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## The Q-Folio in Action: Using a Web-Based Electronic Portfolio to Reinvent Traditional Notions of Inquiry, Research, and Portfolios

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The sleepwalkers are coming awake, and for the first time this awakening has a collective reality; it is no longer such a lonely thing to open one's eyes.

—Adrienne Rich (1979)

“When We Dead Awaken: Writing as Re-Vision”

**Note:** As authors of this article, we have collaborated over a three-year period on a language pedagogy course at the University of Virginia. We speak through the collaborative pronoun “we” but, to avoid confusion about who is speaking, we refer to ourselves throughout this piece in the third person as Young and Figgins. Young was responsible for the evolving design of the Q-Folio tool, its ongoing maintenance, and the technology labs associated with the course. Figgins was responsible for the course design and content. We consulted on a weekly basis, not only with each other but also with the tool’s designer, Yitna Firdyiwek.

## INTRODUCTION

This article provides the results of our work in designing an electronic portfolio, the Q-folio (<http://nmc.itc.virginia.edu/q-folio>), to support the research and composing processes of our English education students at the University of Virginia. We discuss its benefits, provide a student example, suggest how such a tool might be useful in a variety of composing and research contexts, and consider some of its complications. Ultimately, the Q-folio is a tool that could support any course endeavor requiring students to ask generative questions, seek answers, think critically about them, and design a web-based presentation of the research findings, the intent being to reawaken the imagination to critical inquiry and reinvent traditional notions of research and composition portfolios.

## SETTING THE CONTEXT

The research project that is the focus of this article is called the Heuristic Quest (HQ), an inquiry project developed by Figgins over the past 15 years which expands Ken Macrorie's (1980) I-Search paper. The Heuristic Quest research project has as its context a course entitled Language, Literacy, and Culture in the University of Virginia's English Education teacher certification program. The majority of students in the course are undergraduate English majors who are simultaneously pursuing English teacher certification as part of a Masters of Teaching program, Language, Literacy, and Culture being one of them. Together, the instructors and students explore the relationships between the three concepts—language, literacy, and culture. First, students begin by looking at “culture” and what comprises a culture and then the role of culture in determining what its members understand to be “literacy.” Students consider how various literate acts are valued in different ways in any given culture, and then explore ways to teach language critically in the context of one's culture and literacy. Ideally, the course provides an opportunity for students to accomplish two major aims: (a) to gain a broader sense of the territory of English and, through individual research, take an in-depth look at some aspect of teaching language and language study within that territory; and (b) to practice putting theory into practice by redefining and reinventing language instruction. The first aim is realized through the Heuristic Quest research project. One of its main goals is to reinvigorate students' interest in and

knowledge of language—how it is as essential as the air we breathe and similarly invisible in the ways we take it for granted and, ultimately, how one’s approach to language instruction matters because language is present in virtually everything we do.

The intent and shape of the Heuristic Quest research project evolved initially from two motivating discontents. One, students were not very interested in language as a subject, having themselves experienced English classes that were more literature centered or where language study was limited to traditional grammar exercises. While some of their classes may have involved meaningful writing, students had rarely, if ever, experienced the suggestion that language itself merited study on its own terms. Two, since students brought little or no background in language study to the course, it needed to cover more territory than was possible.

As Figgins worked toward solving these problems, others arose to take their place—a process that has led to the current shape and deployment of the project. The Heuristic Quest (HQ) has been a part of the course for some time, first as a pen-and-paper and word-processed product. However, the limitations of such tools soon led to redundancy: without ready access to previous HQ’s, students ended up asking many of the same questions year after year. Further, only so much time in class could be devoted to student sharing of research. Therefore, Figgins began to consider ways in which technology might address these limits: How might previous research be made available to students who could then build upon existing research information and data? Moreover, what would allow students to communicate and share their process, progress, and research with others in the course, as well as with teachers, future students, and the public? Solving these pedagogical problems became the catalyst for considering technology applications. In effect, she wanted to simulate electronically an interactive research community that would require students to think critically about previous research projects, challenge and expand them, and ultimately make their own distinct contribution to the course archive.

## ORIGINS OF THE HEURISTIC QUEST RESEARCH PROJECT

Dewey (1938), Ken Macrorie (1980), George Hillocks (1986), Arthur Applebee (1981), Kathy Short and Jerome Harste (1996), Stephanie Harvey

(1998), and others have all pointed out the benefits of inquiry-based learning strategies. In *Research on Written Composition: New Directions for Teaching*, Hillocks (1986), drew on a history of studies dealing with inquiry to conclude that instructional strategies involving inquiry always achieve significantly greater results than those that do not. Similarly, in a study involving 300 classroom visits, Applebee (1981) and his colleagues described characteristics of the best writing lessons they observed. The stronger lessons included instances of incorporating invention, inquiry, voice, experiential learning, and critical thinking skills as the most effective means of teaching composition.

