Multimedia and the internet could provide a new medium for the production, examination and exchange of ideas about teaching (Hiebert, Gallimore, & Stigler, 2002; Brophy, 2004; Goldman-Segal et. al., in press), but those who seek to develop that medium face a two-fold problem. First, teaching is an enormously complex human endeavor. (Lampert, 1985, 2001; McDonald, 1992; Shulman, 1983) The sources of that complexity include the fact that teaching is highly situated, requiring considerable contextual knowledge and access to the perceptions of a variety of participants in order to unpack and understand it. Teaching is also highly ambiguous with both the actions and the outcomes undetermined and open to interpretation (Eisner, 1998; Lampert & Ball, 1998). The incomplete and evolving nature of subject-matter knowledge, the multiple and shifting demands teachers face, and the ever-present need to respond to a wide range of students all contribute to the challenges of isolating and identifying “what works” (Ball, 1996).
In order to guide the development of new avenues for the documentation and representation of teaching, therefore, we need to address a number of questions. In particular, we need to consider the extent to which new media and the internet can capture the complexity of teaching in ways that traditional texts cannot. Furthermore, even if the complexity of teaching can be represented productively with multimedia, we still need to learn what kinds of representations might be most useful. Finally, as Ben-Peretz (1990) points out, we also need a strong conception of the curriculum potential of these representations and how teacher educators and others can use these representations to foster learning. This essay considers each of these questions as a means of exploring the websites that are a part of Making Teaching Public: A Digital Exhibition.

**What aspects of teaching and learning can best be represented using multimedia?**

Many aspects of teaching and learning can be captured through written texts, but multimedia offers opportunities to draw on the strengths of many different forms of representation at once. By bringing together moving and still images and sounds from the classroom, written descriptions, graphic illustrations, classroom materials, student work, and written and taped reflections, multimedia representations allow viewers to quickly see the size, arrangement, and style of classrooms; the way teachers carry themselves and interact with their students; the way the students’ approach their work in the classroom, their teachers, and one another; the tone and languages used; the plans and expectations of the teacher as well as what actually happens in the classroom; and the content, level and sophistication of the work that students carry out. As a consequence, the complexity, emotionality, and ambiguity of teaching and learning may begin to emerge.

For example, Yvonne Hutchinson’s website seeks to uncover many different issues and aspects of teaching that go into a group discussion conducted by an experienced teacher. Hutchinson is a highly-regarded teacher in South Central Los Angeles with over thirty-five years of teaching in middle and high schools. She has obtained her National Board Certification from the National Board for Professional Teaching Standards, and she is one of a number of exemplary teachers whom Mike Rose highlights in his book *Possible Lives* (Rose, 1995). Despite these accolades, however, for the most part, only those who have been to Hutchinson’s classroom have had a chance to see what she does. While she was visible, for the most part, her teaching was not.
In response to this problem, Hutchins-
son’s website was designed to enable many people to get a window into one key aspect of her practice: how she uses group discussions to support the development of what she calls “literate discourse” among her students in ninth grade English. To do so, the website focuses on a discussion that takes place during a single day in her classroom. While viewers cannot get a simple “lesson plan” for that day (Hutchinson doesn’t have one), they can see clips of the way that Hutchinson structures the day and sets up and supports the discussion. They can look at curriculum materials that reflect the strategies and activities she uses to support classroom discussions; and read and hear Hutchinson’s reflections on the background and approach that undergirds her work. By following the arrows on the left side of the website, viewers can also get a sense of the kinds of things that Hutchinson does at the very beginning of the year to create a culture that supports respectful and thoughtful conversation in her classroom. Through these representations, viewers can get a glimpse of the work that goes on both in and out of the classroom to prepare for group discussions and see that Hutchinson is not simply preparing for this class the night or the week before: she has been laying the groundwork since the beginning of the year. (It is worth noting, that the arrows to the pages on how Hutchinson establishes the classroom culture were added

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after initial viewers responded that the first draft of the site made it look like good group discussions could be created simply by using Hutchinson’s strategies on a given day.)

