and around the profession (Becker, Fruit, & Caudill, 1987; Reese, 1999; Sloan & Parcell, 2002). Reese (1999) suggested that two models set the stage in the early 20th century. One model, exemplified in Walter Williams' freestanding professional school established in 1908 at the University of Missouri (Reese, 1999, p. 72), emphasized the development of professional skills through hands-on training. The other model emphasized the integration of journalism within a broader frame of study in the liberal arts. As Willard Bleyer, credited with establishing this second model in the early 1900s at the University of Wisconsin, noted:

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The most essential training which the university can give to a student thinking of journalism is to equip him broadly with the knowledge of the ages and give him such intellectual power that he will be continually fertile in applying that knowledge to present conditions. (As quoted in Bronstein & Vaughn, 1998, pp. 16–17)

The struggle between hands-on training and broader critical thinking approaches continues today, with media industry pressure to restrict courses of study “so as not to distract from a skills emphasis” (Reese & Cohen, 2000, p. 221) contrasting with the concerns of editors and educators that journalism students acquire “understanding of a journalist’s responsibility to the public, understanding of the ethics of journalism, knowledge of current events, *broad general knowledge*, and knowledge of government” (emphasis added, Terry, 2000).

The broader conflict may be unavoidable. Journalists clearly need both well-developed understandings and skills to quickly and efficiently discern and transform important details into compelling and informative stories by news deadline. At the same time, journalists are routinely asked to engage with a broad range of familiar and unfamiliar topics and contexts that demand a well-developed set of journalism values, ethics, and principles. Journalism educators—such as Jean Folkerts, dean of the Chapel Hill School of Journalism and Mass Communication at the University of North Carolina—clearly recognize the need for both approaches:

While we find ways to integrate new skills into our teaching, let’s be sure to keep our eye squarely on what has remained a stationary goal—to have students leave our classrooms with the wisdom and skills they need to provide citizens with accurate and credible information.” (Folkerts, 2007, p. 75)

This dilemma is, of course, not unique to journalism. All professional communities of practice face this challenge—“how to teach the complex ensemble of analytic thinking, skillful practice, and wise judgment upon which each profession rests” (Sullivan, 2005, p. 195). As Schön (1983, 1987) argued, for most professions this “complex ensemble” is developed in capstone courses and/or professional practicum experiences.

In the professional practicum, novice professionals engage in simulations of professional work. Guided by reflective interactions with more experienced mentors, they “learn by doing,” developing the “complex ensemble of analytic thinking, skillful practice, and wise judgment upon which each profession rests” (Sullivan, 2005, p. 195). Shaffer (2004, 2005a), extending Schön, called this ensemble an *epistemic frame*, emphasizing that what makes professional expertise uniquely powerful are the relationships between and among the elements within the ensemble. In other words, the interweaving of the particular set of knowledge and skills that is the focus of the “hands-on” approach with the particular set of values and identities desired by the “broad wisdom” approach is the basis of the coherent and integrated expertise that practitioners use when making professional judgments in the world. From this perspective, professional journalists have mastered a body of knowledge and skills in writing and reporting, see themselves and are seen by others as journalists, and frame their efforts according to a set of journalistic values and norms.

Shaffer (2005b) argued that the practicum is designed to help develop a professional epistemic frame through its *participant structures*, or the “recurrent pattern of involvement that

structures a particular kind of situation within a given practice” (p. 7). In his study of Journalism 828 (J828), an advanced reporting capstone course, Shaffer (2005b) explored three such participant structures: interactive *copyediting* of stories with peers and the professor, *news meetings* in which participants shared progress and received feedback on their reporting, and *war stories* from the professor or guest journalists providing lessons learned from past experience. Each participant structure “link[s] identity and practice with particular values and knowledge of a domain” (Shaffer, 2005b, p. 3) to form an *epistemic sub-frame* aligned with one of three professional abilities: writing to formula, writing for story, or writing as a watchdog.

The ability to *write to formula* reflects the highly prescribed nature of journalistic writing (Shaffer, 2005b). From their abiding by the rules of capitalization and punctuation in the Associated Press (AP) style guide to their applying the models of story organization and structure offered in innumerable how-to guides, skilled journalists excel at the appropriate use of formula (Edgerton, 1997; Murray, 2000). Yet developing this ability is bound both to *knowing* a particular set of principles concerned with appropriate usage and application of related skills and *adopting* a particular kind of voice, or *identity*, within the writing as a way of asserting certain *values* of neutrality and objectivity, if not truth (Kovach & Rosenstiel, 2001; Stewart, 1998). Writing to formula thus represents an entire epistemic sub-frame, one focused on the particular character of journalistic writing.

Writing for story similarly reflects an epistemic sub-frame, in this case one focused on the practices of reporting and the development of the particulars of stories in order to realize the broader significance of specific characters and details (Franklin, 1986; Shaffer, 2005b). A journalist who successfully writes for story must be grounded in *knowledge* about various reporting techniques and tools, have developed *skill* in using those tools to capture key details, and understand and be able to apply narrative techniques to most effectively use those key details to create story. The ability to write for story both highlights the reporter’s *identity* as a “professional pest,” tenaciously seeking out information, and emphasizes the *value* of letting the voices of real people carry the story.

Finally, *writing as a watchdog* constitutes an epistemic sub-frame focused on the journalist’s role as “‘watchdog’ for the public trust” (Shaffer, 2005b, p. 10). This ability is grounded in the development of *skills* that enable a journalist to “monitor power and offer voice to the voiceless” (Kovach & Rosenstiel, 2001, p. 111); the acquisition of *knowledge* of the normal activities of institutions and individuals, both powerful and humble; and the understanding and adoption of the ethical *value* the profession places on public accountability.

Each of these abilities thus constitutes its own “complex ensemble” within the broader professional frame of journalistic expertise. Each is, in other words, an epistemic sub-frame, to which the related elements *knowledge*, *skill*, *identity*, *values*, and *epistemology* are bound. Interlinked, they create a full, integrated epistemic frame that constitutes mastery of the field.

Shaffer (2005b) argued that each ability is developed separately through particular participant structures and then integrated with the others through the epistemic discourse of the professor, as, for example, in discussions of the different practices that constitute “smart reporting.” In this study, we explore an alternative possibility—that these abilities each exhibit

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different patterns of internal development and integration with the others, which we can quantify using an integration–cohesion index (ICI).

This study extends Shaffer’s (2005b) epistemography by examining the participant structures of a similar journalism education context, Journalism 300, an intermediate reporting seminar at the University of Wisconsin–Madison. In particular, we explore the ways in which similar participant structures organized the development of important epistemic sub-frames in this practicum. We argue that epistemic network analysis can provide a quantitative measure of the complex linkages within and between these ensembles of knowing, being, acting, and valuing that make up a professional perspective. Finally, we argue that although participant structures are important mechanisms for linking different aspects of developing journalistic expertise, the relationship between participant structure and epistemic sub-frame is more complex than was reported in Shaffer (2005b).