Because students choose their own topics to research, questioning, curiosity, and passionate inquiry are the keys to the Heuristic Quest assignment. In effect, the Heuristic Quest is a *reinvention* of the traditional research paper: “heuristic” because the nature of something heuristic is to inform or teach the one posing the question (which is, of course, the power of a good question); hence, “quest,” which comes from “question.” Essentially, the Heuristic Quest is a semester-long inquiry project that teaches students how to pose and track questions as a means of deepening their curiosity about compelling topics and, in the process, makes it possible for students’ questions to intersect and become a vortex of inquiry engaging the entire class.

In the context of the Language, Literacy, and Culture course, the HQ propels students into a search for something they want to know with regard to language and/or language instruction, provides them with the opportunity to develop their own research agendas, and requires them to take responsibility for their own learning. Students engage in speculative perambulations and journey through a variety of resources intended to spark their developing interests. Ultimately, the quest provides students an opportunity to discover a topic of inquiry that has not, in their estimation, been adequately developed, and then navigate the inherent messiness of casting that topic as a question and conducting research that seeks to answer it. Having deployed this research and writing project for over 15 years, Figgins has realized with certainty that energizing the research and composing process through students’ own questions results in categorically more compelling writing.

## ORIGINS OF THE Q-FOLIO ELECTRONIC PORTFOLIO TOOL

The Q-folio has its origins in the E-folio, a courseware tool developed by Yitna Firdyiwiek, the faculty development coordinator for the Instructional Technology Group at the University of Virginia. Together, Firdyiwiek and Figgins, and then with Young, considered its potential for use in English education and made an initial implementation. Firdyiwiek and Young then further developed the tool for the same context. Grounded in the portfolio theory of Elbow and Belanoff (1991), the tool was originally designed for use in portfolio-writing instruction and composition courses. In addition to portfolio theory, the principles in the design include the following:

1. A web-based platform for communication, which precludes users from being dependent on expensive software purchases and upgrades.
2. A “user-centered” approach in which users of the tool are invited to participate in the design of the interface and control the contents therein (an important distinction in considering the controversy over who has control over the contents in many of the corporate tools marketed today).
3. “Day one productivity,” meaning the tool should require a minimum of training before it can be used productively.
4. Transparency, meaning that the tool serves to support and enhance instruction rather than overshadow or complicate it.

Part of the philosophy related to the Q-folio is that the power of the pedagogy must drive the technology being implemented; otherwise, the technology is not tied to an authentic context and purpose and will likely become a burden for users. With this philosophy and the four design principles at its core, the Q-folio has acted as a robust document management system both for delivering content to students and maintaining drafts of their work. It has also allowed students to build multimedia files with full HTML (Hypertext Mark Up Language) capabilities for presentations. The Q-folio was built in a web-database environment using Microsoft Access and ColdFusion, allowing its users to develop the tool rapidly and make changes easily. ColdFusion’s close adherence to HTML standards and its relatively straightforward commands for manipulating databases were effective for users with little programming knowledge.

## COMPONENTS OF THE HEURISTIC QUEST PROJECT

Against this background of contextual origins, we offer a more detailed orientation to the components of the research project itself. In *An Unquiet Pedagogy: Transforming Practice in the English Classroom* (1991), a primary text in the course, Kutz and Roskelly explore how a pedagogy that is “unquiet”—that is, one less certain of certainties—“teaches us to reinvent curriculum, create new goals, build new structures for learning, and make new knowledge” (287). But to reinvent, we must continue to see and resee learning and practice. One of the authors’ tenets for reinvention is to revise by “reseeing the old.” In this sense, the HQ serves as a reinvention of the traditional research paper, one that has continued to develop since its inception over a decade ago.

As a result of our research on the Heuristic Quest and its supporting technology, the Q-folio, the HQ research project has evolved to include six parts which occur over a specific timeline during one semester. The seeds of any one student’s HQ are planted by exploring the notion of what constitutes a good question. With these criteria identified, students begin brainstorming their questions which leads to the first step of the project.

### Step 1: Identifying the Question

Initially, students are asked to create a list of at least 10 questions related to language and/or the teaching of language that reflects their curiosities and interests and could potentially take them to a destination worth traveling. Then they narrow their list to two to three questions reflecting their strongest interests and then make a list of possible research avenues for searching out resources and answers to these different questions; resources might include primary sources such as interviews, observations, and surveys, as well as books, journal articles, and websites. Students are asked to think of the inquiry process itself as the “quest” in question: it is the nature of the quest—and therefore the question itself—to be open-ended, with an infinite number of possible turns in the road and, therefore, many possible answers, depending on the initial road taken. While the uncertainty created by not knowing the end point can be frustrating, it is also part of the excitement.

Students sharing at each step of the brainstorming process is essential, as students inevitably give each other ideas about the kinds of questions that can be asked. Through this process students often discover shared interests leading potentially to collaborative research. Given the reality that research is rarely conducted alone or in isolation, students are encouraged to work together as research teams. At this point, students begin their quest for possible answers. It is on the basis of these initial explorations that students choose the question which they feel will stimulate the most compelling investigation and take them on the journey most interesting to them.

