Waterford Institute *of* Technology WIT

Game-Based Learning: Status Quo and Quo Vadis

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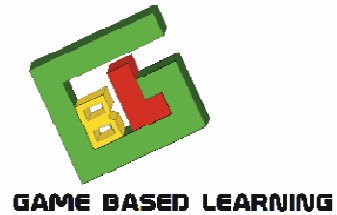


GAMEDAYS //2011

Objective of this Presentation

- To identify and explain common pitfalls found in the design and deployment of GBL systems
- To identify challenges and opportunities for GBL researchers
- To offer some relevant research paths for PhD students
- To promote best practices for GBL research

What you will take away from this keynote

What you will take away from this keynote [Students & Researchers]

- For those starting their PhD, an overview of the field and interesting paths for you future work
- For those who have already started their PhD, a confirmation that your topic/work is relevant for the GBL research community
- Some references and hard facts that you will be able to further investigate and use in your own work (e.g., literature review, and contextualize your results and approach)

What you will take away from this keynote [Companies & Industry]

- Relevant path for GBL and SG in the industry
- Example of successful GBL products
- A review of best practices for the integration of GBL in the classroom

What you will take away from this keynote [Lecturers and Teachers]

- Practical information on how to apply GBL in the classroom
- Example of and links to GBL resources
- A review of best practice for the integration of GBL in the classroom

What you will take away from this keynote [Students]

- A better awareness of pressing issues for a wider acceptance of GBL
- Few tips that may help you along with you work on your PhD
- Links to useful resources for your PhD (e.g., academic material, blogs, GBL communities, etc.)
- Some empathy from someone who, like you, has been through the PhD process :-)

About this conference

About the organisers

- An outstanding team of researchers with a wide range of expertise and interests (e.g., Multimedia Communications Lab)
- A commitment to research and development
- Interesting projects and developments at the forefront of GBL research

About this conference

- A great opportunity for students to obtain feedback on their work, to network and to collaborate
- A great variety of theoretical and practical sessions such as presentations, demos, posters, keynotes, panel discussions, or informal conversations
- A wide range of themes including health, exergames, virtual reality, adaptive technology, teaching electrical engineering, engaging the disengaged, Internet literacy, sports, spatial perception, or rehabilitation

About this conference

- Overall an organization that reflects the needs in current GBL research in terms of:
- Valid theoretical frameworks
- Practical applications
- Opportunities for flexible and customized learning and teaching

My Research Interests

- Instructional Design
- Game Design and Development
- Psychology
- Educational Psychology
- Multimedia
- Technology-Enhanced Learning
- eLearning

The Challenges we face as researchers:

- How to find a valid theoretical framework that explains learning and motivation in video games
- How to combine both learning and motivation and avoid the 'shavian reversal' (games not educational or fun to play)
- How to provide guidelines that are simple to follow, yet based on theoretically sound concepts
- How to precisely identify factors that underpin the successful design of game-based learning environments

GBL: a promising research field

An effective media to breach the gap between digital natives/immigrants

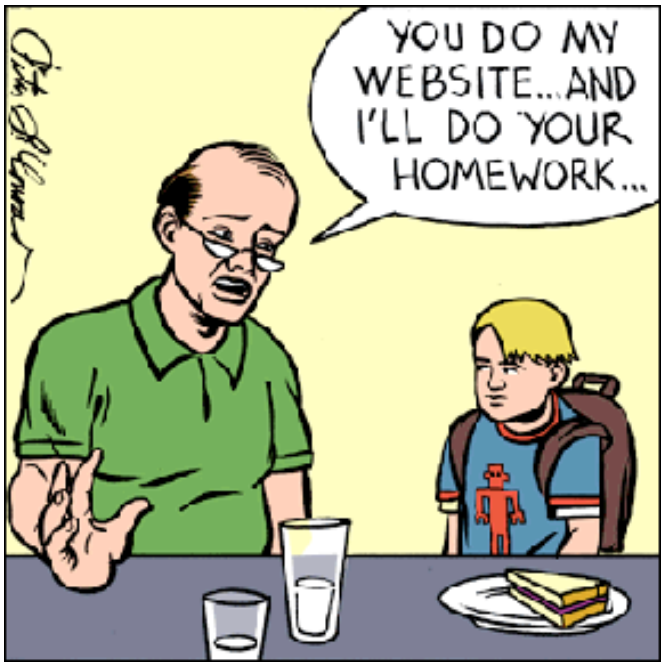
- Digital natives and digital immigrants don't speak the same language
- Many young students have developed skills and a taste for technology that is hardly acknowledged in formal education
- Those who design curriculums need to be more in tune with our new generation of students