Those who want to delve even deeper into the intricacies of orchestrating group discussions can also get a glimpse of how teachers in a different part of the country and different points in their careers structure group conversations with students of different ages. For example, Melissa Pedraza’s site focuses on issues of “accountable talk” – how she and her co-teacher Nicole McCabe strive to enable her first grade students in Queens, New York to build on and respond to one another’s comments. In her fourth year when the site was produced, the site provides an overview of what happens over two days in Pedraza and McCabe’s classroom during their 90-minute literacy block. Like Hutchinson, they move back and forth between large-group group conversations, “pair-shares”, and other arrangements, allowing viewers to look for correspondences and differences between Hutchinson’s approach and the strategies and structures of the “balanced literacy” curriculum they use. Viewers can also look at the way the teachers in both classrooms strive to help their students make connections between different books that they have read and between what they are reading and experiences in their own lives.

For another perspective on group discussions, viewers can look at the work of Martha Andrews, a fifth grade teacher in the Bronx, New York in her eighth year of teaching. Andrews’ website provides video clips and reflections that illuminate the central role of whole group (“town”) meetings in a social studies project in which students take on the roles of people in Colonial New York. In addition to looking at how Andrews struc-
tences these discussions, viewers can also get a glimpse of another issue: how Andrews uses these discussions to assess what the class as a whole is learning (and whether and how fast to move ahead). While neither Pedraza’s or Andrews’ sites capture footage from earlier in the year, viewing them in conjunction with Hutchinson’s site could raise a host of questions about the “culture” of conversation in these classrooms and what else these teachers (and their colleagues) might be doing to support it.

Sites like Sue Lampkin’s also illustrate the complexity of assessing and supporting the development of students’ understanding. Lampkin is a first grade teacher who along with colleagues in her school in a suburb half-way between San Francisco and San Jose California has been working to improve her mathematics instruction. While Hutchinson’s site focuses on students in general, viewers of Lampkin’s site can look specifically at how the understanding of three of her students develops in a series of four different lessons. Viewers can then explore the students’ work in written form and in videotapes as they solve problems, and viewers can explore what Lampkin or other teachers could do to help surface and address the many different levels of understanding that students in the class are likely to demonstrate.

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Even as sites such as these focus on particular issues like group discussion and the development of understanding of problem solving, numerous other issues also come into view. Viewers can see how Hutchinson seeks to work across differences of race and gender and to foster connections among her largely African-American and Latino students; how her perspective on social justice infuses her work; how she engages her students in thinking and talking about what she calls “explosive language” and sensitive issues in literature and in their own lives. Pedraza’s site includes glimpses of her approach to “inclusion” and the strategies she uses to work with different students; raises questions about the implementation and adaptation of mandated curricula; and provides a look at some central topics in early language instruction. Andrew’s site touches on the way that she begins with a general plan and then uses informal and formal assessments to help her adjust and adapt; it provides examples of the way she strives to incorporate assessments that allow students to express their understanding in oral presentations, dramatic roles, cartoons, and other forms that are not entirely confined to text; and it offers a chance to consider how and to what extent prescribed state standards are addressed and met in an “emergent curriculum.” Lampkin’s site provides a glimpse into the development of relationships among families and teachers by documenting a part of one of the “family conferences” that she holds in her home and raises issues of the coherence of math instruction across classes and grade levels by including clips from meetings among teachers.

Viewers can also explore whether and how teachers attend to social and emotional issues as they engage their students in central issues of instruction. For example, the passion and emotion in Hutchinson’s work comes through in the way Hutchinson writes

For better or for worse, these sites show problems as well as progress and leave room for differing opinions about what counts as “good” or “effective.”
about her students; in her body language; in the way she positions herself in the classroom; and in the ways she invites her students to engage in the discussion and encourages a reticent student to participate. Similarly, in Pedraza and Andrews’ sites, viewers can look at how close these teachers get to their students, when and how they recognize how students are feeling, and how they respond.