### Step 2: Questing (The Process)

With their quest focus established, students are immediately asked to consider the following questions: Who would be interested in or affected by my investigation? Who stands to benefit from what I do and find out? Who might feel threatened by it? Who might know about this and have some experience with it and opinions about it? They are encouraged to go out into the world to observe and talk with people about their research. Investigating such primary sources leads them away from the Internet and out of the library into the world—their local contexts and communities—and gives their quests a more active and social dimension.

To help students track their process, they keep a log in which they document and note virtually *everything* related to their research efforts, ranging from notes to revisions of their original questions to speculative freewrites to journal citations to interview reflections and so forth. Their log operates much like a travel guide used to take a trip. In this case, the guidebook is a series of blank pages students are filling in as they go, tracking where they started, where they have been—the freeways, back roads, detours, and dead ends. The log is also interactive, with peers and instructors offering input, insights, and reflections along the way.

While much of their log could most likely be accommodated in a rather large notebook, the Q-folio provides students the more efficient option of an online log, which can be used as a repository for most of these same items, while extending the capabilities of a pen and paper log, especially in the way it facilitates communication and collaboration. Some choose to use a combination of both kinds of logs.

As a part of their log work, students are asked to (a) detail their tentative research plan for an instructor conference early on in the process; and (b) create a weekly research plan, explaining where they have been, where they are, and where they are going in the next week—making the quality of the experience each student’s responsibility.

There is, admittedly, a good bit of uncertainty in this process—for the instructor as well as the students. It is not unusual that students’ questions shift, swerve, and slide in different directions. When that happens, the question is most likely taking on a life of its own and it is at that point when the question has the potential to teach the students the most—not only about their language topic but about the nature of authentic inquiry-based learning, as well. Perhaps the only certainty involved in this experience is that the quest will only be as satisfying as the investment students make in it.

### Step 3: The HQ Answer

At this stage, their research process completed, students submit a text copy of their HQ answer for the instructor’s formative feedback. Students can choose to shape the results of their quest as a more traditional research paper or they may choose the option of what Tom Romano in *Writing With Passion* (1995) refers to as the “multigenre research paper,” a form of research reporting which operates on the principle that research should not be divorced from creativity. While fewer students have chosen this route, those who have chosen it have used it to advantage. Either way, students are required to include primary as well as secondary sources in their research findings. After receiving instructor feedback, students revise and then transform their HQ text copy into a web-based answer presentation.

### Step 4: The Q-folio Presentation

At one time limited to the printed page, a web-based electronic portfolio enabled the transcendence of several formidable limits. While the heart of the project, critical inquiry, still provided the philosophical and theoretical underpinnings of the HQ, there were limits to the paper version. For instance, only the instructor read it and reflected upon it; it remained

without a wider audience. If students were to learn from what others had done before them, file copies had to be circulated and what students gleaned from their reading remained partial and idiosyncratic. There was also the practical concern of the storage space required by hard copies, along with the distribution and circulation of those copies to students, a cumbersome process at best. In effect, there was no viable means of archiving prior research nor a vehicle for generating a collaborative research community.

As a web-based presentation, students can, however, share their processes and present their findings to the entire class membership so that others are learning from their inquiry, as well. In addition, previous students' quests can serve as models for what constitutes a well-developed presentation. The products are archived, becoming not only texts on which students future students may choose to build their own research, but which students read in other contexts over the course of the semester or year. The public archive enables them to disseminate their work to an even wider audience.

#### Step 5: HQ Addendum

Once students have posted their web presentation, the addendum is their opportunity to step back from their HQ, look again, and reflect upon both their process and product. It provides students the opportunity to portray their HQ to the instructor from their perspective. This evaluative step is a critical one. It provides for closure as well as for the kind of evaluation which is most meaningful—their own.

#### Step 6: Peer Review

The Peer Review step provides students with the opportunity to give focused, constructive peer feedback on another answer presentation. The feedback takes the form of reader response comments on each part of the presentation and a concluding summative narrative which addresses the presentation as a whole and its supporting electronic design. Students have

identified this as both a meaningful final exam and a powerful culminating experience, its value exceeding that of the instructor's summative feedback. (Begun with the fall 2000 class, the "Peer Review" is the newest step in the ongoing evolution of the HQ project and, therefore, does not appear here as a link to this iteration of the Q-folio.)

### THE HEURISTIC QUEST: AN EXAMPLE "A CANON FOR TODAY: LITERATURE THAT SPEAKS TO AMERICAN STUDENTS"

As noted, students provide a peer review on one another's projects, and the following example was one that Figgins, Young, and students in the course reviewed favorably. Rather than narrate the entire project, this section of the article will highlight and link to selected parts of this particular project in order to provide a sense of how Heuristic Quest projects are designed and presented. The article will then address how the Q-folio technology affects both the process and product of research. [Note: Readers may also navigate the entire model project on their own by clicking on the title hotlink below and proceeding through the links provided in the order and time frame they wish.]