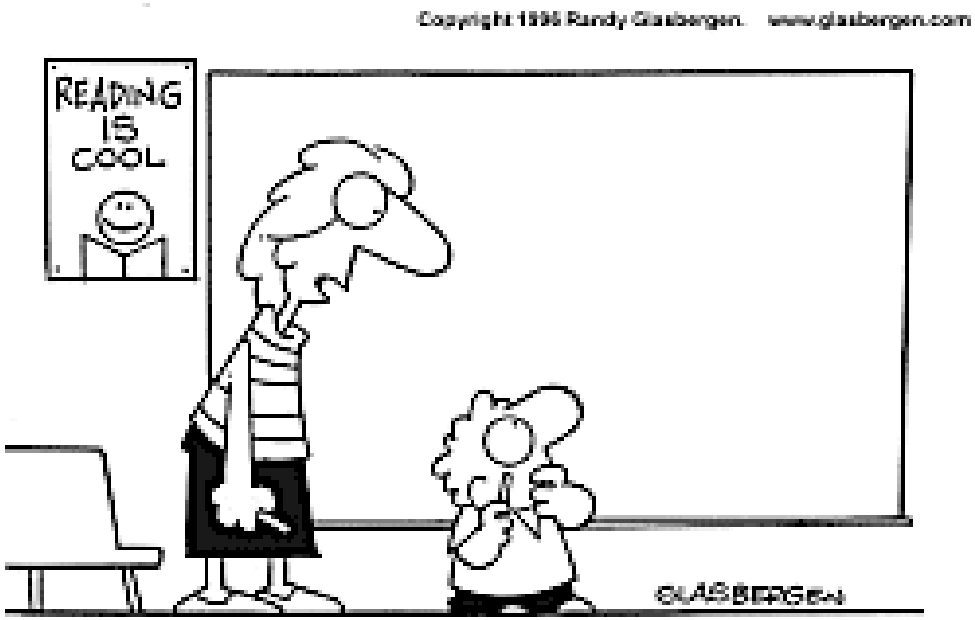
An opportunity to use emerging communication media

- Digital devices and video games are often considered as a nuisance rather than a potential educational medium

- Many educational theories advocate a constructivist approach to learning “Learning by doing” but few solutions are actually harnessing the potential of new technologies to fulfill these requirements

An opportunity to use emerging communication media





"There aren't any icons to click. It's a chalk board."

eLearning platforms are not always engaging

- Although eLearning solutions offer a more flexible way to teach, they do not always guarantee motivation on the part of the learner

- Some of these platforms do not acknowledge the need to be engaged

"Without play, education becomes a force of compliance, not intelligence"
(De Castel, 2003)

"Learning is a deep human need, like mating and eating, and like all such needs it is meant to be deeply pleasurable to human beings"
(James Paul Gee, 2005)

We need to restore fun into learning

- **Learning used to be fun and engaging**
- **Learning has lost its playful aspect**
- **We need to communicate more efficiently with our students and speak the same language**

Video games as new media

- As a starting point for a debate
- To allow players to appreciate a situation from different perspectives (e.g., bullying)
- To experience a dangerous situation in a safe environment
- To support and develop critical thinking
- To explain and support highly theoretical concepts

Video games as genuine learning environments

- Active Learning
- Exploratory Learning
- Constructivist Learning
- Learning by doing
- Meta-cognitive skills
- Positive and negative reinforcement
- Problem-Based Learning (PBL)
- Situated Cognition

Video games promote active learning

- To succeed, players take responsibility for learning and for applying new skills
- Players learn by ‘doing’ and by improving their knowledge and skills
- Players are involved in problem-solving activities

Video games promote exploratory learning

- **Video games reward players for their curiosity**
- **In many games, exploration is the key to new discoveries and learning opportunities**
- **Video games implement advanced modes of interaction with the environment**

Video games promote meta-cognitive skills

- **Players become better at learning new skills**
- **Players are provided with an environment that acts as a learning scaffolding just as the 'Zone of Proximal Development' defined by Vygotsky, whereby players become more independent in their learning activities**

Zone of Proximal Development (ZDP)

Part of social development theory whereby:

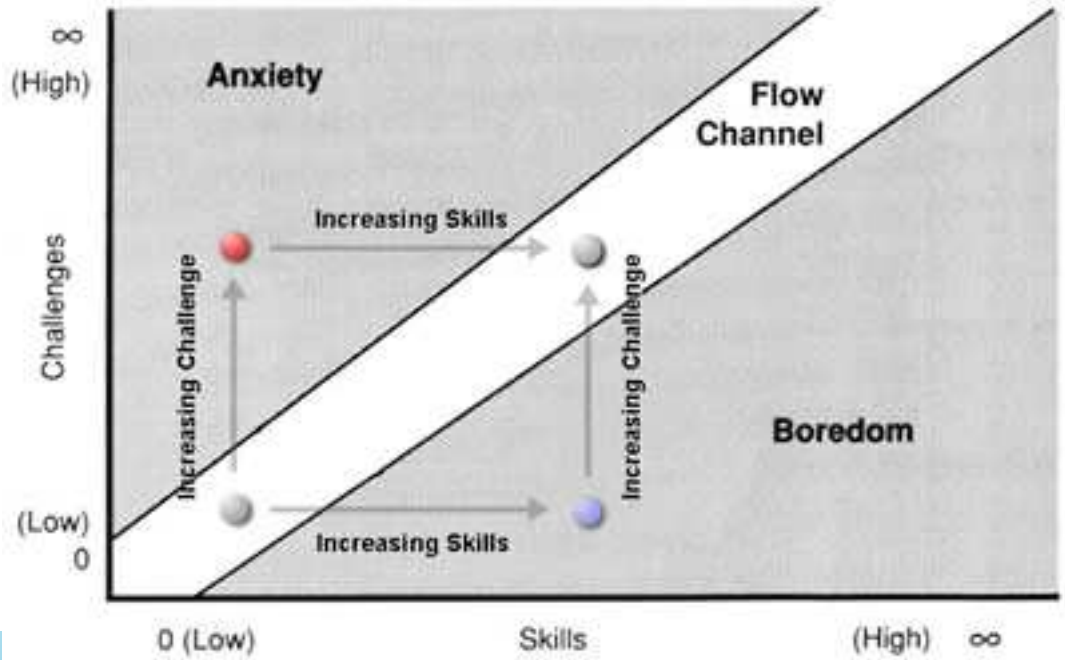
- **Students learn through social interaction**
- **Students can learn thanks to More Knowledgeable Others (e.g., teachers, peers, or computers)**
- **Students develop their meta-cognitive skills**
- **There is collaboration between students and MKO. Teachers are facilitator of knowledge and students are actively involved in learning activities**