At the same time, these sites present these classrooms as they are. The videos are edited and reviewed with issues of anonymity and privacy in mind, but, for the most part, these sites provide a “slice of life” in these classrooms. For better or for worse, one can see into the classrooms, see that some students may be invested and engaged while others are not; and see that some students may be learning while others are falling behind. Viewers may see things that teachers missed, forgot, or wished they had done differently. The sites provide some context and interpretation of what is going on, but viewers may still bring widely differing opinions on what they see and whether or not what they see is “good” or “effective.” In Pedraza’s site, for example, viewers can look at a group discussion a week after Pedraza and McCabe began the work on accountable talk and they can hear Pedraza’s reflections and concerns about whether or not her students have gotten “far enough.” Among groups who have looked at Pedraza’s site, some viewers see the careful structured way that Pedraza carries out the curriculum and works with students at different levels as evidence of “good teaching,” while others grow uncomfortable with what they see as an overly scripted and potentially “limiting” approach. In her site, Lampkin reveals some of the challenges she has faced in developing her own understanding of mathematical content and shares her concerns about her effectiveness with some of her students. Viewers of Andrews’ site can hear her impressions of several classes and of the presentations students make at the end of their Colonial Perspectives Project. But viewers themselves can see those same classes, review some examples of student work, and listen to students’ presentations and draw their own conclusions. Even Hutchinson’s site, which many viewers cite as showing “high-quality” teaching, leaves open questions about what and how much students have learned.

Thus, these sites reflect some of the ambiguity of teaching at the same time that they capture some aspects of what “really” happens. In the process, they raise fundamental questions about representation and interpretation: is the ambiguity a function of the representation or is it a reflection of the complexity of teaching and learning itself? For example, all of these sites could benefit from more extensive documentation of student work before and after the classes they represent; but would changing the representations – particularly making them more “complete” or “comprehensive” – resolve the ambiguity? Or could representations that reflect that ambiguity provide a platform for the development of interpretations that help viewers to address and deal with the dif-

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ferent perspectives that they bring to teaching and learning? Furthermore, what aspects of teaching and learning should remain private? How can we produce representations that both provide an adequate view of teaching and learning and protect and respect the rights and perspectives of those represented?

*How can aspects of teaching best be represented using multimedia?*

Ironically, the power of multimedia to capture some of the complexity, ambiguity and reality of teaching and learning also provides some of the greatest challenges for representing teaching. Even though these sites may not provide all of the material and information that viewers might want, they provide so much material that it can be very hard for viewers to grasp what materials and descriptions are available and where to find them. Thus, while multimedia representations of teaching and learning like these may enable viewers to revisit the same material at different times, for different purposes and from different perspectives (Spiro et al. 1992), they also come with their own constraints that affect the ability of viewers to understand that complexity (Hatch, Bass, Iiyoshi, and Pointer Mace 2004; Pointer Mace, Hatch & Iiyoshi in press). In particular, while the internet makes it possible to share vast amounts of information and other materials related to any episode of teaching and learning, simply providing access to more information does not make that information accessible to all viewers; similarly, more “complete” documentation of teaching and learning does not necessarily make it easier to comprehend. An overload of information and web-based materials can overwhelm viewers unless those viewers have clear guideposts and means of exploring the information or locating the resources and ideas that might be particularly relevant to them. The likelihood that viewers will quickly skim only a portion of the many materials that can be provided in a web-based environment also suggests that, whatever the possibilities, few people will spend the time it usually takes to develop robust understandings of such complex material (Krug 2000).

Compounding the challenges, viewers may bring very different conceptions of what teaching is or what it entails and some might not have developed the prior knowledge and conceptual structures needed to make sense of such a complex activity and such new and unconventional forms of representation (Bransford et al. 2000). In particular, experiences with the context, content, pedagogy and forms of web-based representation can affect viewers’ initial impressions of a site as well as their abilities to ask relevant questions and identify relevant materials and issues for deeper exploration.