Methods

Setting

Journalism 300 (J300) was an intermediate reporting class designed, according to the syllabus, “to develop reporting and writing skills.” As a prerequisite for several advanced writing courses, this course provided “practical training in a wide range of reporting techniques, including interviewing, use of public records, and research methods” in order to help students “learn how to become better watchdogs over powerful individuals and institutions and how to provide a voice for the voiceless.”

As part of UW–Madison’s School of Journalism and Mass Communication “Reporting” track, J300 occupied a key transitional role as successor to highly structured introductory courses and prerequisite to the more open advanced writing and reporting courses. The course at the time of our study was taught by John (a pseudonym), a prize-winning professional investigative reporter for a medium-sized Midwestern state newspaper. (We had previously worked with this professor on journalism projects for young people; see Hatfield & Shaffer, 2006.)

This 4-credit course met twice a week for 75 minutes over 15 weeks. Students also met outside of class in small groups while working on two different group reporting projects, the first occurring midway through the semester and the second occurring at the end of the semester. The specific sequence of assignments is described in the results section.

Participants

There were 13 students in J300—six seniors and seven juniors, all majoring in journalism. Although specific career plans were not systematically collected, several students volunteered plans to pursue journalism in newspapers, magazines, and broadcast formats; some indicated they intended to continue on to law school. No other demographic information was collected about the students. The professor also invited five guest speakers, each of whom was a reporter, editor, or publisher at a local or regional newspaper or radio organization.

Data Collection

Data were collected in several ways. Twenty-six of the 30 class meetings were observed. During the semester, students worked on two team-reporting projects; during the second project, we observed one team (four seniors and one junior). Copies of all e-mail messages sent by the professor to the class and also of messages exchanged among members of the project group were collected and analyzed. Copies of all story assignments including both the story text and the professor's feedback were also collected and analyzed. We met with the professor informally to discuss the progress of the class. Three students were also interviewed about their experiences in the class.

Classroom data were collected through digital audio-recordings, which were supplemented with field notes. Recordings were transcribed to provide a detailed record of interactions, and field notes were used to capture meaningful nonverbal aspects of the context and supplement the transcripts. Out-of-class group meetings were documented with field notes. Individual interviews were recorded and supplemented with notes.

Data Analysis

The data were segmented into interactive units, which were defined as *activity strips* with a consistent interactional structure and topical focus. The boundary between strips was marked by a change either in topic or in interactional structure. In other words, when either the focal point of discourse or the social arrangement changed, one unit ended and another began. For in-line story feedback, comments targeting the same passages in a story were treated as occurring within a single unit whereas comments targeting different parts of a story were treated as occurring in separate interactive units. Specific examples of classroom interactive units are provided in the Results section, but in the class the transition was clear and often explicitly marked by the professor through comments such as "All right, we're going to change gears now and focus on [something new]."

Strips with similar interactional structures were identified as instances of the same participant structure and were coded accordingly. In this study, we focus on four of these structures—*tipsheet reviews*, *the sharing of war stories*, *news meetings*, and *copyediting feedback*. (We describe each in more detail in the Results section.)

Strips were coded for particular practices, knowledge, identities, and values in each of the three epistemic sub-frames: writing to formula, writing for story, and writing as a watchdog. Following Shaffer (2005b), segments were coded for the sub-frame *writing to formula* when participants "discussed or referred explicitly to the methods of journalistic writing, including specific rules of journalistic style and forms or formulae of traditional journalism" (p. 13). Segments were coded for the sub-frame *writing for story* when participants "discussed or referred explicitly to journalism as a process of telling stories . . . about particular people encountering problems or conflict, the thoughts and actions of those people, and the specific events that happened and the unique details surrounding them" (p. 13). Segments were coded for the sub-frame *writing as a watchdog* when participants "discussed or referred explicitly to informing the public about important information and events, drawing attention to inequities, monitoring people and institutions in positions of power, or offering a voice to those without

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power” (p. 13) Data within these sub-frames were then coded for the elements *practices*, *identity*, *values*, and *knowledge* (see Table 1.)

Activity strips were coded for all applicable epistemic elements. For example, during a session on covering city hall, John noted: “To be investigative reporters . . . we need to first understand how the system is supposed to work, so then when we see how things are really working, we know if there’s something here that properly constitutes news.” In his comment, John drew attention to *identity* (these are things “we” as journalists need to do), *knowledge* (understanding the normal processes of the system), and *practices* (recognizing when something deviates from the normal pattern). This comment was, therefore, coded for all three elements.

The result of the coding was a database of interactive units showing the presence of epistemic frame elements and the key epistemic sub-frames of entry-level journalism as well as the times and participant structures during which they occurred. The relationships among these different components were then analyzed using epistemic network analysis.

Epistemic Network Analysis

Epistemic network analysis adapts the framework of social network analysis for use with cognitive, rather than social, elements (Shaffer et al., 2009). In social network analysis generally, social science researchers are interested in understanding the social relations among individuals (Degenne & Forse, 1999; de Nooy, Mrvar, & Batagelj, 2005; Wasserman & Faust, 1994). Patterns of relationships are seen as *social networks*, with individuals conceived as *nodes* in the network, and relationships between individuals as *arcs* or links between nodes (Haythornthwaite, 1996). Groups within these networks of relationships can be described in terms of *cohesion*, the grouping of individuals according to strong relationships with each other, and of *brokerage* or *integration*, indicating the bridging of relationships across different groups or clusters (Haythornthwaite, 1996). Understanding how individuals are situated within the structure of groups within a social network can help clarify how those individuals define their “society” (Hanneman & Riddle, 2005) as well as illuminate patterns of resource and information distribution across social structures (Haythornthwaite, 1996).

A social network analysis of, for example, a journalism practicum course might examine the relationships among students and the professor throughout class meetings. Within each class session, different configurations might emerge as old friends connect, new friendships emerge, and different team projects take place. Across these different slices of time, a small group of individuals might spend most of the time working exclusively with each other, forming a *cohesive* group. Other individuals might emerge as focused more externally, *integrating* across groups by forming relationships and spending time with a variety of individuals in different groups. Taking the amount of time individuals spend with each other as a proxy for the strength of their relationships would then provide a quantifiable way of comparing those relationships within as well as across particular slices of time. Understanding these patterns of connecting within or between groups might then be useful for better understanding the informal information flows that supplement formal pedagogy.

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Table 1
Coding Scheme Examples for Elements Within the Epistemic Sub-Frames for Journalism 300

Epistemic sub-frame	Epistemic element (description: example)			
	<i>Practices</i>	<i>Identity</i>	<i>Values</i>	<i>Knowledge</i>
<i>Writing to formula</i>	Using journalistic writing formula:	Invisible authorship:	Writing with a neutral voice:	Knowledge of journalistic style:
	“A terrific job of drawing readers into the lead by setting the scene and mixing a little action with quotes.”	“No need to state your conclusions in the ending. Just let your sources and docs carry the story.”	“Interviews where you speak the most will probably be the most fun and the most worthless.”	“Please review AP style; his title wouldn’t be capitalized unless it immediately precedes his name.”
<i>Writing to story</i>	Skills of smart reporting:	Identity as a professional pest:	Importance of providing an individual face:	Knowledge of reporting tools:
	“Couldn’t we get the police report and search warrant return to give readers this powerful piece of info?”	“Part of your job is to assess credibility. It’s not just to get that good quote, but it’s to aggressively assess whether your source really knows the issue.”	“Strive to use character development, description, narrative storytelling, and use of key details and facts to grab readers’ attention. For example, the story could focus on John Doe with a little additional reporting.”	“There’s more information more readily available to journalists today than ever in history. . . . The challenge is knowing which kinds of information to acquire and what to do with it.”
<i>Writing as a watchdog</i>	Recognizing important patterns:	Acting as a watchdog:	Importance of public accountability:	Knowledge of journalistic ethics:
	“You found ways to bring readers inside the world of students worrying about being admitted. . . . And officials shared insights into how things are supposed to work.”	“Would be even better with interviews with some of the candidates and election officials. Still, this is an important issue, and I applaud you for tackling it.”	“Given the recent revelations about this charity’s financial woes, would be important to include a graph or two about that.”	“A good attempt to use data. But wouldn’t it be far more fair to compare the campus ethnic mix to that of the state and city rather than the United States as a whole?”

