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Clickers in the Classroom: Reaching the Millennial Learner

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WORKSHOP

CLICKERS IN THE CLASSROOM: REACHING THE MILLENNIAL LEARNER

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Abstract

Do you have trouble relating to your students? Do your "tried and true" teaching methods not have the same impact on today's students? Do you want to become a more effective teacher? Are you just curious about what's "new" in terms of teaching tools and technologies? If so, attend this interactive workshop on teaching the digital millennial learner and relating to the "Net Generation" where we will discuss the characteristics of the millennial learner, how to respond to their needs, and adapting your classes to their learning styles. This interactive presentation will also explore tips, tools and technologies for responding and relating to the current generation of students. Audience members will participate in the presentation using the technology discussed.

Keywords: Digital millennial learner, learning preferences, teaching, technology, tools.

Learning Preferences

The NetGen student prefers to learn at their own pace. The like and are comfortable with an on-line environment for testing, lectures, and assignments. They are informal learners, preferring "any time, any place" learning to a traditional classroom. Class time is most effective for these students when it involves interaction, demonstration and social networking. NetGen students are visual and kinesthetic learners who prefer to experience the world through multimedia and not print (Oblinger 2003 and 2006). This is often problematic for faculty who prefer to learn by reading and listening to a lecture. It is this dramatic difference in learning preference that creates a disconnect between student and teacher. Figure 1 highlights the generational differences and preferences (Oblinger, 2005).

Adapted from: Oblinger, 2005.

Figure 1: Comparison of Learning by Generations

To put the chart in perspective, today's 21-year old has spent 10,000 hours playing videogames, 20,000 hours watching TV, 10,000 hours talking on their cell phone, sent 250,000 emails and only 5,000 hours reading (Oblinger, 2005). As a result of this exposure to a multimedia environment, their brains have developed to respond to such stimulation and they therefore process information differently than their professors, parents, and just about anyone older then them. Yet when they reach college, they are often asked to read copious amounts of material from textbooks, which they find boring and are unable to successfully process. This directly impacts their view of the professor, the topic and even the college environment itself. Let's explore the differences in information processing between the generations.

Information Processing

Today's "Net Generation" processes information visually and learns much differently from their "baby boomer" or "Generation Y" professors. Their brains are "wired" differently than that of their professors, hence their development and experiences guide how they process information and experience the world. While most faculty process information in a sequential or liner fashion, NetGen learners process information in a randomized or networked pattern which allows them to build concept maps (see figure). This seemingly random information processing alludes to the need for a variety of learning opportunities and methods. NetGen learners do not gain much of their knowledge in the classroom, but rather outside it after they have had a chance to reflect on the information. In fact, the average attention span of a NetGen student in only seven minutes. That's right, 7 minutes! (Oblinger, 2006). If students are asked to sit through a traditional 50-minute class that involves lecture only, they will not surprisingly "tune out" very quickly. It is important to use several pedagogical methods and vary the pace of learning.
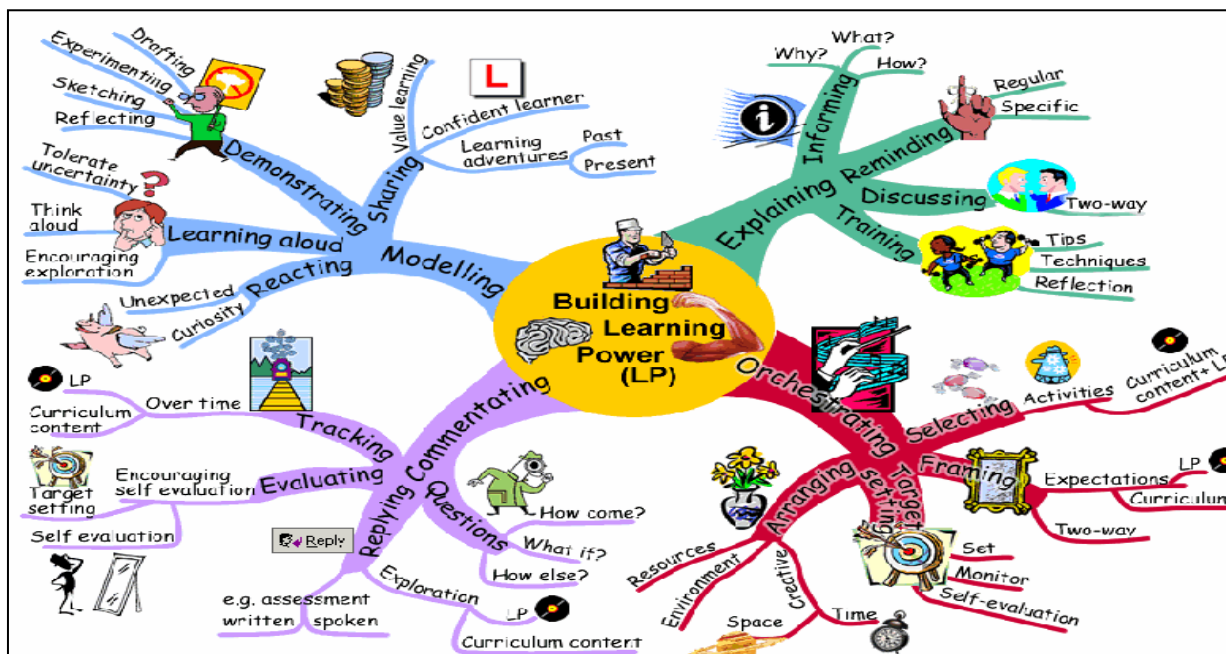

