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Usability Studies in Textbook Design Interview with Michael Greer

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- Q: We're on a quest for useable book designs here in Santa Fe, New Mexico. Joining me today is Michael Greer, who's done a great deal of work looking into what makes a book usable for the reader and that we can chat about who is the reader and what do we mean by book in just a minute, but Michael Greer, first of all, thanks for joining us here at Beyond the Book.
- A: Thanks for having me. I appreciate the opportunity.
- Q: You've got a lot to talk about. You've got a contribution to a book that is coming out this month, November. The book is called *Usability of Complex Information Systems, Evaluation of User Interaction*. That is a mouthful and the title of your work itself is "Innovation and Collaboration in Product Development, Creating a New Role for Usability Studies in Educational Publishing." And it's all based on work that you have done with Tharon Howard, who is your co-author for that. We should tell people, first of all, that you are a senior development editor at Pearson Higher Education, where you've been since 2000, working on development design and publishing of effective and usable textbooks for college English courses. And prior to joining Pearson, you were a senior editor for the National Council of Teachers of English. You also taught English yourself and literary and cultural studies at Georgia Tech, Illinois State University, and the University of Illinois. And your colleague and collaborator, Tharon Howard, has directed Clemson University's usability testing facility since 1993 and he's a professor of English there at Clemson and quite a usability guru. Usability is something that we've been following some here at Beyond the Book because what we recognize is as publishing breaks away from the book as form factor, that's a usability tried and true form, we're coming into all kinds of new forms and it really is raising a lot of questions. It must be an especially exciting moment, but an especially challenging moment to be in book publishing.
- A: It certainly is. We're in the midst of a fundamental transformation in the way people read. People are interacting now with websites, with apps, with various kinds of information products that are both like and unlike books. And so part of what we were interested in studying with the college students was based on the



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recognition that college students today have come of age in this post print culture. They're coming of age in a culture that is digital literacy, and we don't really know what that means. And there is perhaps a fundamental disconnect between the literacy that their teachers practice in the classroom and the literacy that those students have grown up with. So it was out of that moment of transformation and change in the very definition of literacy that we wanted to take a look at how students use their textbooks and what that means for the way those textbooks are designed and delivered today.

Q: Before we go into your work and your studies, let me just ask you. When someone hears that literacy itself is changing and that there's this whole challenge to the notion of what it means to be literate. You're a former English professor. How do you feel about that?

A: Terrified and excited at the same time. I mean there are certainly things that we can see as losses in the traditional print culture and those losses are perhaps best described by Nicholas Carr in his new book called *The Shallows*, where he talks about what – that very question – what has become of reading? What has become of our ability to think deeply, to read a text and to focus on it for any length of time. His argument is basically that we have lost that, that the Internet has sort of created the shallows of the mind where we skim across the surface and we're not very good at diving down to the depths. So that's the negative spin that one can put on the story. The positive spin is that students today and young people today, whether or not they go to college, are interacting with more kinds of texts in more different ways in more different media and they're not just consuming text, they're producing text. And so if you read the work of people like Clay Shirky and Stephen (sp?) Johnson, you get the other side of the story that says for every loss, there's a gain. And the gain is community, connection, collaboration, and a new form of creativity that's emerging out of this moment.

Q: Right. And, you know, your goal here is what you called in a presentation you gave at PubWest last year, a new model of information architecture. And we'll get into that. You have studied this, so it's not just received opinion. You've sort of watched how people consume content – we used to call it reading – how they consume content and you've drawn some conclusions about that and then thought about how those conclusions will drive book design in the future. So let's start with some of the background on the studies. What were you trying to get at? Who were you working with?

A: This is where I first met Tharon Howard at Clemson University. We hired Tharon to collaborate on a series of usability tests and we sat down with a small group of college students from community colleges and four year colleges and we asked



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them to use their textbooks in particular ways to perform the kinds of tasks that they needed to use those textbooks for – how to cite a particular source, how to decide if a particular sentence needed a comma or not. We were looking specifically at English grammar handbooks and so we basically were interested in how do students use these and where do they fail? So we set a project that we were working on in development up against the market leading handbook and we watched as the students literally tried to use those books to do what they were designed to use. And we realized that the conventions that teachers are familiar with are not familiar to students.