Video games as immersive environments

- Provide rich emotional experiences and match individuals emotional needs (e.g., socializing, recognition or competition)
- Create a state of “Flow” where students are immersed and willing to complete challenges
- Motivate players
- Promote learning and stimulate players at cognitive and emotional levels

Video games as immersive environments

The concept of flow (Mihaly Csikszentmihalyi)



Game-Based Learning

- **GBL is becoming more popular and used in schools, universities, and the industry**
- **GBL is employed to raise awareness for training, advertising, and teaching**
- **GBL is a flexible and effective medium**

GBL to raise awareness: games for change

- **Video games can be used to raise awareness on very serious topics, and help the understanding of the causes and consequences of disasters**

GBL to raise awareness: games for change

"Like the protected books, plays, and movies that preceded them, video games communicate ideas—and even social messages—through many familiar literary devices and through features distinctive to the medium."

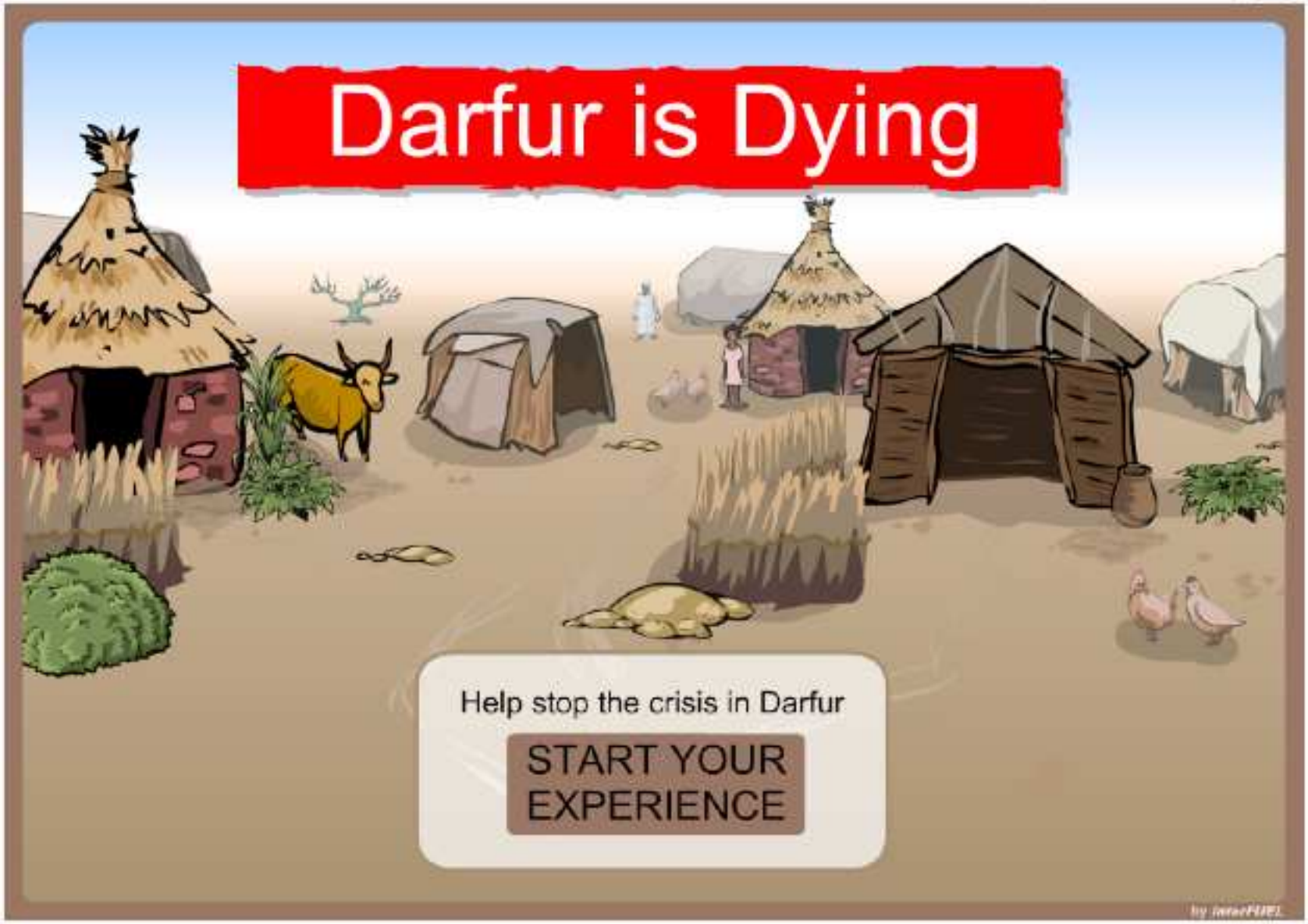
Supreme Court ruling on protecting games under the First Amendment

http://www.gamesforchange.com

GBL to raise awareness: games for change

- **Darfur is dying "provides a window into the experience of the 2.5 million refugees in the Darfur region of Sudan. Players must keep their refugee camp functioning in the face of possible attack by Janjaweed militias"**

- **Global Conflicts Latin America helps to understand the causes and consequences of industrial pollution in Latin America**


Darfur is Dying
Help stop the crisis in Darfur
START YOUR EXPERIENCE


Choose a Darfurian to represent your camp
Rahman
Age 30
Sittina
Age 26
Elham
Age 14
Poni
Age 13
Jaja
Age 12
Abok
Age 12
Mahdi
Age 11
Deng
Age 10
FORAGE FOR WATER

Water Foraging

You are a Darfurian refugee who must forage for water to bring back to your camp.