The construction of some of the sites suggests some ways that web-based representations might take into account the likely differences in the levels of experience of viewers
and the constraints of multimedia. Sites like Hutchinson’s, Pedraza’s, and Andrews, for example, reflect explicit efforts to “layer” information so that viewers can get a quick overall impression of the teaching and learning and the kinds of information and materials the site encompasses, print out some descriptions and materials that they can take with them to read “offline” or to pass on to others, and get access to other resources such as archives of student work or more extensive video footage from the classroom (either streaming on the web or on dvd) for further investigation.

The more aspects of teaching one seeks to represent over longer periods of time, the more challenging it can be to organize the material to focus in on particular aspects. Conversely, the more deeply one seeks to explore a particular aspect of teaching, the more difficult it can be to keep other aspects “on the screen” and in focus. The following sites have different foci: a single

The websites in this exhibition and others might also benefit from the establishment of different organizational formats that could serve as the basis for the development of distinct genres of web-based representation. Developing conventional forms for the representation of teaching and learning may make it possible to “compress” the large amounts of video, curriculum artifacts and other teaching materials needed to represent teaching into arrangements that viewers can make meaning out of relatively quickly and easily. This process of compression is central to many scholarly disciplines, where methods and genres have evolved to enable scholars to turn large amounts of data and information into forms that others can understand and examine (Hatch, Bass, Iiyoshi, & Pointer, 2004).
For example, Hutchinson’s website, suggests one form of web-based representation – the “class anatomy” -- that could be used to document teaching in a wide range of different contexts. The “class anatomy” focuses on an analysis of a single class within a course, provides a series of videotapes that outline how the class unfolds, offer access to the materials used in the class, and share some evidence of the outcomes (Shulman 1998). Pedraza, Andrews, and Pincus’ sites also take advantage of the basic structure of the class anatomy by breaking down classroom activities into a small number of key parts -- although these “anatomies” are located in different parts of their sites, rather than serving as the “home page” as in Hutchinson’s site.

In part, these differences in location reflect the varying emphases of these sites and different choices about how to balance scope and granularity (Hatch, Bass, Iiyoshi, & Pointer 2004). Scope refers to the aspects and extent of teaching and learning that these representations seek to encompass – e.g. whether a representation tries to address aspects of teaching like a teacher’s philosophy and planning as well as their classroom activity, and whether it seeks to “cover” a class, a course, a year, a career etc.. Granularity refers to the extent and clarity with which sites focus on particular aspects of a teacher’s practice.
Like the relationship in filming between “zooming in” and “zooming out” to get a wide-angle view, scope and granularity are related. The more aspects of teaching one seeks to represent over longer periods of time, the more challenging it can be to organize the material to focus in on particular aspects. Conversely, the more deeply one seeks to explore a particular aspect of teaching, the more difficult it can be to keep other aspects “on the screen” and in focus. For example, Hutchinson and Pedraza’s sites focus on the activities that take place during a single day or two; but by privileging a single class, these websites provide relatively little information about other aspects of their teaching that might have come through on different days or in different activities. However, Andrews’s site also seeks to explore how a project unfolds over a period of a few weeks and the role of planning in that process. As a result, the classroom anatomies become embedded in a longer listing of the phases of the project. The site documenting a study of Macbeth led by Marsha Pincus, a high school teacher in Philadelphia (and 2005’s Teacher of the Year honoree) “zooms out” even further than Andrews’ site. This site discusses three different lessons within the eight-week study in her 11th grade English class and allows audiences to see a single clip from six different days. While illustrating the sequence of activities Pincus uses to introduce students to a work of literature like Shakespeare and ultimately to craft a literary analysis (a sequence we never get to see in Hutchinson’s site), Pincus’ site sacrifices the focused view that a one-day class anatomy affords.
The anatomy approach lends itself particularly well to the documentation of phenomena that unfold over time, but that approach may not work for all key aspects of teaching and learning. For example, Jennifer Myers’ site includes an overview of the sections of the readers and writers workshop she leads in her second grade classroom just outside San Jose, CA, but that overview does not capture how she strives to differentiate her instruction to meet the needs of each of her students. To document that aspect of her teaching, her website includes video of her working with four different students during the reader’s conference portion of the day. Similarly, by following Myers through five similarly-structured writers workshop conferences, audiences can see the ways in which she tailors the format to identify what each student needs to do to develop his or her writing capacity.