Figure 2: OpenMind™ Concept Map

Breaking concepts into 10-minute "chunks" will help students retain material, but only if they have time to process the information interactively and have a chance to reflect on it. They prefer self-paced learning, engagement from and with their peers, real experiences and find relevance in "things that matter" to them. In fact, they might even ask you to clarify "what's in it for me?"

An LMS to Make it Relevant

So how do we accomplish this? How can we make our classes more relevant and applicable? One way is to accept and even embrace the on-line learning environment. Learning management systems (LMS) such as Blackboard™,

WebCT™ and Moodle™ make it easy to communicate with students and they prefer the "any time, any place" accessibility of information. Most NetGen students do not even learn and/or study during the day, save for attending their classes. Most of their work is done between the hours of 9 p.m. and 3 a.m. Check your LMS student access statistics if you're not convinced!

Since NetGen students prefer on-line environments for everything from assignments to homework to testing, faculty need to incorporate such learning into their courses. Class time can be used for interactivity, demonstration, and peer learning. The NetGen student also prefers group activities and collaborative projects. Why do you think they are always asking you if they can "work together" on an assignment? The like to brainstorm and spent considerable time in on-line discussion boards and Blogs (web logs or jounrals). In fact, some of the most popular learning environments today involve the use of Wikis (on-line editable web encyclopedias) and Blogs (Alexander, 2004; Chen, 2005; Higdon, 2005). This is a culture that is very social and thrives in on-line communities.

To engage the NetGen learner, a course must incorporate multimedia as well as kinesthetic experiences. Students like simulations and role playing scenarios as they prefer to experience things from a realistic, practical standpoint. That's part of the reason that they won't listen to a lecture—they need to go out and experience it for themselves— sometimes despite the consequences. To cater to this learning style and preference, real-world projects and tasks are excellent ways for them to experience the real word and focus on the WIIFM mindset. Figure 3 illustrates the continuum of learning. A successful learning experience will balance both ends of the continuum (Oblinger, 2005).

Action	Reflection
Visual	Text
Social	Individual
Process	Content
Speed	Deliberation
Peer-to-peer	Peer review

Adapted from: Oblinger, 2005.

Figure 3: Range of Learning

Tools and Technologies

There are many tools and technologies available to the instructor which can be used to create interesting, relevant learning opportunities. The easiest and most common is to use PowerPoint to incorporate some multimedia into a lecture. It is imperative that professors not read from the slides directly as the students perceive this in a negative way. Instead, use PowerPoint as a basis to begin an interactive discussion in which students can share their views and experiences with each other. LMS are an excellent way to do this as discussions can begin before the class session does and/or continue long after the class is over. Remember, NetGen students learn by building concept maps and they may not "get it" in the classroom, but rather later on after they have reflected on it (Chen, 2005).

Interactivity is great you say, but how can an entire class be interactive? One method involves engaging the students—often. Recall that most NetGen students have a 7-minute attention span and technologies like Turning Point's Audience Response System™ (AKA "clickers") can be used to assess their comprehension, interest and opinion ("What are Audience Response Systems?",2006). If they feel as if you care, they are more likely to be engaged and learn. They also like playing with "digital toys" like the clickers. Varying the method of presentation

is also important. Intertwined in the lecture should be video and/or audio clips that students can listen to either in class or afterward—remember they learn visually and like multimedia.