Students fundamentally found their handbooks to be by all definitions unusable. In other words, they could not find the information they were supposed to find. The reasons for that have a lot to do with the navigation and they have a lot to do with what things are called. An English teacher knows what a comma splice is. A student does not. A student doesn't know what to look for in handbook until they know what the problem is that they're trying to solve. Once they know what the problem is they're trying to solve, they're halfway there anyway. So we sat down with these students and did these very in-depth studies where each student was videotaped for about an hour at a time. And we watched and analyzed and tried to figure out where are they getting hung up and how can we design a book that will enable them to move past those obstacles?

- Q: Tell us in more detail about some of your observations. For example, the students would prefer to flip and skim. They are looking at pictures, looking for examples. I guess they're looking for help to understand what the heck is this trying to tell me.
- A: Exactly. They're using these kinds of books as a problem solution model. A handbook is not – it's not a novel. It's not the kind of book – no college textbook is like that. You don't sit down and read it for fun. You're looking for specific answers to specific questions, right? So we had to find out how they engage with those texts and what we found is that they do tend to jump around a lot. They're non-linear readers. You could say that that have short attention spans. I wouldn't say that, myself. I would say that they're non-linear readers and that they're gathering information from multiple inputs and multiple points in time. So they're looking at the visuals. They're looking at the boxes. They're looking at the headings. They're looking up and down and all around the page to try to figure out is this the right page I need to be on? They tend to be a little impatient because they want to find the answer and they want it now and they're used to using digital products that enable them to do that. You type something in to a search box and it finds it for you. So we noticed a certain amount of frustration with them. As they were flipping around in these handbooks trying to find something, they would



furiously page back and forth and try to find something and usually settle on the closest approximate thing, which unfortunately was usually incorrect.

- Q: That utilitarian impulse – you know, you used the word impatient, and there’s a certain pejorative sense that goes with it. But I remember my days as a college student, and I was pretty utilitarian. And that makes a lot of sense.
- A: It does, because there are books – I mean they’re being used in the context of a student revising and correcting and proofreading a paper. So they need to know, do I need a comma in this sentence or not? They need to know what’s the proper format for citing this source. They need to know where do I put the footnote and where should it go at the end of the paper and do I need to capitalize that and is that a hanging indent – very practical questions and usually it’s late at night and the paper is due in the morning and so that’s the situation. That’s the user context. And usability talk about the context of use. You have to take that into account. You can’t idealize it. You have to test do you understand what’s really happening in the moment that the student is really using that book?
- Q: And all these observations drove you and your collaborator to some conclusions about basic design principles. I know there were three that you have spoken about. Take us through those three principles.
- A: Well, yeah, what we tried to figure out was now that we’ve discovered what we have about the way students use these books, how would we redesign the mousetrap? What would a better handbook look like if we were trying to serve these students who use text in this way? And our three concepts were chunking, layering, and patterns. Chunking has to do with breaking up the content into small bits of information. Students don’t want to have to read four pages. They want to find it now. So you have large headings at the top of the page. In this particular case, every section of the book was designed as a series of two-page spreads, so that everything is contained on one spread. You don’t have to go back and forth. You don’t have to break across pages. It’s all right there on the page. The heading is always at the top and the content ends at the bottom of the page.

The idea of layering comes from our understanding of how students use the web. Students are used to seeing content where you have the top layer, this is the basic introduction. And then you can drill down for more information. It’s not the same as a book, where you have a chapter that flows through a series of ideas from beginning to end. It’s short information first, more detail if you need it. So layering is really kind of something that has been evolving through web design. And then the final concept of patterns has to do with readers – if you’ve ever read a book, you’ll sometimes remember, oh, I don’t know what page it was on, but it was



on the left – halfway down the left-hand side of the page. Patterns are there to help reinforce visual memory. So if you have a heading that’s always at the top left of a page, it should always be at the top left of the page. You should design your book pages to be extremely consistent, almost like a template, so that that pattern reinforces itself so that people begin to learn where to find the information they need on that page.