As Shaffer et al. (2009) argued, although social network analysis was developed to provide insight into the relationships between and among individuals and groups, it also provides a robust set of analytic tools for representing and studying networks of relationships in different domains. In epistemic network analysis, these tools have proved useful in understanding the linkages between and across elements taking place over time.

For this study, each epistemic frame element was considered to be a *node* in the epistemic network representing the interaction captured in each strip of activity. *Links* were defined as the co-occurrence of two or more epistemic frame elements within any strip. Nodes and links were represented in part through network graphs such as the one shown in Figure 1, given here as example.

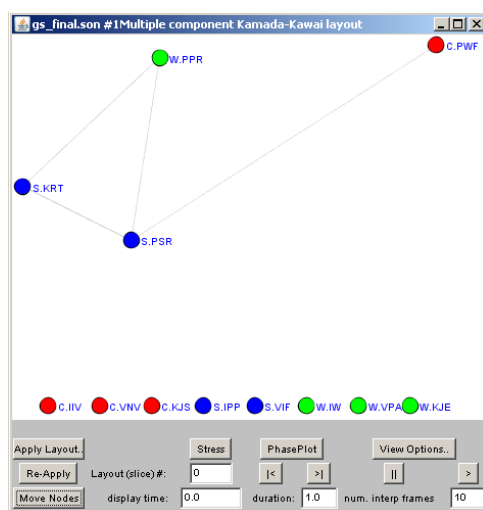


Figure 1. Example epistemic network graph of coded interaction unit (strip of activity).
Note. *Writing to formula* elements = red nodes; *writing for story* elements = blue nodes; *writing as watchdog* elements = green nodes.

In Figure 1, parts of a strip of activity coded for knowledge and skills related the *writing for story* sub-frame (blue nodes) are linked with other parts of the same strip coded for skills related to the *writing as a watchdog* sub-frame (green nodes) and the *writing to formula* sub-frame (red nodes). Other epistemic frame elements, such as identity, which were not coded to the interactions in the activity remain unlinked along the bottom of the graph. Network graphs can be used in this way to represent the patterns of links between different cognitive elements during particular interactions. As Shaffer et al. (2009) demonstrated, they can also be used to represent the accumulated strength of relationships over time.

Each epistemic frame element also inherited the code for the participant structure applied to the strip as a whole. This, combined with the fact that each frame element was also exclusively associated with a particular epistemic sub-frame, made it possible to represent links between epistemic frame elements both within a sub-frame and across two different sub-frames. Links within a sub-frame were defined as *intraframe* links; links from one sub-frame to another were defined as *interframe* links. In order to capture the strength and changes of these links over time, we developed an *integration-cohesion index* (ICI). The ICI measures the degree to which a

given sub-frame or sub-frame element emphasizes *cohesion* (linking more often to elements in the same sub-frame) or *integration* (linking more often to elements of other sub-frames). The strength of linkage was then calculated:

Equation 1

$$Intraframe = \sum \sqrt{(L_{in})^2 / (M_{in} - 1)}$$

Equation 2

$$Interframe_{sub1} = \sum \sqrt{(L_{sub1})^2 / (M_{sub1})}$$

As provided in Equation 1, the strength of *intraframe* linkage for any frame element was calculated by first summing the squared values of the links between that element and the other frame elements in that element's sub-frame (L_{in}), then dividing by the number of elements in the sub-frame (M_{in}) minus one, and finally taking the square root of the resulting number. As provided in Equation 2, the strength of *interframe* linkage for any frame element was similarly calculated by first summing the squared values of the links between a given frame element and the frame elements in one of the other sub-frames (L_{sub1}), then dividing by the number of elements in that other sub-frame (M_{sub1}), and finally taking the square root of the resulting number. The interframe calculation was repeated for each of the two sub-frames in which each frame element was not a member. These values were then summed at each successive strip of activity, producing one intraframe and two interframe linkage values, which reflected the accumulated link behavior to that point in time. Finally, the ICI was calculated as the difference between the interframe and intraframe linkage values at each successive strip, with positive values indicating *integration* across two different sub-frames and negative values indicating *cohesion* within a single sub-frame.

Results

In this section, we describe the findings of our observations of J300 in three parts. First, we identify and describe four participant structures that were central to this course. Next, we describe the epistemic sub-frames, *writing to formula*, *writing for story*, and *writing as a watchdog*, that emerged during the course. Finally, we describe the relationship between the participant structures and the epistemic sub-frames, as well as their relationship to the overall epistemic frame of investigative journalism as it was constructed in this section of J300.

Participant Structures

During the semester, students in J300 filed 10 news stories, 8 of them individually reported. Topics ranged from profile stories about student activists, to institutional or beat coverage such as the schools and courts, to stories based on data from government offices or police records. Students also covered local politics through stories on upcoming county board elections and two simulated events—an in-class disaster scenario modeled on recent local tornado activity and an out-of-class news conference hosted by peers from the Strategic Communications track in the department.

Two of the 10 stories were team-reporting projects in which groups of three to five students each produced one or more stories organized around a particular topic. Team-reporting projects took place midway through and at the end of the semester; topics included revitalization

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of local neighborhoods, admissions issues for the local university, and consequences for university students arrested for possession of illegal drugs.

The story assignments reflected the transitional nature of the course. The number of assignments ensured coverage of a broad range of stories typical of entry-level general reporting. At the same time, the professor, John, made a point early and repeatedly that, unlike more structured early courses in the reporting sequence, specific story ideas and details of development would be left up to the students:

You might find the course easier and more immediately gratifying if I said “interview these three people and cover these issues,” but that’s really not journalism, that’s stenography. I want to equip you with skills and insights to make those decisions when you’re out in the field and doing research to come up with the story.

In order to balance coverage of a range of typical assignment types, to foster development of skills with each type of assignment, and to increase student responsibility for assignment structure, work in and for class was organized as multiple, recurring forms of activity: tipsheet reviews, the sharing of war stories, news meetings, and copyediting feedback.