Beyond the “class anatomy”, one can imagine the development of numerous other forms of web-based representations, at least some of which may build on the conventions and methods of disciplines in both the humanities and the sciences, and, perhaps, the conventions of newspapers, documentaries, movie “trailers”, and other media. For example Sarah Capitelli’s site might serve as an example of a “Teacher Inquiry”, built on the traditions and conventions of teacher research. In this case, the evolution of Capitelli’s investigation into the development of her first and second grade students’ language development becomes the focus; in turn, the video clips she selects provide both context for understanding her inquiry and some evidence that allows viewers to explore some of her hypotheses about language use. However, the daily conduct and planning of her class are not represented as centrally or explicitly as they might be if she produced a class anatomy.

Other websites developed as part of the CASTL program suggest other forms of web-based representation that could be developed including those, like the website of Dennis Jacobs, a chemistry professor at the University of Notre Dame, that builds on the conventions of the experimental sciences or the site of Irma Lyons, a fifth grade teacher...
in Santa Monica California, whose site uses the juxtaposition of images in a kind of “video montage” to represent the diverse perspectives of students, staff and community members at a culminating event for a “museum” on the Harlem Renaissance.

The development of conventions around the representation of particular aspects of teaching could also facilitate the production and comprehension of these sites. For example, several other websites have used timelines to give an overview of the extent of a course or a unit. The development of some conventional forms for these temporal representations (and instructions or models that web-designers could follow) could have made it easier for Andrews’ site to take advantage of one of these representations and helped viewers of her site to grasp how (and when) the phases of her project unfolded. Similarly, all the sites could benefit from establishing conventions around the development of “archives of student work.” These conventions could provide guidance about what kinds of student work to sample (and how often), what other assessment information to include, and how to organize it so that it could be compared across sites. What to do about work that may be particularly problematic – that students or teachers might not be especially proud of or that could open either one up to sanctions and punishments – also deserves special attention.
For better or worse, the lack of established forms, conventions, and standards in this medium leaves producers of these representations to invent their own genres of representation. Given the constraints that conventions, formats and standards can create for the expression, representation and validation of ideas and “results,” this individuality may be a powerful positive force for these kinds of representation. At the same time, producers may find this approach much more time-consuming and suggests trade-offs between making this form for representation easier and simpler to produce and the ability to encourage large numbers of people (particularly teachers) to take advantage of it. Further, this individual approach leaves viewers to their own devices in order to figure out how to find related sites, locate comparable materials and identify the aspects of teaching and the issues that might cut across them.

Of course, the kinds of criteria and standards one adopts reflects different theories about the purposes, uses and value of these sites. For those who see potential in the development of large numbers of sites that provide a glimpse into teaching and learning in many different communities with diverse teachers and students, standards for representation that rely on expensive equipment, extensive time in production, and “broadcast quality” may be a significant problem; for those who see the value of focusing on the more extensive documentation and in-depth analysis of a more limited set of sites, high production standards may be essential.

How can multimedia representations of teaching and learning be used to support teachers’ development?

Web-based representations of teaching and learning can serve a variety of purposes, but they may provide particularly valuable opportunities to support the development of teachers in both teacher preparation and professional development (Grossman, Richert, Schultz, and Hatch, 2005). Yet different forms and varieties of these multimedia representations may afford different opportunities for learning. For example, Anna Richert, a Professor of Education at Mills College, teaches a “core course” for Master’s students that includes a focus on teacher inquiry. That course lends itself well to the examination of a wide range of websites of teachers like Sarah Capitelli and others who documented their investigations of their own practice. Pam Grossman, Professor of Education at Stanford University, focuses on helping her students explore Yvonne Hutchinson’s website because many of the other sites do not go as deeply into the issues of pedagogy and content that are central to her course on Curriculum and Instruction in High School English. However, with no websites at the time that focused on elementary literacy, Kathy Shultz, Associate Professor at the University of Pennsylvania, had to
explore the use of Yvonne Hutchinson’s work with the students in her preservice elementary program before going on to collaborate with several elementary teachers in Philadelphia on the development of their own sites.