"A Canon for Today: Literature That Speaks to America's Students" is a well-designed web presentation; it reflects a more traditional approach to presenting research. Here, the authors Harne and Selders, who worked together as a research team, have an opening page that provides a Table of Contents with each of the hyperlinked parts to their project listed on the left side of the screen. While the design allows for a hypertextual reading, this layout suggests that the reader can proceed in a linear fashion.

The description at the bottom right of the screen provides the rationale and the focus for Harne and Selders' research question:

As diverse as the students of today's classrooms are, the composition of American classrooms is constantly changing. As a result, the literature that students are required to read must be re-evaluated. In our Heuristic Quest, we investigated the following question: **Does the current literary canon at use in America's English classrooms meet the needs of the diverse students that make up those classes?**

As explained earlier, part of the course content addresses the notion of “re-inventing” language pedagogy. Here, Harne and Selders are interested in reinventing conceptions of what constitutes the literary canon for the secondary English classroom as one way of addressing the varieties of language to which students are exposed.

In their Introduction, Harne and Selders build upon their initial question by asking the reader, “What books did you read when you were in high school? Does the list include Shakespeare? Milton? Homer? Or maybe you remember the Romantic poets: Shelley, Keats, Byron, et al. Now, think about what you read in your free time. For a great number of us, the Romantic poets would be absent from that list.”

After making this distinction between reading for school and reading for pleasure, they ask, “Why is the literature we read in high school English classes so divorced from what students would choose on their own? Who chooses what we read in school? Why are some books deemed worthy of study while others are not?” These questions reveal the generative nature of good questions—a good question leads to other questions, often deeper and more critical ones.

Together, Harne and Selders seek answers to these questions through an examination of the literary canon to which most of America’s high-school English curricula subscribe. They write,

In order to determine whether or not the literary canon serves the students that make up the American public school system, we studied what literature comprises today’s canon, the canon’s objectives, and how that canon can best serve today’s students. Our primary goal was to determine if the typical Western-oriented canon can sufficiently prepare students to participate in our multicultural world as critical thinkers. In this exploration, as we examine what the canon has been and is now, we also offer our thoughts about how the canon can be revised and broadened.

The Introduction page in which this quotation appears not only includes graphics, images, and a menu bar, but it also includes tag lines for the pictures—if you rest your cursor on the Shakespeare image, you get the tag line, “I wonder what the Bard read for fun?” There is also a link here to a

section on High School Reading Lists that includes additional links, giving the reader the option to explore this subtopic further.

Next, Harne and Selders provide *The History of the Canon*, in which they trace its origins to Ancient Greece up to the present day. This offers background information important to a careful consideration of their question. One notable part is the section entitled Good and Bad Books. As a part of this canon history, they identify the 1880s as the period that “book lists” became popular and helped to inspire the notion of “literary canon.” Due to a drop in the cost of printing books, a larger segment of society could afford books, and literacy was no longer a luxury just for the wealthy. In turn, many more books were being published to the dismay of some scholars who felt this contaminated “good” literature, thus leading to the distinction of books as “good” or “bad.” This resulted in a divide of high and low culture in the literary world. This split still exists, as many believe the canon still reflects the tastes and values of the dominant culture, leaving little room for other cultural representations. This conflict became manifest in the numerous book burnings throughout history—and here Harne and Selders include a photo from a Nazi-era journal to portray Hitler’s direction to burn all books containing “contaminated ideas.”

The next section entitled Objectives of the Canon, which includes three subsections – *Plato and the Literary Canon*, *The Hidden Curriculum*, and *Setting the Stage for Change* – explores various purposes served by the canon. In *Setting the Stage for Change*, Harne and Selders cite work from Freire and Macedo (1987) and Howland (1995), and reference their own personal experiences to suggest the need to build upon a fixed, Western-dominated canon of the sort supported by Hirsch (1987), Bloom (1994), and Calvino (1999). Harne writes of her own reading experience:

I learned the importance of critically reading texts to understanding the world when I first encountered T.S. Eliot’s poem “The Wasteland.” Though the sheer multitude of the allusions in the work first made it appear as incomprehensible gibberish, after careful study I began to recognize patterns and purposes behind those allusions. Suddenly, “The Waste Land” was more than a poem: it was a hub from which its allusions shot like spokes, connecting the mere words to a body of meaning far greater than the simple structure of the poem. I finally saw it as a work of literature meaningfully connected to its world. Overwhelmed by the intricate artistry of that poem, an artistry that

entirely served to make the poem's comment on Eliot's world, I finally understood how trends in literature over time apply to the same trends in societal paradigms. Understanding "The Waste Land" showed me how what we read shapes our view of the world around us. Due to that understanding, I can now view myself not only as a prospective English teacher, but also as an amateur sociologist, linguist, and even anthropologist—my points of contact with my world have increased dramatically because I now view myself primarily as a reader.