Tipsheet Reviews

Like many journalism courses, J300 featured no required textbook, although several books were recommended. Rather than use a single book, the professor regularly introduced important aspects of journalism and new story topics through *tipsheets*—lists of principles, rules, dos and don’ts, strategies, and wisdom, organized around topics such as conducting interviews or improving particular journalistic writing skills. Tipsheets, typically developed by professional journalists, are widely available from the websites of journalism organizations such as the Poynter Institute, which features 142 such lists on journalistic writing alone.

In J300, tipsheet reviews were activity strips in which the professor projected tipsheets for the class and discussed particularly relevant sets of recommendations. Frequently, particular suggestions led to stories about the professor’s past experiences, or *war stories* (discussed below); occasionally students would ask questions or offer up their own related experiences. The professor and the students in the course engaged in activity strips characteristic of tipsheet reviews 208 times across 16 of the 26 class meetings observed.

Although quite similar to lectures found throughout the university, these reviews were also framed as the kind of ongoing learning students could expect to continue to engage in well after their university experience. For example, during part of a class on covering judicial courts, John set the scene:

If I were you and I were assigned to do a courts story, and I didn’t already have all the knowledge, and this wasn’t my daily beat, and all of a sudden I needed to do some courts

coverage, the first thing I'd do is what I already do—is run to the IRE [Investigative Reporters and Editors] tipsheets.”²

He then walked through a tipsheet by *Chicago Tribune* reporter Maurice Possley, in which he “lays out some fine advice regarding some of the key documents to look for,” including the court file’s docket sheet, the lawsuit for civil cases, different kinds of motions and their supporting arguments—all to develop “a good quick outline of the major dynamics in the case.” In addition to listing the documents to look for, the tipsheet also recommends looking beyond the documents and exploring any exhibits—“because there may be business records that would otherwise be private, but once they’ve been entered as evidence, they’re public, and you can see them.” John wrapped up this tipsheet review by situating the recommendations in typical practice:

You probably won’t cover a lot of trials. The vast majority of cases are covered before they go to trial. If you do go to trial, take a look at those exhibits as well as what they [the witnesses] say on the stand.

The Sharing of War Stories

The sharing of war stories also provided students with important voices of experience. In this form of activity, veteran journalists (either guest journalists or the professor) shared with the entire class stories of significant experiences they had had. Speakers typically related challenging events or obstacles they had encountered and their reactions—often pointing out their own naïve mistakes and/or their epiphanies as lessons for listeners to take away. These stories occasionally led to discussions with students, but the interactions were often simply the sharing of the story. The professor, guests, and students of J300 engaged in activity strips characteristic of war stories 89 times across 16 of the 26 class meetings observed.

For example, when John set up the first story assignment (a profile of a student activist on campus) by discussing the importance of interviewing, he shared a story from his days as co-editor of his high school newspaper. Attending a journalism institute at Indiana University, John had been selected as one of two members of the event whom journalist Pat Simmons was going to interview in front of the hundreds of other attendees “to demonstrate how you do this.” Reflecting back on that experience, John recounted how, after a few minutes,

I kind of forgot about everyone else out there, because Pat Simmons had done such a good job putting me at ease and listening to my answers. I felt like it was more of a conversation between Pat Simmons and [me], and everybody else kind of faded away. And I reflected on that later and was kind of like—How did he do that? Amazing that he was able to capture all that, and then the next day there was a story about it.

After which John concluded, “There is something magical that can take place in an interview.”

² The Investigative Reporters and Editors Resource Center provides more than 3,000 tipsheets on journalism topics ranging from how to cover specific beats to how to handle specific stories. It is accessible at: www.ire.org/resourcecenter/index.php.

News Meetings

In news meetings, John initiated reflective conversations in front of the whole class with either individual reporters or a team of reporters about the reporting and writing in recently completed stories. Conversations typically focused on students' experiences with human and document sources, as well as their use of reporting techniques to drive story writing. The professor and students of J300 engaged in activity strips characteristic of news meetings 196 times across 13 of the 26 class meetings observed.

For example, during a course meeting after the first story was filed, John commended one of the students for the quality of the details he had gathered while interviewing his source:

I think this really works. . . . That says a lot really fast. I don't know how it strikes each of you, but to me it says, yeah, I know right away: she's running the College Republicans, Madison's a liberal city, but things are working for her. And it's supported with a very nice second graph telling us how she used to feel isolated and lonely, but she found her niche. . . . And now we start to develop a sense of what's she's all about. I think this is a good example of weaving in biographical information.

At the same time, though, the review was also an opportunity for John to push the student (and by extension everyone else) to go further with their interviewing practices in order to better serve readers of the story. As John subsequently commented to the class:

I did feel like there were a couple of unexploited opportunities here to keep the reader completely connected. When your source says something like . . . this one up here [in the student's story], "It took some serious campaigning and schmoozing with campus conservatives to take the top spot," think about those as opportunities to say, "Oh, that's interesting, tell me more about that" or "Can you give me an example of how you had to schmooze people?" . . . It's that—the very specific that follows the general point that really helps the readers stay connected to your story telling.

After discussing two other exemplary stories from this assignment, John wrapped up this part of the course meeting by returning to the theme of working harder to develop sources: "Just keep pushing your sources to go beyond the obvious. . . . There are ways to pull more out of these sources and [do] a better job of understanding their issues and telling their stories."

Copyediting Feedback

Copyediting feedback occurred during activity strips in which the professor commented on the stories filed by students. After each story was filed, John provided a summary and often in-line comments. These copyedited stories were then e-mailed back to the student. The copyediting structure was primarily a private communication channel between John and each student. For team-reporting projects, where several reporters contributed multiple stories in a single package, the professor commented on each story included in the package and then e-mailed the entire package of stories and comments back to every member of the team.

Copyediting comments typically noted aspects of the story that John felt were well done as well as those that needed improvement. Comments frequently included admonitions about

improper usage, suggestions for organizational changes to “remove barriers for readers,” and encouragements to dig deeper with human and document sources for vivid details and strong characters to “bring the story to life for readers.” Because copyediting feedback was provided only on final story drafts, comments were clearly intended to facilitate development in future stories rather than revision of current stories. The professor engaged in activity strips characteristic of copyediting 425 times across the 10 stories submitted by the 13 students in the course.

For example, for a story assignment on education, one of the students had taken advantage of spring break travel to investigate an elementary school in North Carolina and to compare conditions and achievement levels there with those in a local elementary school. John commented positively—“Wonderful opening. Creates a sense of where Patrick is, and what he’s doing”—but also provided suggestions for improving the story’s impact through reorganization:

But after that great first graph or so, might be best to then hit the reader between the eyes: Courts have declared [that] education is supposed to be equal in the United States, but a typical school in Madison, Wis. [*sic*], is far better built and financed than is Clark Street Elementary [in North Carolina].

John also urged the student to follow professional usage norms: “Avoid jargon such as *under-resourced*. Use common terms and describe the conditions (as you do quite effectively later in the story), rather than merely labeling them with adjectives,” and “Patrick should be identified by last name on second and subsequent references.”

Summary

Tipsheet reviews, the sharing of war stories, news meetings, and copyediting feedback were all activity strips situated within particular social arrangements and, in the case of copyediting feedback, with visibility restricted to story reporters, which could include (when appropriate) the reporting team as a whole. These recurring patterns of involvement shaped the amount and kind of participation in classroom interactions among both novice and experienced journalists in J300.