Q: How keen are you as an editor and a former lecturer to see these kinds of principles put into action as broadly as possible? Do you think that can happen?

A: I think it should. I think what we’re confronting at this point in time is this transformation in literacy, and I’m very scared by the perception to blame the students and to say students aren’t good critical thinking. Students are not good critical readers. They just don’t know how to read anymore. There may be a kernel of truth in that, but I think politically, culturally, and educationally, we have to meet students where they are. And we have to in a sense retrain ourselves to think like they think, to understand text and to build texts that are going to work for them. Because if we continue to further that disconnect with them, what good are we doing? We’re not reaching the students if we don’t create material that they can understand in a way that’s comfortable and familiar to them. So the quest for the usable book is really – it’s not just about successful publishing. It’s about successful teaching because any teacher will tell you, you have to meet the students where they are. You have to engage and connect them, so this is our attempt to try to figure out what that would mean in terms of the layout and the presentation of information on a book page and it also applies to e-books and enhanced e-books and other kinds of digital content. These principles apply across the spectrum.

Q: I was just thinking of that. It’s an interesting conversation. There’s a dialogue here, it seems to me, that’s ongoing and right now it’s hard to say who has the upper hand. It feels like, from what you’re telling us, that the web has the upper hand, but there’s this dialogue I’m suggesting between the book side of things, the printed page side, and then the web or digital side of things. And the digital is now influencing the print in the way that perhaps at the beginning of this new era, print presumptions were taken into the digital side.

A: Yeah, that’s a really good point. I think now you’re seeing a kind of back and forth between people who design for print and people who design for the web. And in fact, most designers that I know and work with today are doing both. I mean there are people who grew up designing books who have had to learn web design, but anybody who studied graphic design in the last decade or so has probably learned both. They’ve learned fundamental principles, and hopefully they’re getting an education in user experienced design, because, as our keynote speaker said this



morning, we're not really in the business of selling information anymore. We're in the business of selling experiences. And in the case of educational publishing, it's a learning experience. And we want the students to learn from what we're doing. So we need to think about what can print culture teach us about that? What can digital culture teach us about that? And how can we draw the best from both worlds to provide an experience that's engaging and informative and that teaches something.

Q: We're talking with Michael Greer about the usable book and the quest for the sort of new design that's going to make the book more usable. Chris Kenneally here for Copyright Clearance Center's Beyond the Book. And perhaps one way to sort of round this conversation out is to ask you whether this distinction that we've been suggesting has existed for some time between the print book and the digital. Is that going to continue? Is it going to merge? If people who are designing are designing for both web and print, after awhile, are they going to try to keep the two separate or are they going to want to see them both as being just very much the same kind of presentation?

A: I think that's one of the questions that percolates through conferences like this one, where you have publishers who are asking how do you know when to publish something in print and how do you know when to publish something digitally? I think print culture has a lot to teach digital culture, and vice versa, so in a sense it's a matter of figuring out what each one can learn from the other side.

Q: We've learned a lot from you, Michael Greer. Thank you so much. We appreciate your joining us for Beyond the Book.

A: It's been a pleasure. I would like to do it again. Thank you.

Q: Well, we hope you can join us again sometime soon. Michael Greer is a contributor to a new book out from CRC Press, which is an imprint of the Taylor & Francis Group. The book is called *Usability of Complex Information Systems* and he's contributed an essay with his usability colleague Tharon Howard on "Innovation and Collaboration in Product Development, Creating a New Role for Usability Studies in Educational Publishing." For all of us at Copyright Clearance Center, this is Chris Kenneally for Beyond the Book. Thanks very much for listening.

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