Interpreting "The Waste Land" also taught me that the actual content of canonical literature is no more important than how it connects with the world of the reader. The details of Eliot's poem—the classical allusions, references to European cities, and ideas taken from other texts—have very little direct bearing on my own life, but the themes of the poem—solipsistic modernism, the threat of political anarchy, the failure of religion to bring peace – permeate all aspects of the culture of which I am a part. Students of different backgrounds than my own need literature that they can connect with in the same way. Though, as members of American society, it is important for them to understand the same themes that I recognized in Eliot's poem, these students must first be given familiar lenses through which to view these themes so that they can create their own meaningful worldviews of their cultures and the larger American culture. The canon—including elements that speak to students of many different backgrounds—can then function in a broader scope: at that point, students have the tools by which to view and evaluate Western literature and culture without being dominated by them.

This perspective leads to Harne and Selders' consideration of the literary canon in the context of our world [The Canon and Our World]. As an important component of reinventing the canon to include elements that speak to students of diverse backgrounds, they ask the important question "Whom do we teach?" and consider how to make the canon relevant to those students they anticipate teaching. Using data from the National Center for Educational Statistics and the Bureau of Labor Statistics, whose websites are linked on the page, Harne and Selders point out the growing diversity of the student population—nearly 40% are members of a minority group. Of the 100 largest school systems in the nation, 54 of them have a majority population other than white, and 38 of them have more than half

of their students eligible for free lunch. Harne and Selders go on to summarize their position:

The bottom line is this: “success” by today’s standards—dictated by the demands of the job market—means someone who can brainstorm creative and effective solutions to problems, who works well with others and can consider and accept a multiplicity of viewpoints, and who understands that the world is not black-and-white, but instead made up of shades of gray. Nearly any kind of literature, when built on the fact that our world involves conflict and difference, can be a vehicle by which to teach these skills when it is presented with a recognition of the influences and pressures that each individual student brings with him or her to the classroom. Whether that literature is part of the current canon or not, neither a life history of a local personality nor Homer’s *Odyssey* can have any relevance to a student unless she is challenged to view it as a text that can comment on her world. Instead of merely becoming a part of the student’s repository of knowledge, the text becomes a life experience, and the interpretive skills that she learns, built from her own interaction with the text, can be generalized to the world around her.

They conclude their project with a section entitled *Implications for the Future*, in which they include links to subsections addressing *What the Canon Can and Should Be*, *Successful Application*, *Positive, Deliberate Expansion*, and *The New Canon: Class and Classic*. In this final section they propose the following changes:

...that individual school districts choose a wide range of texts that provide both a validation of their students’ world and a context with which to understand both other cultures and the dominant culture. By giving each district the freedom to choose a variety of texts, we take into account the local span of that district, as well as the pool of local expertise in understanding the kinds of students that are being taught. However, each of these districts should strive to offer a canon embracing many different perspectives and ideas. We believe that the English teachers themselves should have the freedom to choose from the canon which texts they wish to teach. They should keep in mind, however, that their “class canon” should reflect an

understanding of the perspective of the students, the many diverse points of view the students need to interact with, as well as texts from the “classic” canon of the twentieth century that provide the necessary context for understanding cultural differences.

It is crucial to understand that our new purpose for the canon shifts the focus from the book to the student. Students have to “own” their learning in order for them to believe that it is truly useful and important in their lives. But at the same time, teachers play a crucial role as students develop their own readings of texts and of the world as well. In his essay on whether or not Stephen King books belong in the classroom, Curt Dudley-Marling expounds on this point: “students’ knowledge and intentions must occupy a central place in our classrooms....[However,] ownership cannot mean that teachers abdicate their responsibilities to challenge students to grow as readers by expanding what and how they read” (Dudley-Marling 81). With the help of a more inclusive canon, built from the class and the classics, teachers and students can explore their world in dynamic interaction with the texts, each other, and the ever-changing society that surrounds them.

These calls for change reveal the quality and depth of understanding that Harne and Selders have reached in a rather short period of time through their research quest efforts. While tentative in its answer, their project reveals their inroads to developing a critical stance towards the traditional English language arts canon.

### **THE HEURISTIC QUEST PROCESS REVISITED THROUGH HARNE AND SELDERS’ SPECIFIC EXAMPLE**

Before discussing how the technology affects the end research project, we will briefly illustrate the process involved in the Heuristic Quest. What follows are some of the steps in the process that Harne and Selders took to arrive at their answer and their presentation of it. First, they identified their initial question, posted here in the Identifying the Question section by Harne: “Is the literary canon now being taught in today’s schools applicable or useful to the students who must familiarize themselves with it?”

After conferencing with their instructor and reflecting on their project's focus, Harne posted their revised question which reads: "How does the canon apply to the everyday American high-school student? Do the demographics and social expectations of the canon really fit the demographics and social expectations of our schools?"

