A short take on design challenges in the mobile education world

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The mobile world is populated by *info-cheetahs* thumbing across their cellphone keyboards without looking, pda folks who can't stop, in-car GPS users who don't know how they arrived at their destination, along with pixsters and i-news hounds. The *fourth screen*[1] has alighted! How do we as educators address the opportunities presented by mobile devices?

The modern rite of connectivity is mobile and the cell phone appears to have become the most relevant device for undergraduates. The indoor wireline desktop and the carry-on size notebook model of accessing education is not ghosting away, but the micro-screen mobile is likely to become the device of choice for accessing online courses.

The challenge for content experts and designers is to determine how best to attract, retain, and, most importantly, educate, the on-demand digerati. The mobile subscriber experiences Web posters, SMS text notices, RSS feeds, and mobisodes—online educators are already in the mix as students post/reply/read/view with their handheld mobile

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[1] a term of art used by Mobile Technology analysts in describing the progression from cinema, to television, to computers and now to mobile devices

devices. IT and educational content experts can design with this platform in mind. For the mobile user, as the physical architecture microsizes, the imaginative landscape enlarges in part because of the *"it's mine"* feel of the platform. The fourth screen is a portal where what we thought were the physiological limitations of the human eye are transcended by the use of fingers and thumbs that we also thought had limitations.

IT, design, and pedagogy can adapt to and have their own driving force in the mobile environment as long as they adhere to best practices in online education. There are various design responses to the edu-mobile phenomenon. What essential knowledge and understanding should the instructor/designer have? Basic considerations include an awareness of the device and an understanding of the experience of being *at-use* in the handheld mobile world. The pulling-in aesthetic of the micro-screen along with the act of accessing is enough to envelop the instructor and the learner in a unique relation. The psychological power of being at-use means there is no need for the designer to worry about the device users being distracted; they never are. Although many text and drive—claiming to be multitasking—they really are

not because one cannot pay attention to everything at the same time (de Zengotita).

We are upset when a visitor stops to take a text message, his trance offends us, but it carries a lesson for the designer. Such a state of total immersion has enormous potential for instructional design. In the culture of mobility, the user is not passive. The user is reaching out, continuously making choices of what to pull in, expecting to be engaged and to contribute.

How does the mobile instructor put the total immersion to use? What is the grammar of the mobile aesthetic? First, the educational meeting ground is not in or on the device but in the imaginative space created by using it. In spite of its post-industrial positioning, the mobile device still appears to create a type of enchainment because of its hypnotic and habit forming properties: the user is already on a treadmill and got there voluntarily. These are the parameters for the designer. How does the designer tap into the properties and create instructional value? Quite simply. First, ignore the intricacies of the device: anyone can become accustomed to it, like riding a bicycle. The size of the keyboard enlarges with each use, and the micro-screen is wall-size in the mind's eye. So, the designer should be conscious of

2G2BT • "too good to be true" in SMS shorthand

3G, 4G • third- or fourth-generation

digerati • the elite of the computer industry and online communities, derived from "digital" and "literati"

EV-DO • evolution data only/evolution data optimized. Provides wireless broadband internet service directly to your laptop without the need for a "hotspot" (http://www.evdoinfo.com/content/view/37/61/)

fourth screen • the handheld screen (after the Silver Screen, TV, and PC)

GMAE • GNOME Mobile & Embedded Initiative

GNOME • (pronounced gah-NOHM) GNU Network Object Model Environment, is a desktop environment for users, as well as a application development framework

GNU • GNU is a recursive acronym for "GNU's Not Unix"; it is pronounced *guh-noo*, approximately like *canoe*.

HSDPA • High-Speed Downlink Packet Access, also known as High-Speed Downlink Protocol Access

MMS • Multimedia Messaging Service

Pixter™ • is a children's handheld electronic toy, created by Mattel and Fisher Price, that can play a variety of games

RSS • Rich Site Summary is a format for delivering regularly changing web content. Many news-related sites, weblogs and other online publishers syndicate their content as an RSS Feed to whoever wants it. (www.whatisrss.com/)

SMS • Short Message Service, a.k.a. text messaging

Twitter • a free social networking and micro-blogging service

VOIP • Voice Over Internet Protocol

WML • Wireless Markup Language, a content format for devices that implement the Wireless Application Protocol (WAP)

the screen as a bounded place but design for it as an infinite space.