Epistemic Sub-Frames

Shaffer (2005b) argued that journalism reporting courses are organized around at least three “critical elements in the skill set of an entry-level journalist . . . (a) the ability to *write to formula*; (b) the ability to *write as a watchdog*; and (c) the ability to *write for story*” (p. 8). In turn, each of these three abilities, or epistemic sub-frames, comprises interlinked and integrated epistemic elements—journalistic knowledge, skills, values, identity. These three sub-frames and their related epistemic elements played an important role in organizing the experiences of students in J300.

Writing to Formula

As noted in the syllabus, part of the emphasis in J300 was to help students develop journalistic writing skills. In one interactive unit during class, for example, John and the students discussed the appropriate use of different kinds of story leads.

During a discussion of “blind” leads, the following exchange occurred:

- John:* Blind leads, where are they helpful?
Student: [When the news is] important, but people don’t know the organization.
John: Right. The issue is interesting, but the group isn’t well known. Something should be going off in your mind right at that point saying, maybe this is the right structure for this kind of story. Now, generally, if you do go with the blind approach, that’s going to also suggest to you very quickly, usually within a couple sentences, you’d better circle back in and start filling this in with some of that detail you omitted from that first graph ‘cause you don’t want to leave your reader hanging too long.

In this brief excerpt, John showed the students a particular journalistic writing *practice*: when “the issue is interesting, but the group isn’t well known,” a blind lead may be “the right structure for this kind of story.” He cautioned about a potentially conflicting journalistic writing *value*: “you don’t want to leave your reader hanging too long.” He also used specific journalistic writing *knowledge* to suggest ways of avoiding this problem, by “circling back in and filling this in with some of that detail you omitted from that first graph.” In other words, he articulated an interconnected sub-frame of values, practices, and knowledge that journalists use to write to formula.

Using epistemic network analysis to quantitatively look across all of the activity strips for the semester reveals that the *writing to formula* sub-frame demonstrated fairly strong internal cohesion, particularly for the epistemic elements *knowledge* and *skill* (see Figure 2). In other words, interactions throughout the course worked to develop rich intra-connections within this sub-frame, focusing in particular on binding the understanding of formula with skill in its use.

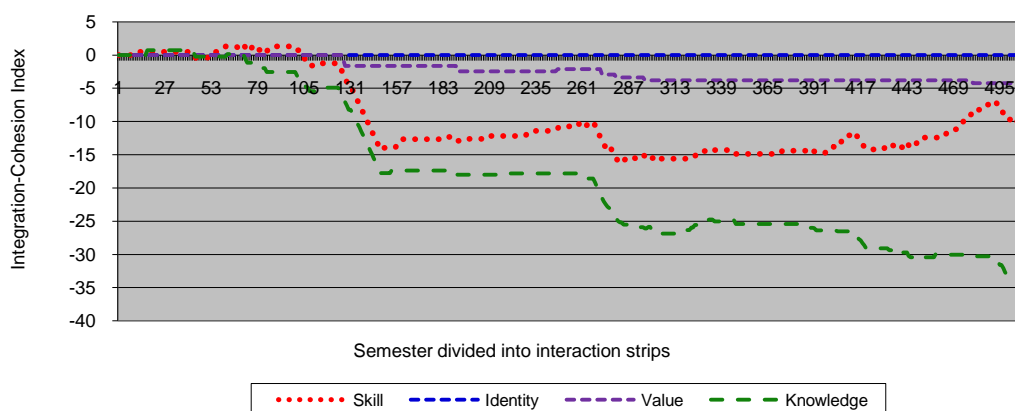


Figure 2. Integration-cohesion index for the epistemic sub-frame *writing to formula*. Note the relatively strong internal cohesion (particularly of the skills and knowledge epistemic elements) in this sub-frame.

Writing for Story

J300 was equally focused on helping students learn to develop reporting skills. In an example from a class session later in the semester, John was reviewing a student's education story in front of the class. The following exchange took place:

- John:* One thing I liked about this story was instead of just saying it's a poor school district, there were some good supporting numbers. [Median household income for the town, median for North Carolina.] . . . There's also a description—the interior is shabby. . . . Then we get down here, this different view that visitors would see at Randall Elementary. . . . So you get some idea of the disparity in what they look like as well as the disparities in the teachers.
- Student:* That was one of the interesting things about going to North Carolina. They were saying that they were taking teachers that weren't even certified. . . . I assumed that you needed to be certified. . . .
- John:* One thing that I think works here that is a good storytelling device that you could think about for your own future work is, if you have a visual element that you think would help people understand and you have some important issue like the qualifications of teachers, which is kind of an abstract concept, think about starting with the visual because that's more comprehensible, more tangible for your readers, to describe things and point out disparities, visual disparities. Then when you've softened people up, and you've gotten them interested in it, then talk about the disparities with teachers. . . . And in your own work, just keep looking for disparities like this. You can never go wrong by looking at situations involving the haves and the have-nots, whether you're talking about education, housing, whether you're talking about safe neighborhoods or unsafe neighborhoods. And these are issues that are ripe for journalists too. . . . Because they are open to us, few institutions point these things out, so that's part of our job . . . to explore these situations.

In this example, John showed the students a particular reporting *practice*: gathering and using “good supporting numbers” (the median household income for the two communities in the story). This practice was guided by a particular reporting *value* (“You can never go wrong by looking at situations involving the haves and the have-nots”) and connected to a particular reporting *identity* (“that's part of our job . . . to explore these situations”). In other words, John highlighted the connections between a particular sub-frame and the values, practices, and identity that journalists use to write for story.

Using epistemic network analysis to examine the *writing for story* sub-frame across all of the semester's activity strips reveals that development of internal cohesion among all elements is stronger in this sub-frame than in *writing to formula*, as shown by the relatively larger negative movement in the ICI (see Figure 3). The *identity* element of writing for story showed much more cohesion than did that of writing to formula (which hovered around zero). These data suggest perhaps even more strongly that interactions throughout the course worked to develop rich intra-

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connections within this sub-frame, in this case mobilizing the reporter's identity as an interviewer and storyteller along with developing skills and knowledge of techniques.

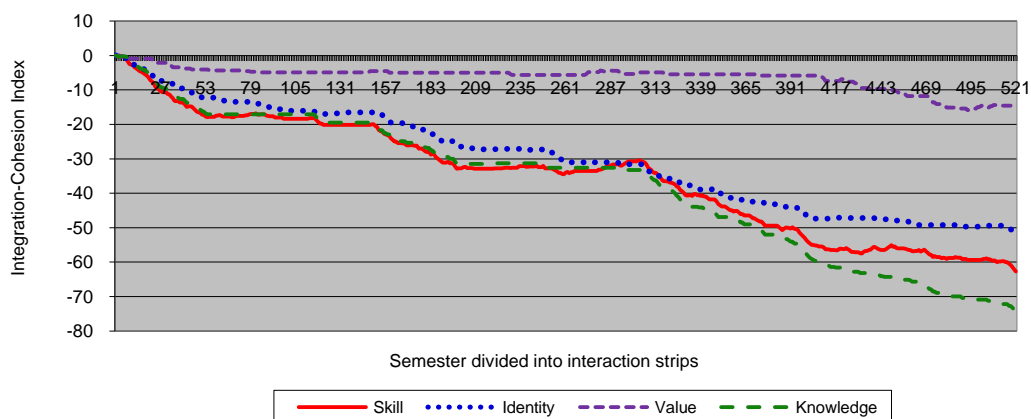


Figure 3. Integration-cohesion index for the epistemic sub-frame *writing for story*. Note the strong cohesion of three of the four epistemic elements of this sub-frame.