Once students have their initial question revised, they begin to track their research and use the online log, which is part of the Q-folio, to process it. In Log Entry 2, Harne posts an outline for the research process on which she and Selders conferred. In Log Entry 5, Harne responds to E.D. Hirsch's *Cultural Literacy* text. She also describes their approach to one of the important features of the quest project—conducting primary research. Here Harne describes how she and Selders have been surveying recent high school graduates about the literature that they remember reading in high school. They also used an online discussion group for English teachers from which to solicit responses regarding the canon. Both partners kept research logs, the online log being just one of the tools students could make use of to document their research efforts and findings. In Log Entry 15, Selders describes how she and Harne went about conducting the informal survey that comprised part of their primary research, their intent being to "gain a greater understanding of the kinds of books that have been taught in the high school classroom within the last 5 to 10 years." It is significant for its specifics in corroborating the school-pleasure reading divide referred to earlier in their project.

Selders' Log Entry 6 provides a notable example of the active "reading of the world" inspired by the Quest process. Here, she discusses her experience attending a lecture by Dr. Cornell West—Professor of Afro-American Studies and the Philosophy of Religion at Harvard, former Director of the Afro-American Studies Department at Princeton, and author of *Race Matters*, the subject of his talk at the University of Virginia on this particular day. Selders did not attend thinking that this experience would end up contributing to her quest but, as she explains, it in fact did. She writes,

Looking specifically at my research, Dr. West made one point that really hit home for me. He talked about the nature of the academic institution and how it views diversity. He made the point, and I really agree, that our schools (from university on down to pre-school) look at diversity as a means of being accepting, but accepting in a way that means "We will give you

the opportunity to come on in and be like us.” Instead, we have to value the fact that every human being brings a diverse perspective that is just as valuable as another person’s even if it isn’t typically valued by the dominant society. Conformity to the dominant culture isn’t the plan, instead, it’s about celebrating individuality, because it can cause every single one of us to grow and change.

She concludes,

Ultimately, school cannot be about “erasing differences.” If we do that, all our students will be at best miniature reproductions of the dominant culture. At worst, they will become invisible. Schools have to be about celebrating all kinds of perspectives.

Log Entry 9 illustrates the larger community aspect of the tool. Here, a student responds to a question posed in one of Selders’ entries where she discusses a theory that has emerged as a part of the research process, that there is an explanation for the canon’s existence, namely to perpetuate the dominant culture. She seeks clarity about her tentative stance, and a classmate offers a suggestion in the Reader Comment box at the bottom of the screen, another dimension of the Q-folio’s utility:

Have you read any of Stanley Fish’s work? He’s an interesting critic out at—I think—UC Berkley—who does most of his work on Reader Response criticism. I think he coined the term “interpretive communities.” Anyway, he wrote a book called, *Is There a Text in This Class?* and a great article called “Interpreting the Variorum.” He’s written much more, this is only what I’m familiar with. Maybe you’ve already come across him in your research. Hope this helps.

### THE EFFECTS OF THE Q-FOLIO ON THE RESEARCH PROCESS AND PRODUCT

With the use of the Q-folio tool, students are able to see everyone’s research in such a way that, as a result of the different questions being addressed, students begin to develop a picture of a much larger map of

language and language study than has been typically offered in their English studies. In fact, the Q-folio becomes an increasingly more sophisticated roadmap of inquiry, involving web links, hypertext, and interlinks (i.e., links across each other's questions)—innovations that cannot be accomplished with a typewriter or simple word-processing programs.

The Q-folio is becoming an increasingly effective way to simulate a community of scholars who are building on the research of those who came before them. While legitimizing students' questions in this way has dramatically changed the dynamic and direction of the course instruction, the introduction of this technology has itself influenced the HQ process and product in several ways, including the following:

- It makes students' inquiry process more visible and more public, both to themselves and to their classmates. There is no "hiding place"—everyone is able to see each other's process and evolving product.
- It dramatizes the HQ in ways that hard copy research papers are not able to do; the resulting product is both more animated and interactive.
- It allows for a certain immediacy to the HQ and, at the same time, provides longevity as the answers become a part of a class archive which remains available to the class and can be made available to the wider population of Internet users.
- It encourages multimedia and multigenre forms, which inherently animate the research findings and, in doing so, challenge the boundaries of the traditional research paper.