You risk being attacked and possibly killed by Janjaweed militias when you leave the confines of your camp, but you must do it, in order to provide water for your community.

Navigate by using the arrow keys to move and the spacebar to hide.

START


press 'space' to hide!
You are 5385 meters SouthEast of the well

You have been captured by the militia

You will likely become one of the hundreds of thousands of people already lost to this humanitarian crisis.

Girls in Darfur face abuse, rape and kidnapping by the Janjaweed. If she succeeds, the girl can bring more water back than a smaller boy, but less than an adult.

As someone at a far off computer, and not a child or adult in Sudan, would you like the chance to try again?

ENTER CAMP

OR

FORAGE AGAIN


Darfur is Dying
In the Darfur region of western Sudan, a genocide is occurring. Each day, civilians face prospects of mass killings, torture, rape, and destruction of villages and camps, theft and other human rights abuses at the hands of the Janjaweed militias - bands of fighters backed by the Sudanese government.
You are about to be immersed into a refugee camp. To help your community survive, you will need to fulfill certain tasks, which include:
• Obtaining food: Collect water from the pump and take it to the vegetable gardens. In time, the gardens will flourish and you may return to harvest.
• Building shelters: Drop off water at the dirt plot to make the bricks and other materials necessary for rebuilding.
• Collecting water: You can do so by clicking the Forage For Water button or by walking to the perimeter of the camp.
• Staying healthy: Fulfilling the above tasks will help, but you can also visit the clinic when new medical and food supplies arrive.
NEXT
SUDAN [TAKE ACTION]
GO
HELP
FORAGE FOR WATER
Threat Meter
Camp Health
Day Number
0
Water Supply
Food Supply
Abok
Age 12

Game development is more accessible

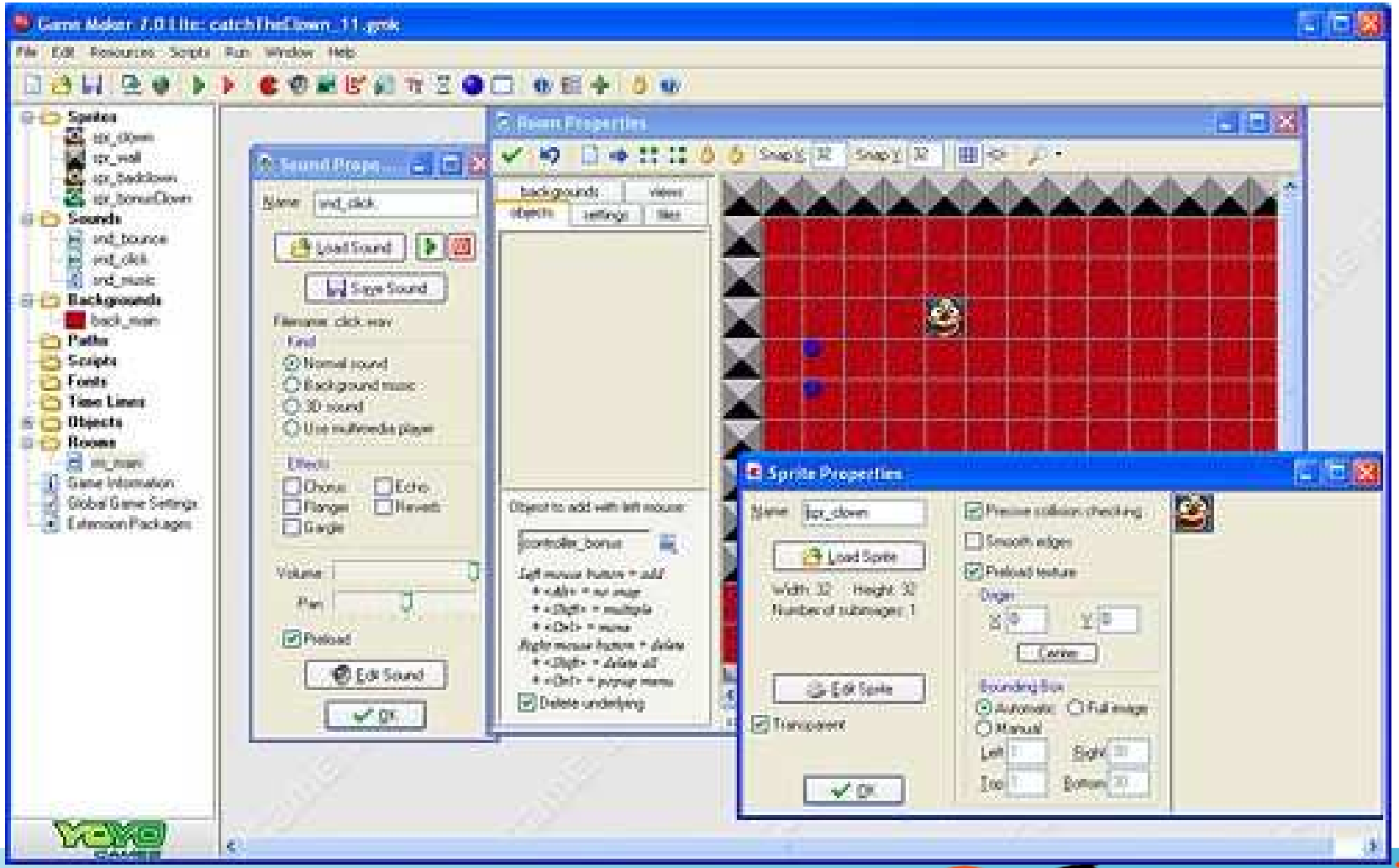
- **Democratization of video games development**
- **Gaming technology has made game development more approachable and affordable**
- **Instructors can now focus on the educational aspects of their games rather than the underlying technology**