Writing as a Watchdog

In J300, students were developing reporting and writing skills in order to “learn how to become better watchdogs over powerful individuals and institutions and how to provide a voice for the voiceless.” After the class went to meet with the county clerk, the police department spokesperson, and the mayor, John and the students discussed their interactions. During that discussion, the following exchange took place:

Student: As far as what [the police spokesperson] was saying about “be accurate and fair,” [it] seemed he stressed “be nice” to them. Isn’t there a point where you don’t want to be so accommodating to them? . . . His whole message to us was “Be nice to us, and do what we tell you to do.”

John: Right. And through[out] your whole career you’re going to get that attitude, especially from people in law enforcement and paramilitary organizations—they’re used to dealing with hierarchy. Journalism breaks down hierarchy. Journalists seek to understand hierarchies, and then seek to penetrate those hierarchies. People in charge of those hierarchies often resent those efforts. You’re exactly right—there’s a tension there. I think the challenge for us as journalists is how to achieve the balance. It’s possible to be both polite and aggressive. It’s possible to be nice but yet firm. To articulate our point of view in a respectful manner, but keeping in mind that we have a different point of view and a distinctly different role than a public agency does. Our responsibility should be to whom? Whom are we serving? The public, right?

In this case, John showed the students how a particular watchdog *identity* was connected to a particular set of watchdog *practices*: “Journalists seek to understand hierarchies, and then seek to penetrate those hierarchies.” This linked identity and set of practices required a particular

watchdog *understanding* guided by a particular watchdog *value*: how to achieve a balanced articulation of the journalist’s point of view “in a respectful manner” while keeping in mind “our responsibility” to the public. In other words, he focused on the particular ways of understanding and valuing that guide journalistic practice and perspective when journalists write as watchdogs.

The epistemic network analysis picture that emerges for the *writing as a watchdog* sub-frame is quite different from those of the two previous sub-frames (see Figure 4). The linkages of the epistemic elements related to this sub-frame link are either neutral (neither internal nor external) or, as in the case of the *skill* element, strongly external. These data suggest that interactions throughout the course used *writing as a watchdog* elements—in particular, the *practices* of pattern recognition central to this sub-frame, which tied together all the developing epistemic sub-frames.

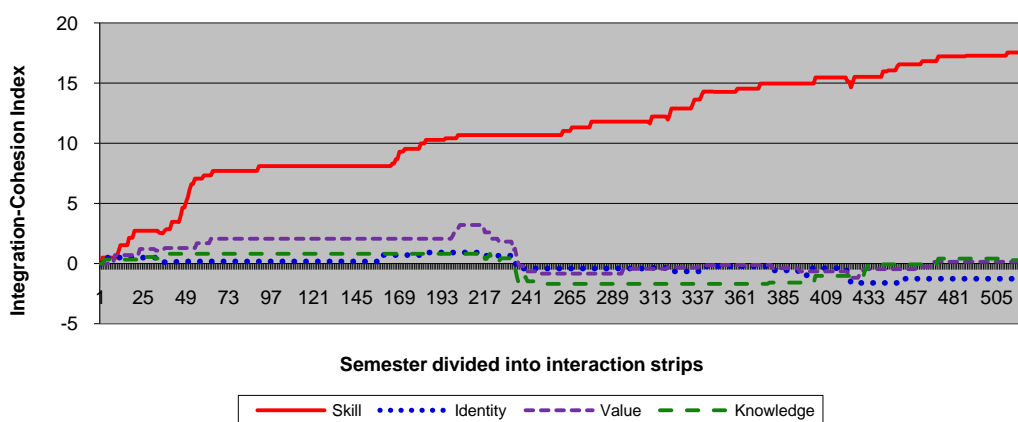


Figure 4. Integration-cohesion index for the epistemic sub-frame *writing as watchdog*. Note the strong external linkage of the *skill* element and the relatively neutral linkage of the remaining epistemic elements of this sub-frame.

As described earlier, Shaffer’s epistemography of the advanced reporting capstone course J828 (Shaffer, 2005b) provided a compelling account of the development of these abilities through the learning practices of that practicum. Although not surprising, the findings of the study of J300 suggest that the epistemic sub-frames organized student experience throughout the course in ways quite similar to those seen in the advanced practicum. In addition, the epistemic network analysis data provide a new perspective on the ways in which pedagogy can be instantiated on the ground in course interactions. In the next section, we explore the relationships between these epistemic sub-frames and the participant structures that facilitated their development in J300.

Cohesion and Integration Relations Within and Between Epistemic Sub-Frames

Shaffer (2005b) argued that each participant structure facilitates intra-frame linkages, but the data here suggest a more complex relationship. In this section, we examine the relationships of cohesion and integration as they appear in the calculations of the ICIs of a subset of the activity strips filtered to include only strips coded for particular participant structures: tipsheet reviews, the sharing of war stories, news meetings, and copyediting feedback.

Cohesion Relations

Tipsheet reviews. Although transitional (and not discussed by Shaffer as part of the J828 practicum), the participant structure *tipsheet reviews* demonstrated the same kind of internal linkages Shaffer described for the participant structures of J828. Looking only at tipsheet reviews, the *writing to formula* sub-frame slightly favored cohesion linkages, *writing for story* showed strong cohesion linkages, and *writing as a watchdog* showed primarily integration linkages (see Figure 5). In other words, each of the sub-frames functioned during tipsheet reviews much as they did throughout the course, with *writing to formula* and *writing for story* focused on binding epistemic elements internally and *writing as watchdog* focused on binding elements across sub-frames.

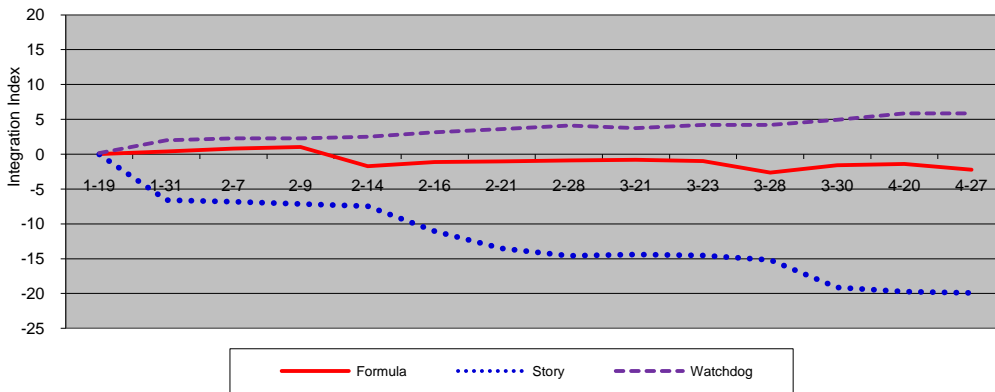


Figure 5. Integration-cohesion index for the participant structure *tipsheet reviews* across epistemic sub-frames. Note the strong cohesion linkage shown with the *writing for story* sub-frame.