Software tools (see Figure 4) that are available for creating multimedia lectures and presentations include MatchWare's Mediator™ which slows website design without any knowledge of HTML or programming. Students take to this very quickly and are often able to create applications without any formal training—they just click and learn on their own by doing. The software is feature rich, easy to use and reasonably priced (MatchWare, 2006).
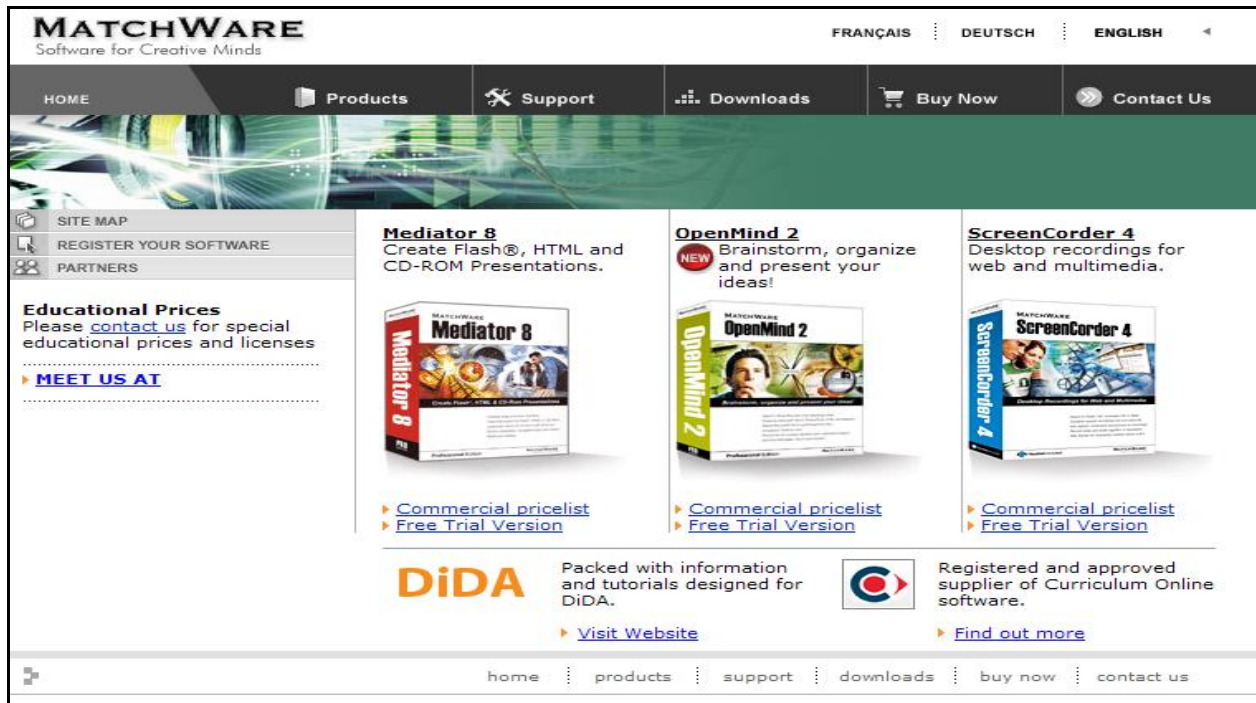
Adapted from: www.MatchWare.com

Figure 4: MatchWare's™ Software Suite

Another MatchWare product is ScreenCorder™ which is excellent for recording voice-overs on your PowerPoint slides. Students like the ability to listen to the lecture when it is most convenient for them and when they need to process the material again. This works well in both on-line and traditional classroom learning environments as students have access to the material and can listen to it at their convenience.

The final MatchWare product is called OpenMind™ and it allows concept maps to be built either from scratch by students for their own use or by instructors for their students. In fact, a traditional outline format can be created and then converted to a concept map. The product is also excellent for websites, presentations and general note taking by students (MatchWare, 2006). It is also very easy to use and my students did not even need any training on how to use it. I showed it to them and they took to it immediately. Remember, this method of learning is what they prefer best—"show me and then get out of my way!"

Learner Expectations

Technology aside, students must be engaged using the thee H's: Head, Heart and Hands. Most NetGen students do not question the instructor's knowledge on the subject—to the contrary—they expect the instructor to be an expert in the topic and be able to pass that knowledge on to them. NetGen students also need to feel that the instructor has a heart and cares for the students. This includes responsiveness and empathy for them and their problems. It also includes an enthusiasm for the topic and teaching in general. Luckily, for most teachers this is not too difficult! Finally, good teaching skills are necessary. Use of the "hands" to convey ideas at the right level, in a clear and systematic manner which stimulates their interest and learning is vital (Oblinger, 2005).

The physical environment in which students learn is also important. As previously mentioned, they are "any time, any place" learners and prefer informal learning spaces to more formalized ones. To this extent, they embrace and even demand a wireless environment where they can connect to the Internet and share information in the form of email, instant messaging, blogs and the ability to just search for information on the web. Flexible classrooms that have moveable chairs and even walls help to diminish the visual barriers and enable group interaction (Long, 2004).

Putting It All Together

The NetGen learner is here to stay. As instructors, we need to acknowledge and adapt to their learning style, lest the "tune us out" and find the material irrelevant. Today's student is more technology savvy than ever before and their comfort with the digital environment presents some challenges for teachers who are often less than comfortable with this new paradigm. If you have not already done so—and if you have not been convinced by this paper—you need to begin looking at your course delivery methods and incorporating some of the new technologies discussed. There are several learning outcomes that remain over time such as communication skills, critical thinking, problem solving and collaboration. The major change factor involves how these key concepts and ideas are communicated to the students. College is the place to allow them to learn and explore new ideas and topics as they prepare for a future that has never been more uncertain, but also one that has never had as many possibilities.

Workshop Presentation

As part of this workshop, an interactive presentation will be conducted using the Audience Response System™ (AKA "Clickers") whereby attendees can experience this technology in real-time. Audience members will have the opportunity to see how the technology works as well as ask questions on how it was implemented at the author's university. The PowerPoint presentation utilizing the software is available upon request from the author.

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