Game development is more accessible

- **Game Engines**
- **MODs**
- **Multi-User Virtual Environments (MUVE)**

Game engines

- Scripting or/and drag-and-drop
- Highly realistic 2D and/or 3D environments
- Game can be exported for the web to reach a wider audience
- Can be employed to introduce basic mathematical and programming concepts
- Some Game Engines are free
- Unity3D, Torque, XNA, Game Maker, Scratch, Alice, Game Salad, Atari-Lite C, Platinum Arts Sandbox


Game Maker 7.0 Lite: catchTheClown_11.gmk
File Edit Resources Scripts Run Window Help
Sprites
spr_clown
spr_wall
spr_RedClown
spr_BonusClown
Sounds
snd_bounce
snd_click
snd_music
Backgrounds
back_main
Paths
Scripts
Fonts
Time Lines
Objects
Rooms
rm_main
Game Information
Global Game Settings
Extension Packages
Sound Properties
Name: snd_click
Load Sound
Save Sound
Filename: click.wav
Kind
Normal sound
Background music
3D sound
Use multimedia player
Effects
Chorus
Echo
Flanger
Reverb
Gargle
Volume
Pan
Preload
Edit Sound
OK
Room Properties
backgrounds
views
objects
settings
tiles
Object to add with left mouse:
controller_bonus
Delete underlying
Sprite Properties
Name: spr_clown
Load Sprite
Width: 32 Height: 32
Number of subimages: 1
Edit Sprite
Transparent
OK
Precise collision checking
Smooth edges
Preload texture
Origin
Center
Bounding Box
Automatic
Full image
Manual
Left
Right
Top
Bottom

Game engines: Unity 3D

- **2D and 3D games**
- **Used to introduce programming concepts and to develop simple/advanced 2D/3D games**
- **Includes a physics game engine for more realism**
- **Provides realistic environments for 3D-based simulations.**

MOds

- Modification of existing games
- Can build on the success of an existing video game
- Many tools are provided in order to modify and enhance the game
- Many MODs are First-Person Shooters and you may be tied to this game genre
- Examples: Unreal Tournament, Half-Life