#### **PROS AND CONS OF THE Q-FOLIO: WHAT STUDENTS HAVE TO SAY**

Having observed an example of what students do with the tool, their perceptions of the HQ using the Q-folio can be better understood. Harne's and Selders' reflections, extrapolated from their HQ Addendum, are largely representative of those offered by other students. Harne makes the following remarks about what she characterized as "an entirely new experience":

- I had researched projects before, but never with such scope or depth of reflection.... Moreover, the technological aspect of the project gave me a whole different outlook on the research I was doing. On the whole, I found the HQ project to be the most rewarding, most satisfying part of the entire...course because it challenged me to think in new, more critical ways about the language and literature that I will one day be teaching.
- The Q-folio turned out to be a good place for me to organize my thoughts. Looking back on my log entries, I see that they helped me to set goals for myself. That was the best aspect of the log—that it forced me to plan, every week, what I would get done—and my research stayed on track throughout the length of the project.
- Personally, I was happily surprised by the sections I wrote—the argument seemed to turn out clearer and more professional than any other academic essay that I’ve ever written. This is one of the reasons that Molly and I left the paper in its primary form as a research paper, instead of making it more multigenre... the material we examined lent itself best to a research paper format.
- This quest has changed my view of research by giving me a taste of how broad, interdisciplinary research can dramatically improve the depth of a project. As I researched, I felt like the statistics and first-hand responses that I was gathering lent more credibility to my paper than merely synthesizing the arguments of many different books on the subject.
- Working with Molly also changed my view of research: every other time I’ve worked with a partner, I’ve felt that I had to do most of the work for the project to be successful. With Molly, I felt that our work was balanced. She came to the project with a slightly different point of view than mine, and I feel that I learned a lot from her stance on the issue. Moreover, our writing styles matched surprisingly well and it took little effort to integrate them into a cohesive paper. When we designed the website, Molly was a big help as well: because coding the site is primarily a one-person job, she did all of the follow-up research while I did the coding.
- My view of the presentation of research has changed...I’ve begun to see how much richer a traditional paper can be when it incorporates

multigenre elements. I have already mentioned why Molly and I chose to use the traditional paper format, but we enjoyed the freedom to change the format as needed. Our paper became more personal and more exciting to read because of it.

- I think that my work on the HQ has greatly increased my confidence as a learner, a researcher, and a writer. It showed me that I can do significant research that is not entirely dependent on someone else's prior work, and that there is a lot to be learned when I pursue a project in which I have personal interest. Moreover, relaxing the stringent writing requirements that traditionally go with a research paper allowed me to become more confident in my own writing ability. I think that is one of the reasons that our arguments flowed so well: because I was able to forget about how I thought the argument would be required to look, I structured it as if I were sitting down with E.D. Hirsch and discussing his thoughts with him. The result was a writing style that seemed, to me, more authentic and more natural than my earlier writing.
- My work on the HQ motivated me to find a class next semester that teaches non-canonical literature...non-Western novels.... I hadn't heard of any of them before.

Selders offered these parallel reflections:

- After receiving instructor feedback, it became evident that several revisions needed to be made on our quest. Kellan and I constructed the quest by dividing up aspects of it, writing them separately, and then combining them for the final paper.
- I believe that my individual log offers a true account of my thought process as I approached, researched, and considered all of the aspects of my quest. I really feel that I used this log as a space to get my thoughts down...and organize them for use when constructing the writing of the actual quest. I played around with lots of ideas in this space. It definitely served as more of a place to put my thinking than just a record of exactly what I was up to as far as researching each week...I believe that I found a way to use this tool to work for me. The log was a very helpful part of my "questing" process as a result.

- I feel that our partnership was successful because we laid ground rules for this experience from our first meeting.... We took all of our notes from our sources on computer. Therefore, we could just e-mail each other the notes that we had taken to see how we were progressing.
- I have often thought about the shortcomings of the traditional research paper. So much work goes into a document that only a handful of people actually ever read. Spreading the message has to come from being invited to give it to a group of interested audience members. Obviously, this doesn't make everyone's work equally accessible to the public in general. It seems that the Q-folio overcomes this problem. Every team was able to post its work in a manner that enhanced the reader's understanding of the topic.... Moreover, it is extremely accessible in this form. I can really see the merits of using a tool like the Q-folio as a result.
- I have to admit that I don't like working with partners on projects. I am almost always left feeling that I got stuck doing the majority of the work and then sharing the grade with the other person. However, I have to say that this Heuristic Quest process has proved to be an exception to the rule.... While we shared our notes on all of the sources that we found, each of us wrote the section of the paper that fit with the aspects that we researched. This equal division of labor continued as we set about putting the quest on the web. The two of us are at very different ability levels when it comes to using computers and technology. Kellan has taken many advanced technology courses, meanwhile, this semester I am taking my first computer course ever. While I know how to do some very basic things with web pages, Kellan really enjoys the finer points of web design. As a result, we agreed that she would set up the page and concentrate on trouble shooting any problems we might have. In turn, I completed specific tasks that she could teach me regarding the web page.... Moreover, I wrote and completed the major revisions that we needed to make after receiving our feedback. I have to say that I have learned so much from Kellan by watching and helping her on these web pages.... I would definitely conduct research for a project in this manner again.
- I would say that our web project falls in between being a traditional and a multigenre form. Our web-based answer relies very heavily on the text from our [pre-web page] draft. However, we have incorporated

illustrations like pictures and, in some cases, links to enhance the reader's understanding of our project. Moreover, we also linked into media files like the [NPR] teen radio diaries in order for our audience to get a greater sense of our research and conclusions.... We didn't want the work that we put into creating an interesting, thoughtful paper to get lost under flashy pictures and the like. At the same time, we saw this presentation as an opportunity to utilize the many advantages that the web offers, such as graphics as well as audio and web site links.... Using these kinds of technological tools enabled our readers to hear and see elements of our research.