The network graph in Figure 6 shows the accumulated linkages throughout the epistemic network across all of the *tipsheet reviews* during the semester. This participant structure linked primarily internally to the sub-frame *writing for story* (blue nodes). The intra-linked cluster in the middle (representing the *writing for story* elements *knowledge*, *skill*, and *identity*) also distantly linked to practice elements from the other sub-frames.

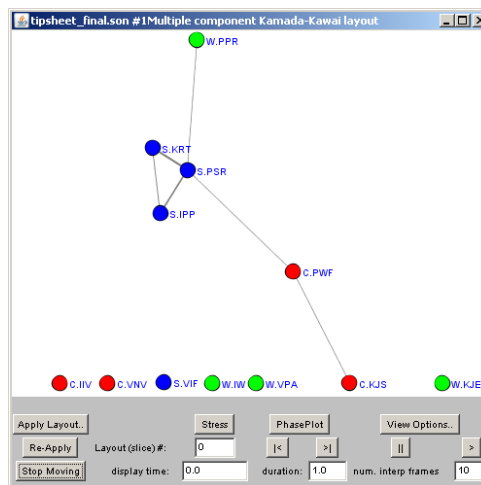


Figure 6. Epistemic network linkages for the participant structure *tipsheet reviews* across all interactions during the semester. Note the strong overall internal linkage to the *writing for story* sub-frame. Note. *Writing to formula* elements = red nodes; *writing for story* elements = blue nodes; *writing as watchdog* elements = green nodes.

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The sharing of war stories. Like the participant structure *tipsheet reviews*, the participant structure *sharing of war stories* also demonstrated the kind of internal linkages described by Shaffer (2005b), with each of the epistemic sub-frames showing cohesion linkages with the others. In other words, each of the sub-frames functioned during war story interactions as they did throughout the course, though in a relatively muted fashion (see Figure 7).

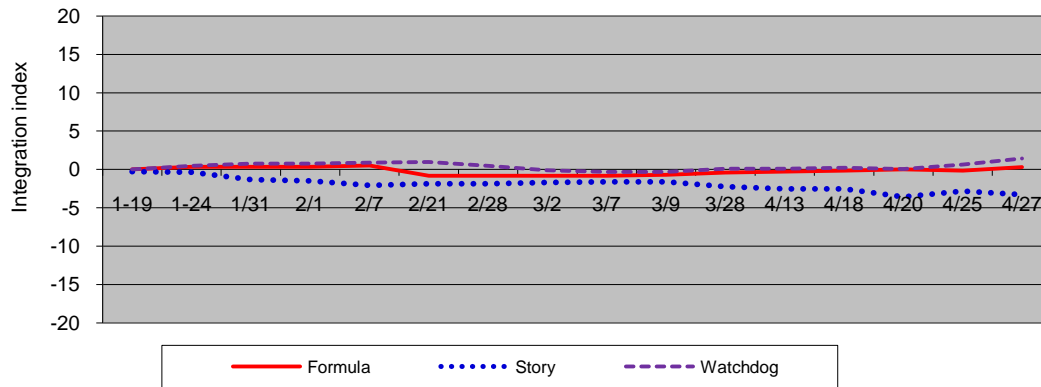


Figure 7. Integration-cohesion index for the participant structure *sharing of war stories* across epistemic sub-frames. Note the mild cohesion linkage within all sub-frames.

The network graph in Figure 8 sums up the internally linked *writing for story* elements (blue nodes) as the primary connections made.

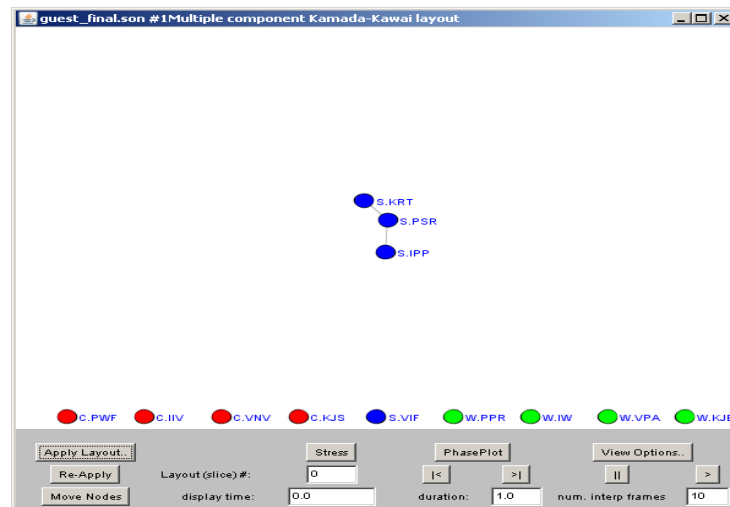


Figure 8. Epistemic network linkages for the participant structure *sharing of war stories* across all interactions during the semester. Note. Writing to formula elements = red nodes; writing for story elements = blue nodes; writing as watchdog elements = green nodes.

Integration Relations

News meetings. In contrast to the participant structures *tipsheet reviews* and *war stories*, the participant structure *news meeting* demonstrated integration linkages with both the *writing as*

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a watchdog and *writing for story* sub-frames (see Figure 9). This suggests that the participant structure *news meeting* provided an unusual opportunity to connect both within and across sub-frames with respect to *writing for story*. Thus, the news meetings were a particularly important locus of development for the epistemic frame overall.

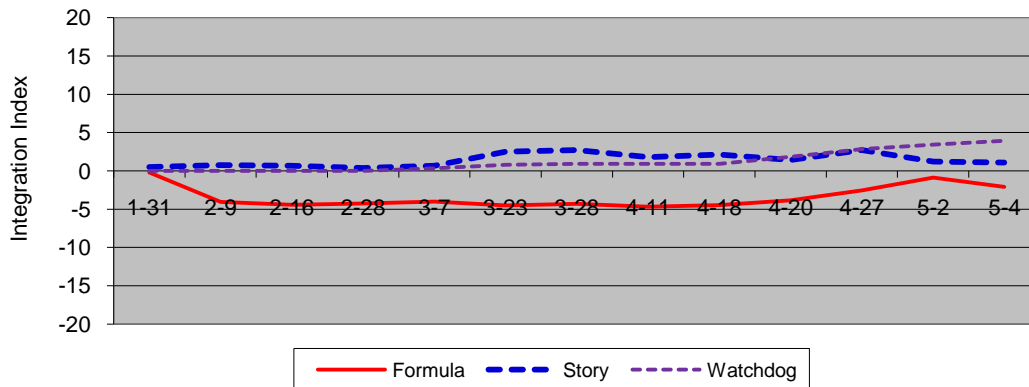


Figure 9. Integration-cohesion index for the participant structure *news meetings* across epistemic sub-frames. Note the modest integration linkage with the sub-frames *writing for story* and *writing as a watchdog*.