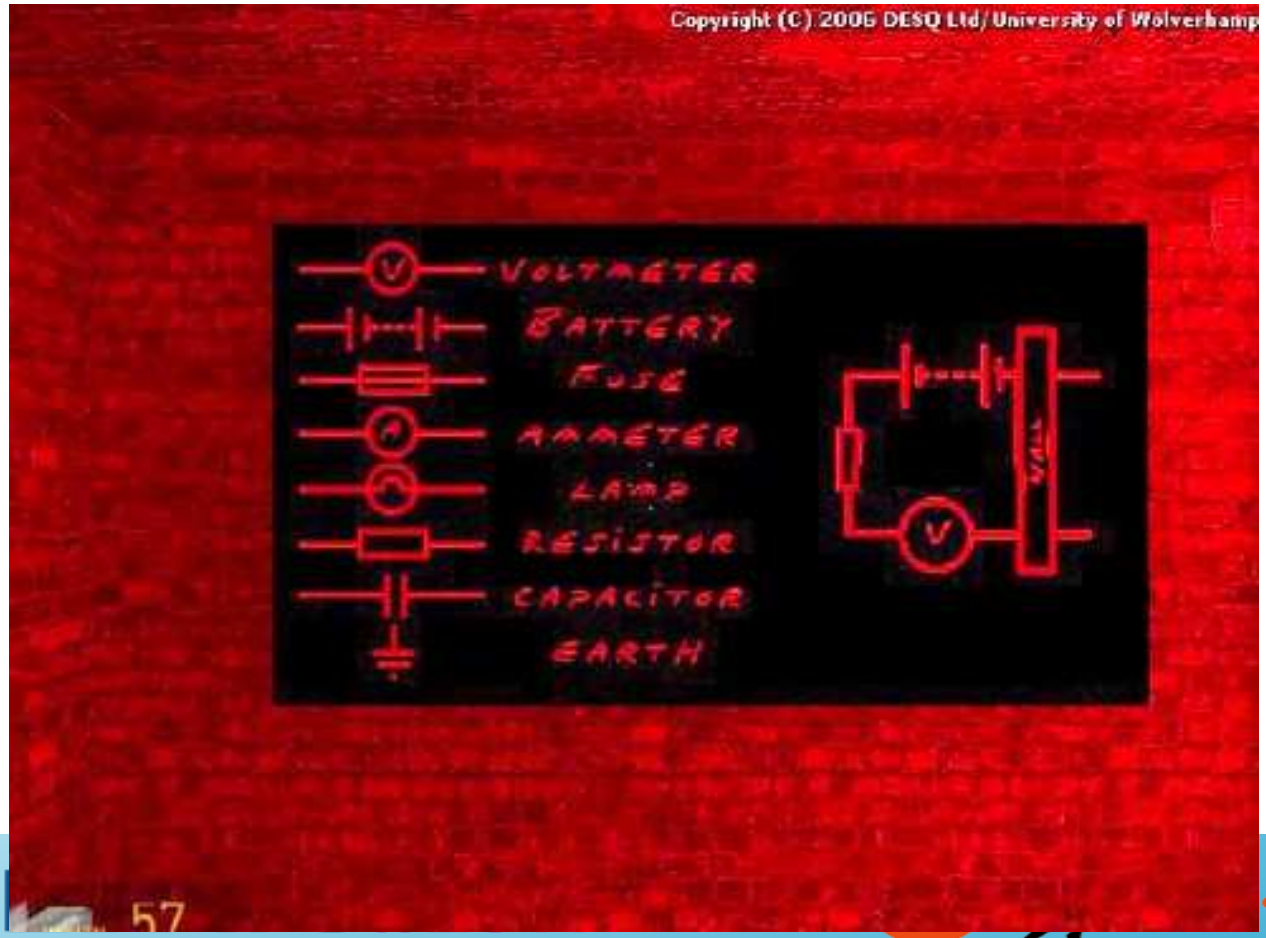
Mods: DoomEd

- FPS to learn about science and history
- Based on Half-Life 2

Mods: DoomEd


Copyright (C) 2006 DESQ Ltd/University of Wolverhampton
No Smoking
Composition of
the Earth's atmosphere
Nitrogen 78%
Oxygen 21%
Argon 0.90%
Carbon Dioxide 0.04%
100
6
10

Mods: DoomEd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VOLTMETER
BATTERY
FUSE
AMMETER
LAMP
RESISTOR
CAPACITOR
EARTH

MUVEs

- MUVEs: Multi-User Envivonments
- Highly realistic and reliable 3D engine
- Commercial or (e.g. Second Life) or Open Source (Open Sim)
- Some MUVEs include a Learning Management System (LMS)
- Increase interactivity and exploratory learning
- Also employed for remote teaching and conferences

An increasing adoption of GBL

- GBL now used in schools, universities and the industry
- Serious Game courses (e.g., Masters Degree in Serious Game, Sweden)
- Funding from the European Council
- Funding from blue-ship companies: Microsoft invested 1.5 millions in the Games for Learning Institute (New York)
- STEM Challenge: video game design competition launched by the US government to motivate students' interest in science, technology, engineering and Mathematics.

More scientific evidence on GBL

- Conferences
- Books
- Journals

More scientific evidence on GBL

Between 2004 and 2009, according to Academic Search Premier:

- **176 papers on Serious Games**
- **398 papers on Computer Games and Learning**
- **1042 papers on Educational Games**
- **284 papers on Video Games in Education**

Conference: ECGBL

- European Conference on Games-Based Learning
- Game Developers' Conference
- Learning Without Frontiers
- Game-Based Learning conference

Journals on Game-Based Learning

- International Journal of Game-Based Learning
- Games and Simulation
- British Journal of Educational Technology

GBL and Motivation

About motivation and learning

- **Motivation is a key element to learning**
- **Motivation can be a predictor of students' progress**
- **Learning is both a cognitive and emotional process**
- **Intrinsically motivated students can experience deep learning and are more prone to re-use knowledge in other contexts**

About playing and motivation

- Gamers experience emotions that may impact positively on the learning process (Baker et al., 2010)
- Players experience a state of flow (Csikszentmihalyi, 1990), where they are challenged and motivated to learn and improve their skills (Webster et al., 1993; Kiili, 2005)
- Games include implicit educational features that benefit the learning process (Bowmann, 1982; Provenzo, 1991; Rieber 1996)

Games motivate to learn

- Improve motivation to learn academic and non-academic topics
- Improve players perseverance and confidence
- Games with collaborative activities are particularly good at supporting intrinsic motivation
- Learning by creating a video game encourages students to become expert in a particular field (i.e., meta-gaming)
- Players become more aware of global issues and show empathy

Games motivate to learn

- **Global Conflicts (Buch & Egenfeldt-Nielsen, 2006)**
- **Spread of infectious deceases (Neulight et al., 2007)**

GBL accounts for personal differences

- Rehabilitation exercises (Betker et al., 2007)
- Special needs (Amon & Campbell, 2008; Carr & Blanchfield, 2009; Saridaki & Mourlas, 2011)
- Inform (and reassure) about a particular condition (Kato et al., 2008)
- Users' preferences or 'internal regulations' (Deen & Shouten, 2011))
- Adapt to users' knowledge and behaviours (Marty & Carron, 2011;Virvou et al., 2005)

Factors impacting on motivation in GBL

- Control, challenge, complexity, achievable and clear goals, hidden secrets, adaptation, debriefing, conflict, fantasy and safety (Wishart, 1990; Oxland, 2004; Staalduinen, 2011)
- Narratives aspects (Waraich, 2004)
- Multimodal interaction and multi-sensory cues (Salzman et al., 1996)
- But....motivation on its own does not guarantee learning

Factors impacting on motivation in GBL

In addition to motivation, GBL approaches should cater for:

- **Briefing**
- **Debriefing**
- **Game objectives linked to the curriculum**
- **Effective feedback**

GBL and traditional teaching

When is it best to use GBL?

- Games are not the best learning solution in all cases (Hays, 2005)
- Games are more effective when coupled to instructional methodologies (briefing, debriefing, or 'teachable' moments)
- Games should be used as adjuncts, not as standalone applications, and combined with relevant pedagogies (Hays, 2005; Shaffer, 2006).

When is it best to use GBL?

- Games on their own may not always promote motivation or learning; instead, they need to be considered within GBL practices (Wainess, 2007; Dickey, 2003)
- Attention should be paid to the environment, rather than the game itself (Wainess, 2007; Dickey, 2003)
- Support and guidance from the teacher are also crucial for the integration and successful use of video games (Mayer & Bekebreda, 2006).