While these teacher educators have been able to find or create sites that reflect their pedagogical concerns and the kinds of contexts where their students might end up working, their experiences and those of other teacher educators using multimedia suggest that the development of these kinds of sites needs to go hand-in-hand with the development of pedagogical approaches that take advantage of those opportunities. For example, Lampert and Ball (1998) demonstrate the kind of preparation and support that has gone into one effort to enable pre-service teachers to learn from the in-depth documentation of teaching and learning in one classroom over the course of a year. Through this investigation, they highlight a host of key pedagogical concerns including how to help pre-service teachers to inquire into the materials, develop good questions for further exploration, and how to make connections between what they are learning from the study of teaching in one context to their own teaching contexts.

In addition to efforts to produce such detailed, comprehensive representations, developing a range of representations, at varying levels of depth, might also be useful. These might include efforts to document the work of particular teachers in different classes and at different points in their careers. Already, two different websites allow viewers to look at Marsha Pincus’ work from different perspectives. Her first site (completed in 2001) focuses on Pincus’ efforts to inquire into and make sense of some of the “moments of dissonance” she experienced in a drama and inquiry class she taught at that time. Her Shakespeare site (completed in 2005) draws on some of the ideas discussed in her earlier work, but provides a more explicit glimpse of her curriculum, the structure of her Shakespeare unit, and what she does during class periods throughout the unit.

Developing large numbers of representations might make it easier for teachers and pre-service teachers to see and explore teaching and learning in classrooms in their own community and by teachers close to their own level of experience who work on similar subjects and with similar age groups. For example, to support the development of her students’ abilities to teach a key topic in many high school English classes – Shakespeare – Grossman and colleagues at the Carnegie Foundation are developing a website that documents Hutchinson’s work on Romeo and Juliet in Los Angeles and that can serve as a complement and contrast to Pincus’ work in Philadelphia on Othello. Ideally, in the next few years, it will also be possible to document the work of teachers in the local Bay Area and in other communities who are teaching Shakespeare at earlier stages in their careers (in fact we are currently documenting teaching and learning in a class on Othello in New York City with a former student of Grossman’s). As a consequence, in

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the future, student teachers in Grossman’s class or those in teacher education programs in New York could look across the teaching and learning in at least three or four different sites, seeing both teaching that provides a “vision of the possible” and that reflects the immediate concerns and demands of the contexts similar to those where they are most likely to end up teaching.

Sorting out basic issues like when and to what extent to focus on in-depth exploration of the work of individual teachers and when to provide opportunities to look across contexts at the work of different teachers, demands studies of the affordances for learning of different kinds of representations and their uses in different educational contexts. Of particular interest are questions like:

• How closely do representations of teaching need to mirror the concerns of teacher educators and their students in order to enhance learning?
• What steps can be taken to help viewers recognize the connections between the teaching and learning in multimedia sites and in their own experiences?
• When and under what circumstances does it make sense to study “accomplished” practice or to study practice that does not appear to be as effective or might be problematic?

Whether for in-depth exploration or comparison across contexts, focusing on the work of individual teachers on particular classes and topics (as most of these sites do) also has significant consequences for teacher education and professional development. Focusing on the work of individual teachers may ignore the extent to which teaching and learning is a shared responsibility that extends beyond the walls of a single classroom or the work of a single teacher. In contrast, those in teacher education and professional development programs might benefit from opportunities to look across the work of teachers in a particular school or to follow the work of students as they move from one classroom and teacher to the next. Although Lampkin’s site emphasizes math instruction in her classroom, it is one of a cluster of sites that represent the work of a group of teachers who are working together with Li Ping Ma, a researcher and mathematics educator who is helping them to develop their instruction in mathematics. As a result, viewers have opportunities to study how different teachers are applying some of the same mathematical and pedagogical ideas in different classrooms and to consider the kinds of connections and consistencies in mathematics instruction that students might experience as they proceed from grade to grade. In addition to the opportunity to look at mathematics instruction across classes, Lampkin’s site gives viewers the chance to see and reflect on how teachers work together, what they are learning in their planning and professional development experiences and how that may or may not impact their instruction. In order to facilitate these kinds of explorations that cut across classrooms, it may be
useful to develop forms of representation that focus on different units of analysis – a students’ experience throughout a school; the teaching of a particular topic, unit or skill in different classrooms – and new tools that make it easier for those who seek to highlight and juxtapose elements and ideas from different sites in exhibitions and arrangements like this one.