Figure 10 provides a summary representation of this complex integration-cohesion linkage pattern. Elements from the *writing for story* sub-frame (blue nodes) are clearly interconnected, yet at the same time, skills from both the *writing as a watchdog* and *writing to formula* sub-frames are also centrally linked. These links likely reflect the ways in which these interactions contributed to the development of particular reporting expertise while also connecting coverage of any particular story with the larger sense of purpose (e.g., value to the community).

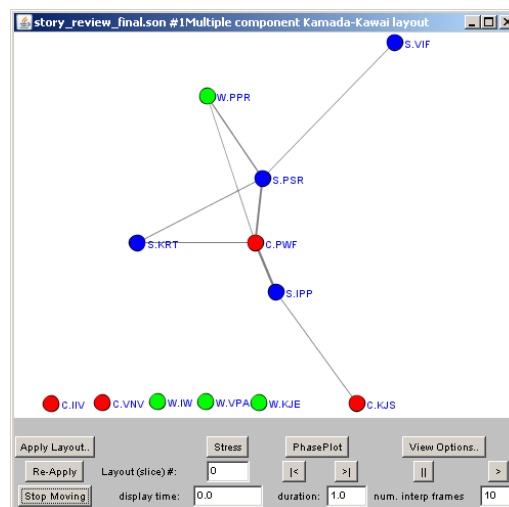


Figure 10. Epistemic network linkages for *news meetings* across all interactions during the semester. Note. *Writing to formula* elements = red nodes; *writing for story* elements = blue nodes; *writing as watchdog* elements = green nodes.

Copyediting feedback. Similar to the *news meeting* interactions, the participant structure *copyediting feedback* also showed strong integration linkages with all of the epistemic sub-frames (see Figure 11). This suggests that the story feedback provided in copyediting interactions became an important tool for linking elements both within the *writing to formula* sub-frame (the link behavior observed throughout the course) and across the other sub-frames. Copyediting feedback in J300 also figured significantly in the development of the epistemic frame overall.

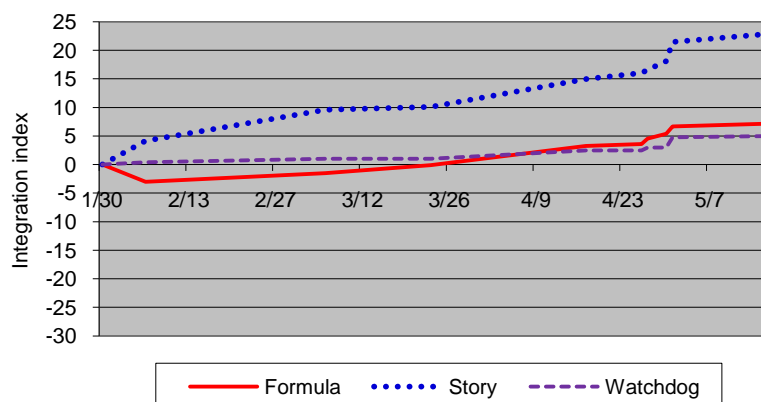


Figure 11. Integration-cohesion index for the *copyediting feedback* across epistemic sub-frames. Note the strong integration linkages of this participant structure with all sub-frames.

Figure 12 provides a summary network graph showing an almost symmetrical linkage pattern for the epistemic elements *skills*, *values*, and *knowledge* related to *writing to formula* and *writing for story*. Particularly striking is the tight connection between skills for the two epistemic sub-frames, suggesting that *copyediting feedback* helped link understanding of the organization and mechanics of journalistic writing with the development of narrative understanding and skill in story coverage and communication.

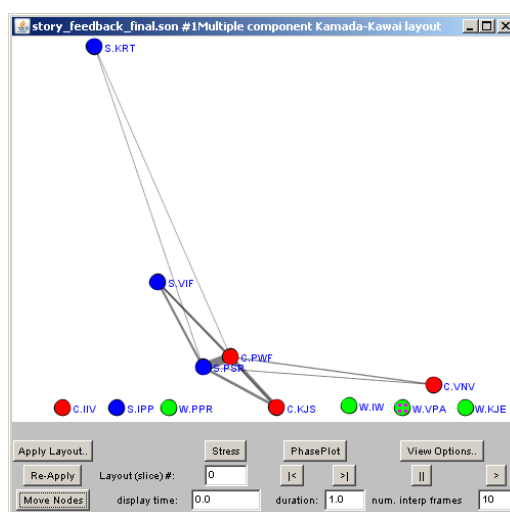


Figure 12. Epistemic network linkages for the participant structure *copyediting feedback* across all interactions during the semester. Note. *Writing to formula* elements = red nodes; *writing for story* elements = blue nodes; *writing as watchdog* elements = green nodes.

Discussion

The results of this study suggest that “hands-on” skills development in J300 linked with “broad wisdom” development of guiding principles and values through the work of key participant structures. Through tipsheet reviews, the sharing of war stories, news meetings, and copyediting feedback structures, distinct elements of journalistic expertise emerged and linked together, contributing to student development and integration of the epistemic sub-frames of writing to formula, writing for story, and writing as a watchdog.

At the same time, these results also suggest that the relationship between participant structures and these sub-frames in a journalism seminar are more complex than previously thought (Shaffer, 2005b). Certain patterns of development were consistent in J300, with both the tipsheet and war story structures emphasizing the development of writing for story and the importance of getting the right details in order to tell stories that realize broad significance through the voices of specific characters. But interactions in the news meetings and copyediting participant structures suggested something broader.

The news meeting structure emphasized integration across writing for story and writing as a watchdog, situating the concerns for capturing the right details within a larger framework of concern for drawing attention to inequities, monitoring people and institutions in positions of power, and offering a voice to the voiceless. The copyediting feedback structure emphasized integration as well, linking all three epistemic sub-frames—writing to formula, writing for story, and writing as a watchdog—with particular emphasis (not surprisingly) on concerns about the specific methods of journalistic writing. These participant structures thus provided opportunities for students to bind together the particular values, identities, practices, and knowledge of *writing as a watchdog*, *writing to formula*, and *writing for story*, and in the process helped them develop their overall journalistic expertise.

These results also suggest that epistemic network analysis can be a productive way of studying interactions within learning environments. Building on Shaffer et al. (2009), this study adds the ICI to the set of techniques used in epistemic network analysis to uncover particular linkage patterns occurring across and within sometimes difficult-to-see interactions. Epistemic network analysis contributes a powerful set of techniques for studying the traces of cognitive development through social interaction and points toward a promising new way of observing the translation of pedagogy into practice in a range of learning environments.

The study presented here is limited. As observations of a single seminar, these results obviously cannot generalize to all instances of journalism practica or capstone courses. Further, as an intermediate-level course, J300 involved significantly less student-initiated interaction than more advanced courses. At the same time, these findings do suggest the need for further study of the complex relationship between these epistemic sub-frames in journalism frame development and the participant structures that facilitate their development. These findings also suggest that epistemic network analysis may be useful in future investigations of learning environment interactions as part of a larger research agenda intended to create a deeper understanding of adult cognitive development related to mastery of a complex professional expertise.

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