Using GBL in addition to teaching

GBL can be better than traditional teaching methods alone to improve learning and motivation for a wide range of topics:

- **Mathematics (Sorensen & Meyer, 2007; Miller & Robertson, 2010)**
- **Physics (Squire et al., 2004)**
- **Software engineering (Navarro & Hoek, 2007)**
- **Languages (Yip & Kwan, 2006; Miller & Hegelheimer, 2006; Neville et al., 2009)**
- **History (Abrams, 2009; Watson et al., 2011)**
- **Literature (Stevens, 2000),**
- **Rehabilitation (Adavovich et al., 2003)**
- **Mechanical engineering (Coller & Scott, 2009)**

Using GBL in addition to teaching

GBL can be better than traditional teaching methods to improve learning and motivation for a wide range of topics:

- **Healthy eating (Serrano, 2004)**
- **Algebra (Kebritchi et al., 2010)**
- **Geography (Virvou et al., 2005)**
- **Reading comprehension (Bransford & Schwartz, 1999)**

General benefits of GBL compared to traditional teaching

- Strengthen students' knowledge skills and attitudes towards the topic taught (Serrano, 2004)
- More motivating and educationally effective (Barab et al., 2009)
- More effective than conventional educational software such as web-based or Computer Assisted Instruction (Virvou et al., 2005; Papastergiou, 2009; Tsung-Yen & Chen, 2009).
- More enjoyable medium (Toprac, 2011; Vogel et al., 2006)

General benefits of GBL compared to traditional teaching

- Students are more focused and disciplined than in web-based instruction settings (Papastergiou, 2009)
- More efficient than traditional methods for rehabilitation (Adavovich et al., 2003)
- Better than paper-based because students can complete exercises repeatedly, with increasing difficulty and challenges (Lee et al., 2004; Miller & Robertson, 2010)
- Could be used as an additional resource to palliate teachers' lack of contact hours (Yip & Kwan, 2006)

What research has shown so far

- Games provide both cooperation, competition and recognition
- GBL is a highly adaptable format that can be applied to many domains
- Games can increase awareness and change behaviours
- Video games can foster affective learning
- Simulation games may induce greater memory retention than conventional approaches

What research has shown so far

- Video games may improve visual and spatial skills
- Playing FPS video games may increase multi-tasking abilities
- Video games can have a positive impact on learning, engagement and attitudes towards science, and may therefore accelerate learning
- Video games may support higher thinking skills

What research has shown so far

- **Video games may increase players' immersion and attention span, and consequently increase the learning outcomes**

- **While learning may occur during the game (e.g., technical or motor skills), out-of-game learning is more prevalent in the form of debriefing or reflection which promote higher thinking skills**

What research has shown so far

- Video games can support but not replace traditional teaching methodologies
- Instructors play a key role in the adoption and effective use of educational video games
- Instructional effectiveness of the video games increases with support on how to use the game. Although many teachers are willing to use GBL, there is a need to train them with this new technology
- A clear connection to the curriculum is needed in some cases (e.g., Commercially-Off-the-Shelf video games)

How can we improve GBL research and maximize its impact ?

The challenges ahead

- **Although GBL has matured and gained significant recognition, many challenges lie ahead**
- **We need to conduct further research, collect and report on more empirical evidence (e.g., how to systematically obtain results)**
- **We need to consider GBL in relation to the environment in which they are employed (e.g., time, expertise, hardware and software resources)**
- **Design should account for a wide range of resources and flexible learning (e.g., desktop vs. mobile)**

The challenges ahead

- **Educational psychology should be considered to ensure that individual differences are accounted for, and that learning and motivational mechanisms are adapted to individuals' abilities and preferences**

- **Tutoring Systems should be used to ensure that users' knowledge and misconceptions are tracked and addressed by the system. Without monitoring and managing students' progress, it is almost impossible to identify and consequently correct misconceptions**

Tutoring systems

- Help to ensure that users' knowledge and misconceptions are tracked and addressed by the system
- Make it possible to predict, track and assess users' knowledge
- Adapt interventions and presentation of information based on users' actions and profile
- Provide one-to-one tutoring and 'just-in-time' interventions
- A wide range of complexity from simple tutoring to intelligent tutoring system

Multidisciplinary approach

- **Educational Theories: to ensure that proposed models comply with well-received educational theories**
- **Curricular approach: to ensure that educational video games can be integrated in curricular settings**
- **Instructional Design: to ensure that reproducible learning outcomes can be obtained from using the educational video game**
- **Educational psychology: to ensure that individual differences are accounted for, and that learning and motivational mechanisms are adapted to individuals' abilities and preferences**

Multidisciplinary approach

- Interview all stakeholders in order to collect a wide range of information from many different perspectives
- Involve all stakeholders in the design and testing phases of your solution
- Instructional Design: to ensure that reproducible learning outcomes can be obtained from using the educational video game

Rigorous scientific approach

- Base your work on sound theoretical theories
- Design reliable and valid experiments
- Prioritize longitudinal studies where the effects and impact of GBL can be observed over a long period of time
- Promote objectivity: avoid “trying to prove”, but instead, collect information and produce recommendations based on data analysis
- Combine qualitative and quantitative research methods to gain new insights

Rigorous scientific approach

- Ensure that your model does offer high predictability
- Include as many participants as possible
- Include a wide variety of participants (e.g., gamers and non gamers)
- Make sure that the sample is representative

Support and involve instructors

- Instructors are the key to the introduction and adoption of GBL
- Inform instructors of good GBL practices
- Provide educational video games that can be integrated easily in school settings
- Facilitate assessment and evaluation
- Involve instructors in GBL design and activities (e.g., third generation GBL)
- Make obvious links with the curriculum

Help and train instructors

- **Make sure your system complies with existing eLearning standards (e.g., SCORM)**
- **Make sure that your system can be easily integrated into existing eLearning systems**
- **Build your system with flexibility in mind and minimal installation (e.g., web plug-in)**
- **Provide easy ways for trainers to be able to customize the application and to focus the learning outcomes on specific part of the curriculum**