Whatever the forms and uses of these representations, the development of new forums that foster the exchange, review, and critique of these representations and their uses can help to develop the terms and language that can describe new phenomena, the criteria that can be used for assessment, and the broader knowledge and understanding that can inform public debate (Hatch et al. 2005). In particular, forums, like those that might be created at Teachers College Record and elsewhere could be designed to enable and encourage teacher educators to make their work public. Of course, making teacher education public in an environment where the value and relevance of teacher education are often challenged can be a dangerous proposition; at the same time, it is hard to see how to make a case for the value of teaching and teacher education if the character, quality, and complexity of teaching and learning remain hidden in the classrooms of individual teacher educators and under-represented in public documents and conversations.

As with all developments on the internet, the proliferation of web-based representations of practice and associated commentaries and critiques demands the development of organizational and categorization schemes that allow viewers to find the ideas and information that may be most relevant to them. In our efforts to create collections of web-based representations of practice like this one, however, we have found it difficult to identify appropriate categorization schemes that facilitate the creation of sensible and easily navigable arrangements. Like the designers of many other collections of teaching materials on the internet and elsewhere, we have relied primarily on basic arrangements according to the grade level and the subject matter (English, mathematics etc.), and geographic location. Going further to organize web-based representations by topic, goal, or standards are other logical possibilities. While these schemes are sufficient for some purposes, they fail to provide viewers with much sense of the specific pedagogical problems, approaches, or strategies that they can encounter and explore in these sites, nor do they seem to help many teachers or teacher educators who have specific questions and concerns that are not reflected in such general descriptors.

Categorizing Hutchinson’s site, for example, as focusing on 9th grade English or on “group discussion” does not even hint at the wealth of issues that teacher educators have used this site to explore with their students. Furthermore, Hutchinson’s site may be particularly useful for what Megan Franke at UCLA and others are coming to call

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“high leverage strategies”; strategies like Hutchinson’s use of “stock phrases” and her “anticipation guide” that viewers, including many teacher education students, seem to be able to grasp relatively quickly and to apply in a variety of different contexts with some success. Yet until we find a way to highlight those strategies – without divorcing them from the contexts and the other issues of teaching and learning to which they are intimately connected – their potential value for others may not be realized; furthermore, only after identifying key elements like these will subsequent producers of web-based representations know what to pay attention to in order to begin to document practice in more common and less idiosyncratic ways.

**Conclusion**

Ideally, developing new forms of multimedia representations will foster a better understanding of the complexity of teaching and will help to establish a new medium for facilitating teachers’ learning that goes far beyond the dissemination of lessons plans and course descriptions that is so common today. However, answering these initial questions about the nature and possible uses of multimedia representations of teaching naturally leads to more questions: If there are sufficient reasons to continue to develop multimedia representations, who will create these representations? What kinds of tools and resources will be developed to assist them? How will concerns about equity, issues of privacy and questions about intellectual property be resolved?

Furthermore, we have to come to terms with the “chicken or the egg” problem that it may remain difficult to categorize and organize web-based representations of practice without a common language to describe and highlight key aspects of teaching and learning in many different contexts; and it may remain hard to develop some shared language without wider opportunities to see and examine the teaching and learning that goes on in many different classrooms. Thus, in the end, we still have to confront basic questions about our conceptions of teaching and learning and what we envision as the “building-blocks” or the foundation for teachers’ development. Perhaps, if the development of new representations of the teaching in many different classrooms with many different students – with all the issues those efforts raise – stimulate further and deeper discussions of those basic conceptions, the efforts will be worthwhile.

**References**


