

About Immersive Education and the Immersive Education Initiative

What is Immersive Education?

Immersive Education is the next step in the evolution of on-line learning. Combining traditional text and image focused materials with new **digital media, 3D** and **virtual reality technology for the Internet**, Immersive Education brings remote learning and self-directed study to entirely new levels.



Immersive Education uses Internet 3D and interactive simulations to deliver rich learning experiences.

Immersive Education uses virtual worlds technology in concert with simulations, learning games, and rich digital media to enable the creation of learning experiences that **engage and captivate** in the same way that massively entertaining on-line games capture the attention of game players for hours at a time.

Immersive Education provides the learner with the sense of "being there" when physical (in-person) attendance is not possible, practical, or desirable, enabling learners and educators to connect and communicate in ways that greatly enhance the learning experience. Gone are the days of clumsy text-chat rooms and flat static images previously used in remote learning; they have been replaced with dynamic, collaborative and content-rich 3D environments that support real-time voice chat and application sharing over the Internet.



Immersive education uses a wide range of technologies to engage learners.

In short, Immersive Education leverages a range of modern technologies to enhance and deliver engaging educational experiences over the public Internet.

The Immersive Education Initiative

The **Immersive Education Initiative** is a non-profit international collaboration of universities, colleges, research institutes, consortia and companies working together to define and develop open standards, best practices, platforms, and communities of support for virtual worlds, simulators and game-based learning and training systems. Since its inception in 2007, the Initiative has grown to over 400 faculty, staff, administrators and students from around the world, with new members joining every day.

Immersive Education and the Media Grid were recently recognized with a prestigious national award by *Computer World* for being "***innovative, promising technologies which hold the potential to significantly affect society in the near future***".

Members of the Immersive Education Initiative participate in ten different focus areas (visit ImmersiveEducation.org/about.html for details).

First and foremost is the development of a **Platform Ecosystem** and the **Education Grid**. The **Platform Ecosystem** refers to the totality of 3D learning environments (virtual worlds), simulators, and learning game

infrastructures that deliver educational experiences to learners and educators. The **Education Grid** is a network of servers (hosts) and peers (nodes in peer-to-peer networks) hosting educational content intended for widespread (world-wide) distribution to Immersive Education participants. The Immersive Education Initiative is actively shaping the development of platform implementations and standards to enable the sharing of information throughout the ecosystem.

The development of a system of such large scope occurs through the Initiative's **Technology Working Groups** (TWGs) and **Community Groups** (CGs). Through the Initiative, individuals and representatives of participating organizations join forces through TWGs and CGs to collaborate on the development of *standards, best practices, educational curricula, learning frameworks, and techniques for educational assessment and evaluation*.

Members also contribute directly to immersive educational content and learning materials. To date, the Initiative has assembled a large collection of educational assets designed to foster the acquisition of Science, Technology, Engineering and Mathematics (STEM) skills; a system for the creation of re-useable educational content for use with virtual worlds technology (Web3D Books); a growing body of material on "in world" teaching practices, tips, and techniques; and much more.

The Immersive Education Initiative also leads the global exchange of ideas and discourse through both virtual and physical meetings, conferences and summits. Starting in 2007 with [Immersive Education Day at Harvard University](#) (and continuing with international Immersive Education Days at universities around the world), annual [Digital Media Summits](#), and monthly in-world meetings, members of Initiative gain insight and hands-

on experience through a range of lectures, workshops and informal informational exchanges.

Progress

The Immersive Education Initiative has achieved numerous notable accomplishments to date, including: (1) **the establishment of the Platform Ecosystem and corresponding Education Grid**, (2) **the development of widespread communities of support**, and (3) **the establishment of platform standards and working groups** to enable a framework for world wide implementation.

The Education Grid

The **Education Grid** is a network of privately hosted nodes (servers) which host and deliver immersive education experiences using (among other platforms) Sun Microsystems' Project **Wonderland**, Linden Lab's **Second Life**, and the Croquet Consortium's **Cobalt/Croquet** virtual world platforms.



The Education Grid: This image shows several Sun Wonderland Nodes already available on the Education Grid.

Using the Education Grid, educators can deliver learning experiences in safe, secure, and protected environments. The Education Grid also grants educators access to a continually growing body of content which can be tailored to suit a potentially infinite set of needs.

The Immersive Education Initiative recently received a [\\$1.2 Million STEM donation \(Science, Technology, Engineering and Math programs\) from the John C. Ford Program](#). The donation consists of **67 STEM programs and associated learning materials and technologies** that will be integrated into the next generation of Immersive Education learning environments.

