What the Millennium Teacher Must Know and Be Able to Do

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Pedagogical tools for the millennium teacher will look very different from those in place in most classrooms today. Video, sound, and text will all be interwoven, creating environments that will engage students as all senses are engaged. Students will be exposed to information and people in "real-time" settings, will be using a variety of learner-based tools (Bull, Bell, Garofalo & Sigmon, 2002), and will employ tools that speak to each other. As Kellner (2001) indicates, such new technologies may appear exotic in the present, but "will become increasingly commonplace in the future and will force a rethinking of education" (p. 47). Teachers will not be, nor should they expect to be, "experts" in the classroom, but will serve as guides, while they themselves receive guidance and assistance from others to support the use of technology tools that will be "in place" in millennium learning environments. Millennium teachers must ask for and expect this support, as it will be necessary to meet the "three musts" of teachers for millennium classrooms.

As we begin to rethink education for the millennium, the three "must haves" for teachers include the following: 1) teachers must know the learner, 2) teachers must know the curriculum, and 3) teachers must know the tools.

While these appear to be just what preservice teachers and in-service teachers have been addressing for years, these need to be perceived and acted upon differently than they have been in the past. Critical pedagogy for the millennium teacher must emphasize critical thinking skills and wise use of technology tools to accomplish the practical work of teaching and learning. Millennium teachers must work both within and outside the walls of school classrooms, learning, teaching, and articulating needs as well as possibilities, as they advocate for all students.

1) Millennium teachers must know the learner: Knowing the learner requires focusing attention on the learner. The role of the millennium teacher

will be that of a conductor who orchestrates learning and assessment in a variety of contexts. The millennium teacher must be cognizant of strengths, needs, interests, and prior experiences of the learner as an individual and as a member of learning groups-and then use this information to design appropriate learning situations. Also, the teacher must be able to fashion environments that include conditions which promote student learning in newly created situations. Cambourne (2001) identifies immersion, demonstration, expectation, approximation, responsibility, use, and response as necessary conditions for promoting active, engaged learning. Learning environments that incorporate anchored instruction, situated learning, constructivist learning, and problem-based learning components will facilitate engaged learning in millennium classrooms. Teachers must be able to incorporate shared decision making, dialogue, and use of real-world situations to begin to raise the critical consciousness of students, giving students real reasons to be engaged in the learning process (Giroux, 2001), and ability to apply what they have learned. Knowing the learner in this way, the millennium teacher must be able to use technology tools to facilitate orchestration of communication, collaboration, and problemsolving environments to promote such engaged learning (Bacon & Kischner, 2002).

2) Millennium teachers must know the curriculum: As the knowledge base in all fields continues to increase exponentially, and as the number of required standards continues to grow, teachers must have the ability to locate and make use of resources that promote continuous learning. A millennium teacher must be on the cutting edge of new information in education, and use this information to make decisions about core knowledge and skills students must acquire. Millennium teachers must know how to scaffold work leading to standards attainment to meet the needs of students. In doing this, the millennium teacher must be able to understand the social aspects of the students' lives, connecting these to the curriculum as well as to broader social issues (Lemert, 1997). In all of this, millennium teachers must engage students in problem solving as well as "problematizing" (Giroux, 2001; Freire, 2000), using the real world as school. For all of these tasks, technology tools will be needed. Using resources to keep students abreast of new information, using technology to expand the curriculum for students, and using technology to create engaging, meaningful learning environments where curriculum is not narrowly and strictly defined, will be important for millennium teachers.

Millennium teachers must know the tools: Tools 3) of the millennium will be smaller, faster, and more efficient than those of the past. Similar to remaining abreast of changes in content of the discipline, millennium teachers must continue to learn about, and incorporate, new tools. These technology tools must be embraced and demanded for all students, to assure that all students receive quality educational experiences. Having the motivation or the capability cannot determine whether or not millennium teachers use technology. Technology tools, with proper technical support, must be modeled by millennium teachers in instruction, be embedded in the curriculum coursework tasks, and be used to orchestrate learning for a diversity of students. These tools must address time, space, and logistical needs, and provide a vehicle for communication, collaboration, and problem solving both inside and outside school buildings, and across state and national boundaries. Technology tools will be a necessary part of the curriculum, as well as of the students' life work, and therefore must be the pedagogical tools of millennium teachers.

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