Design

How conscious is the mobile communication process? What design elements are necessary to ensure the singularity and effectiveness of online education in a Web 2.0 mobile world? The user is motivated by the liberating sense that everything is being addressed to him and he can address everyone and everything (de Zengotita). But the users have the ultimate power in the micro-world; they will choose where to go for online education. They will go where the ultimate form of autonomy and choice fuses with an effectively designed learning space and the possibility for self-advancement. How, then, does the designer attract and retain the users and become part of their personalized realm?

The answer exists in a distinctive design and dynamic. As in the design for desktop and notebook computers, part of the success is the dynamic of "the human element." The characteristics of the distinctive design features are crucial to educational success. For example, there is no need to think of designing as constructing a reality (a duplicate traditional classroom) because the mobile world is a duly accepted add-on reality.

Nonetheless, the designer must be as conscious of effects as the cinematographer (remember: the user pulls-in cellphone TV). It is the human touch that creates quality in the mobile education world.

The human element

The "human element" creates "presence learning" (Chepya) which is in essence a humane approach to mediated communication. It carries into the mobile world because mobile communication is a habitual source of pleasure; and, if conducted with basic principles in mind, the human element can persist in the educational milieu. For example, the stable, predictable professorial pace embedded in the presentation of lectures, assignments, discussions, and web navigations is humanly attractive. The mobile educational world will be a place students look forward to accessing as much as they do their serious social and entertainment distractions.

"We are most at leisure when we are most intensely involved" (McLuhan, 347), and the mobile device by its nature combines these states. *Focus:* what better state of mind to be in for receptivity to learning? *Concentration?* It is up to the instructor to create it by engendering a sense of academic

decency through patience and fairness both in design and in ongoing techniques of communication. These qualities, unlikely in the general mobile busyness with its piling-on, rapid-fire array of staccato movements, will create a unique calm and surprisingly positive result for learning. With these principles in mind, mobile education is less likely to become a knowledge transfer event.

Human scale resides in the quality of communication between instructor and student, and design elements can enhance or ruin it. In essence, communication is a human activity, not a machine driven experience. Other considerations: has the concept of "personalized ambient learning" been taken into account? Is there a place for mobile students to "twitter" and still be engaged in a learning activity? Has legacy (pre-mobile) real time collaboration been considered (web, audio, and video conferencing) as part of the learning design? Since effective education cannot be carried out in a loose Web 2.0 environment, rules of academic netiquette must prevail in instructor-2-student e-mail and texting and in student-2-student discussion board communication. No chat acronyms and perhaps only the occasional smiley face... but maybe that's 2G2BT (at least at the outset).

IT folks will contribute to the handicraft of the content expert and the designer with Mobile Information Architecture such as WML; 3G and 4G technologies (such as EV-DO Rev A and HSDPA); multi-user real time possibilities; multi-media functionality (such as MMS); VOIP1 and VOIP2; the boundaries of their institutional WAP (wireless capability); and, the GMAE platform, to name a few. It's up to the content experts to know what they would like to be doing in the mobile learning environment, and it will be the best sort of teamwork with the competence and genius of IT and ID that will create the result.

Conclusion

It is true that mobile educators contact learners in places where they are, but it is unfair to say they are pandering to the digerati when educators have long ago left the stand-alone chalkboard and the course that has no website. Today the instructor communicates across space, time, and place with learners who exist in other times and places. That environment is accelerated and expanded by the mobile device. Through the proven design techniques mentioned above, the instructor will be present in that mobile place. And, most importantly, the proven standards, best practices, and essential elements of online education cannot be allowed simply

to vanish in the Web 2.0 cafeteria that has loosened previous authority structures.

The most compelling way to engage mobile learners is also the most creative. The medieval traveling dramatization of parables is now on a hand-held screen. Today the audience (learner) travels and so may the educator. The entire interaction is a non-physical place event, hence the importance of the design nexus. The singularity of the pedagogical elements described are the basis for and will ensure the effectiveness of education in the mobile world.

References

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