

## National Summit on Educational Games

### [Fact Sheet](#)

The National Summit on Educational Games was held on October 25, 2005 in Washington, DC. The Federation of American Scientists, the Entertainment Software Association, and the National Science Foundation sponsored the Summit.

The Summit convened nearly 100 experts to discuss ways to accelerate the development, commercialization, and deployment of new generation games for learning. Participants included: executives from the video game industry and education software publishers, researchers and experts on technology and pedagogy, game developers, representatives of user communities such as teachers and the U.S. military, R&D funders, and government policy makers.

The Summit focused on four issues: video game features useful for learning and aspects of learning that could be supported by video games, research needed to support the effective use of games for education and training, market barriers, and changes in schools that might be needed to take advantage of educational games.

#### *[Why should the United States focus on digital games for learning?](#)*

- Many video games require players to master skills in demand by today's employers—strategic and analytical thinking, problem solving, planning and execution, decision-making, and adaptation to rapid change.
- They can be used to practice practical skills and important skills that are rarely used, to train for high-performance situations in a low-consequence-for-failure environment, and for team building.
- Games offer attributes important for learning—clear goals, lessons that can be practiced repeatedly until mastered, monitoring learner progress and adjusting instruction to learner level of mastery, closing the gap between what is learned and its use, motivation that encourages time on task, personalization of learning, and infinite patience.
- Today's students—the so-called digital natives—are poised to take advantage of educational games.

#### *[What research is needed to advance games for learning?](#)*

- Research is needed to determine which features of games and simulations are important for learning and why, and how best to design these systems to deliver positive learning outcomes.
- Research is needed to develop automated tools to streamline the process of developing games and simulations, and to reduce development costs.
- Research is needed on how to best assess the knowledge and skills learners acquire from games, and on understanding the barriers to the adoption of learning innovations in education institutions.

### *What stands in the way of bringing games and simulations to learning?*

- High development costs and an uncertain market for educational innovations make investments in developing learning games similar to commercial video games too risky for the video game and educational materials industries.
- Schools are reluctant to give up textbooks or purchase educational technologies that have not proven their efficacy, especially in terms of today's education standards.
- Some parents and educators have negative attitudes about video games.
- Schools are slow to adopt new innovations, and make the organizational and instructional changes necessary to make good use of new learning technologies.
- While games may be especially good at teaching higher order skills, these skills are not typically assessed in standards of learning-types of examinations.
- In some schools, access to computers may be too small for them to play a mainstream role in learning.
- Data from evaluations is needed to show that learning games are effective.

### *What should the government, industry, and education community do to get educational games to teachers and learners?*

- The U.S. Departments of Education and Labor, and the National Science Foundation—in partnership with industry, educators, and the academic community—should support an R&D agenda to encourage the development of education and training games for K-12, post-secondary, and adult learners.
- R&D investments should catalyze collaborative efforts between game designers, and those who develop and implement educational materials.
- R&D should include evaluation of educational outcomes generated by learning games.
- Business leaders should work with education and training institutions to develop criteria for assessing higher order skills.
- Educational materials publishers and game companies should explore the economics of developing and marketing simpler, shorter, and less costly to produce “downloadable” educational games.
- Training materials and software publishers should explore opportunities for developing training games for the nationwide workforce development system overseen by the U.S. Department of Labor.
- Educational software publishers and game companies should explore developing learning games for the informal after school market and for home video consoles.
- Game companies should look at education as a secondary market for their technologies, and consider selling these at low cost for use in education.
- Educational institutions should develop and execute a strategy for changing instruction to reflect the kinds of learning innovations expected in the coming decade.
- Schools of education should work with the learning games community to develop new and revamp old pedagogy to take advantage of these new educational tools.
- Teachers should be trained to use learning games.
- Efforts are needed to aggregate education markets with common needs so developers can bid on a market large enough to justify a major investment in product development.