Support Communities

Numerous **on-line communities** have been established by the Initiative. These communities of support are comprised of teachers, faculty, researchers, students, developers and engineers with shared interests and goals. The Immersive Education Initiative directly fosters the growth of these communities through **the establishment of Community Groups (CGs) in specific areas of interest** which support discussions and collaboration among like-minded individuals. To date, the Immersive Education CG's include:

- K-12 and Higher Education
- Second Life user, builder, developer and administrator groups
- Wonderland user, builder developer, and administrator groups
- Cobalt/Croquet user, builder, developer and administrator groups
- World of Warcraft (WOW) research and educators groups
- the Immersive Education Day at [YOUR SCHOOL HERE] Community Group

Standards and Technology Working Groups

Technology Working Groups (TWGs) develop, deliver and maintain technological materials such as technical reports, design documents, specifications, software implementations, conformance test suites, best practices, and formal reviews of deliverables produced by other groups. The Immersive Education Initiative has identified **ten focus areas under which technology working groups have been established** to drive development and establish standards around which frameworks for development can be created. These groups (chaired by academicians, administrators, developers and engineers from Boston College, Loyola Marymount University, Columbia University, M.I.T., and NASA among others) include:

- Open File Formats TWG
- Open Protocols TWG
- Open Worlds TWG
- Education Grid TWG

- Assessment, Evaluation and Grading TWG
- Metrics TWG
- Metadata and Taxonomy TWG
- Content Tagging, Rating and Review TWG
- Foreign Language TWG
- Library TWG
- Artificial Intelligence TWG

See ImmersiveEducation.org/about.html for more details on **Immersive Education Technology Working Groups**.

Who Can Participate in Immersive Education?

Immersive Education is freely accessible through the Immersive Education Initiative. Immersive Education is a merit-based, not-for-profit initiative of the Media Grid international standards group. Membership is open to the public but restricted to organizations and individuals that 1) have experience using virtual worlds, simulations, or game-based learning technologies, or 2) are actively preparing to use such technologies for teaching or training.

Members of the Immersive Education Initiative enjoy numerous benefits including (but certainly not limited to):

Early access to the Education Grid. The Education Grid is in early stage development but members of the Initiative gain early access to the grid where they can conduct classes on secure, privately hosted nodes (servers) for the Second Life and Wonderland virtual worlds platforms. On the Education Grid, Immersive Education members can build custom learning environments hosted by the Initiative, by their own school or organization, or across multiple locations for fail-safe redundancy. Membership also enables educators to add their own hosts to the grid, enabling the widespread distribution and availability of educational content.

Access to a growing community offering support and collaboration. Through the Initiative's Community Groups, members communicate directly with like-minded individuals with shared interests and goals. The communities offer widespread support to those new to Immersive Education but eager to participate. In addition, membership provides direct access to pioneers, inventors and researchers building the next generation of Immersive Education platforms and technologies.

Free technology and at-cost professional services. Initiative members have full access to the spectrum of technologies upon which Immersive Education is built, free of charge. Members can host Immersive Education virtual world servers on their own networks at no cost, for example, or they can be hosted on the Education Grid at cost (at-cost hosting, with no overhead or additional costs). Members can also take advantage of at-cost professional services, such as virtual world course design, content development and programming services.

Summits, Symposia, and Conferences. Members of the Initiative receive discounted rates and the ability to present at Immersive Education summits, symposia and conferences. Summits are annual events that began in Boston, MA, in 2006 (visit MediaGrid.org/summit for summit programs and archives). Planning is now underway for international Immersive Education summits, symposia and conferences in Latin America, Asia, Europe, and other locations around the world.

Immersive Education Day at [YOUR SCHOOL HERE]. With assistance and guidance from Initiative chairs any member can host Immersive Education Days at their school, and also attend events hosted by other members. The “Immersive Education Day at [YOUR SCHOOL HERE]” program was launched last year with Immersive Education Day at Harvard University. This year the program expands internationally, beginning with Immersive Education Day at Fundación Universitaria Sanitas (Bogota, Columbia), with more events planned for Latin America, Europe, Asia and other locations around the world.

In-world Events. Initiative members are able to participate in a wide range of special events that are held in-world (in virtual worlds) every month. A full schedule of events, along with related materials (such as images, videos and audio transcripts), is online at ImmersiveEducation.org/events.

K-12 programs. In the fall of 2008 Immersive Education technologies and immersive courses will become available for K-12 (kindergarten through 12th grade) with the launch of the Initiative’s K-12 program. Presently the Initiative is conducting K-12 program pilot trials with K-12 schools in the United States, the results of which will inform the official K-12 program launch in fall 2008. Initiative members have early access to the K-12 program by participating in the summer pilot.

Early access to training and materials aimed at getting participants started using Immersive Education. In summer 2008 the Initiative launched a series of “Teach the Teacher” Immersive Education Training Courses aimed at preparing educators to teach classes using on-line simulations, game-based learning and virtual worlds technologies deployed to the Education Grid (including Second Life, Wonderland, and Croquet/Colbalt). The "Teach the Teacher" classes include tips and techniques for conducting on-line classes "in world" as well as best practices for enabling student participation, grading and assessment.

Grants and Sponsored Research Programs. Members are able to participate in our federal grant programs and other forms of sponsored research, such as the joint Immersive Education Technology Grant program recently established by the Initiative and Sun Microsystems.

Participation in the Initiative’s Technology Working Groups (TWGs). Given the Initiatives commitment to open standards and technologies, participation in Technology Working Groups is open to all Initiative members. Through the TWGs any Initiative

member can freely participate in the processes that drive the development of the very standards and technologies that are enabling the age of Immersive Education.

To join the Immersive Education Initiative, or simply to get more information, please visit <http://ImmersiveEducation.org> or contact the Media Grid standards group director directly. Contact Aaron E. Walsh:

On the Web at: <http://MediaGrid.org/people/aew> (use the contact button)

Or by mail:

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