As Harne's and Selders' comments reflect, the overall student response to the Q-folio tool has been favorable. The tool was and continues to be an evolving experiment, one in which students see great potential but not without complications. Harne identifies what she found problematic in the project:

My only problems with the project lie in the Web design.... I've learned in previous experiences designing webpages, the way to maximize the benefits of the Web format is to keep information in small, bite-sized pieces with a great deal of primary source information. A thirty-page paper on the Web is too much for most readers to handle. However, due to the time constraints of the project, it was impossible for us to redesign the whole HQ to make an effective Web presentation. If I had the project to do over again, I would rather have started designing a Web presentation from the beginning of the semester concurrently with the research paper.

More generalized issues involved time, a certain "clunkiness," and HTML coding. Time emerged as a pervasive problem—not only for students, but for the instructors as well—which has led us to conclude that technology, in general, must be incorporated in more realistic terms relative to time. Too often it is presented as a silver bullet, a way to save time and work, but the reality is, as Neil Postman suggests in *Technopoly* (1991), that technology does not have a one-sided effect. In other words, saving time or making one facet of a course more efficient might well create extra work and time demands in other areas. In turn, course content might be affected, either in terms of the amount covered or in the way it is covered. Further research is needed in this area, especially in considering not only what is gained from

using a tool like the Q-folio, but what is lost as well—i.e., research which addresses the tradeoffs.

Some students characterized the Q-folio tool as being somewhat clunky; they would prefer a more Windows-like environment. The instructors continue to work on streamlining the tool with this in mind but, given that the tool is a database, it has certain limitations in this respect, especially since it must retain its archival capability.

The remaining issue related to HTML hard coding versus using Web-authoring tools with “WYSIWYG” (what you see is what you get) capability. The Q-folio tool requires students to either post entries in code if they are going to create a Web-based design, use a web-authoring tool to help create their design, or use the HTML editor included with the tool. Based on feedback from students previous to Harne and Selders, a limited HTML editor was added and used for the first time in their class. As another result of feedback from past students, technology labs were integrated into the course, the focus of which included some basic HTML coding and the use of Web-authoring tools which they have learned in other courses. The extent to which students need to know HTML remains to be determined—not just for this tool but for web-based technology applications in general. To become literate in HTML, even on a basic level, takes considerable time and practice. At the same time, no Web-authoring tool is truly a WYSIWYG; therefore, being able to code helps users troubleshoot problems that often arise in using these types of tools. While learning code empowers students, more research needs to be conducted to determine how much of it, if any, they need to know if the trend in web-based technology involves editing tools that code for you. Based on student feedback and our experiences as instructors, we have continued to seek and add improved WYSIWYG editors to later versions of the Q-folio tool. The most recent version is only accessible using Microsoft Internet Explorer; it will not run using Netscape—another limitation to overcome.

## CONCLUSION

Even though Figgins and Young are still working to refine the Heuristic Quest project and, with Firdyiwek, to improve the Q-folio tool, it is gratifying to discover a process that results in what students typically

characterize as “profound,” “the best thing I’ve ever done,” not infrequently as their “strongest writing,” and nearly without exception their “most memorable learning.” What is being discovered by using the Q-folio to support students’ research of their questions is that we have expanded language instruction by more than the sum of its parts because our students’ questions are available for others to build upon. As a result, we are developing a shared knowledge base about language that can be brought to bear on other components of the English curriculum, making all of the facets of English study more dynamic through students’ increased interest in how language works.

In addition, students’ experience with the Q-folio has led ultimately to unforeseen gains in confidence, skill level, and critical awareness relative to computer technology (Young, 2001). In reflecting on their experience, students have clearly seen the potential for the tool to enhance the Heuristic Quest project even more, and they have been keenly aware of ways to improve the Q-folio for accomplishing their projects’ goals. Students have been able to develop a clearer sense of their use of technology for the future. Many have stated a desire to use computer technology of a similar kind or for a similar purpose in their own classrooms as future teachers. Other students have shown evidence of the healthy skepticism called for by experts in the field of computers and composition (Hawisher & Selfe, 1991). Ultimately, these findings take on added importance, considering that experts in the field see teachers, especially preservice and new teachers, as the hope for agency in technological change. With students like Harne and Selders, we are able to see the potential for such agency. As they go on to reinvent traditional practice and reform the current standards-obsessed educational climate in our schools, the reawakening will, at best, lead us as well to a more critical stance towards technology use.

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