Universal guidelines

- Understandable by a wide range if readers and applicable to a wide range of environments
- Provide easy-to-follow guidelines for the use and deployment of GBL. Some of the current guidelines and frameworks, do not gain much attention due to their complexity and/or lack of applicability
- Create universal frameworks that are applicable in different settings
- Ensure that your work can be understood by both the scientific community and non-specialists, with little or no knowledge of the area. This will ensure a broader understanding and diffusion of your work
- Simplicity and flexibility are the keys to a wide acceptance

Consider all stakeholders

- The success of GBL depends on its adoption by students, instructors but also those financing GBL projects (e.g., company owners, decision-makers, etc.)
- GBL publications should address financial and managerial aspects, so that people in charge of funding and accepting projects can make informed decisions accordingly (e.g., low-cost GBL solutions)
- GBL implementation should address practical resource issues in terms of time, finance or staff involved.
- Parents and policy makers need to understand the potential impact and possible threats posed by this medium (e.g., violence and additions). With no transparency on these topics, rumors (but not evidence) will prevail

Account for personal differences

- On the one hand, eLearning specialists strive to build adaptive educational systems (AES) that provide tailored education in terms of content and presentation
- On the other hand, game designers aim to produce video games experiences that adapt dynamically to players behavior in order to maximize their enjoyment
- The ability to systematically produce results in terms of motivation and learning outcomes, depends on the possibility to provide a tailored instruction to each participant
- Since personal differences play a significant role in the way people learn and enjoy video games, emergent theoretical framework for GBL should account for these singularities and provide individualized mechanisms

Account for personal differences

- User profiling
- Learning styles
- Personality traits and types
- Usability and disabilities (e.g., visual impairment)
- Gender and age differences
- Players profiles

Use the potential of emotions

- Consider emotions and motivation
- Affective learning
- Emotional intelligence
- Measure and induce emotions
- Understand how emotions may heighten or obstruct cognitive abilities

Gaming addiction:

should we ignore it?

Addiction and games in short

- Some stereotypes prevail with educators as to possible gaming addiction
- It is essential to educate trainers so that they can prevent and identify addictive behaviours
- Transparency is the key

Addiction and games in short

- Some players may become addicted to video games
- It is essential to make the distinction between “high level of engagement” and addiction
- Addiction usually heightened by lack of supervision
- Addiction can cause withdrawal from social activities, disrupted sleep patterns, less time dedicated to homework
- Addiction can be prevented and corrected if proper actions are taken and a healthy life style is followed

Addiction: a symptom rather than a cause

- There is no established causality between addiction to video games and violent behaviours (Gentille, 2009)
- Poor results and attention deficit may cause an attraction to games
- Some players are labeled as addicted although they may not have any addiction problem
- There is significant co-morbidity between addictions, and people are usually addicted to more than one activity or substance (Greenberg et al., 1999)

Addiction or high level of engagement?

- The definition of the term addiction has been questioned
- Playing excessively does not mean someone is addicted (Griffiths, 2009)
- Only part of Brown's criteria (Brown, 1991), usually employed to determine video gaming addiction, can actually be used to define addiction (Skoric et al., 2009)
- Engagement and addiction should be measured separately (Charlton & Danforth, 2007; Grusser et al., 2007)

Causes of addiction

Linked to different factors, including:

- **Personality types: sensation seeking behaviours, or an inclination to boredom (Mehroof & Griffiths, 2010)**
- **Players' environment: lack of planned leisure time, companionship or supervision (Chiu et al., 2004)**
- **Game mechanics: curiosity, rewards, and attachment to the character (Hsu et al., 2009)**

Preventing Addiction

Some simple steps:

- **Usually down to "moderation and common sense" (Griffiths, 2009)**
- **Educating teachers, parents and students**
- **Communication between youths, parents and instructors**

How can you make a difference as a researcher?

[1] Read ...

Read...

- Don’t restrict your search to any field, explore....
- Use many different sources (e.g., book, journals, forums, magazines, etc.)
- Find lists of key readings
- Document your readings
- Keep a list of your references

[2] Network

Network

- Meet people with similar and (more importantly) different interests and backgrounds
- Subscribe to online groups (e.g., linkedin) and mailing lists
- Attend conferences and workshops
- Create your network of contacts

[3] Write and publish

Write and publish

- Write regularly, and seek for feedback
- Publish as early as possible, especially in peer-reviewed journals or conferences
- Publish in different types of journals so that your work is appreciated and assessed by specialist from different fields
- Seek for feedback

[4] Contact educators

Contact educators

- Identify and evaluate their needs
- Ensure that your framework and solutions are practical, applicable and accepted
- Use their feedback and suggestions

[5] Experiment and assess

Experiment and assess

- **Identify hardware and software requirements**
- **Experiments might not validate your hypotheses, but they may reveal unexpected insights and lead you to interesting paths**
- **Discuss your observations with colleagues; explanation for puzzling findings may appear more obvious from a different perspective**

Resources

- **Game engines:**
  - **http://www.3delearning.com/index.php?page=gameengines**
- **Journals:**
  - **http://www.3delearning.com/index.php?page=journals**
- **Guide of educators: Teachers' handbook**
  - **Explains how to use video games as part of innovative teaching practices:**
  - **http://games.eun.org/upload/GIS_HANDBOOK_EN.PDF**

Resources

- **LINKED: answers to FAQs on digital games from scientific evidence:**

http://linked.eun.org/web/guest/practitioners

- **Imagine: Resources for teachers interested in GBL:**

http://www.imaginegames.eu/eng

Forthcoming events

- **ECGBL 2012, Cork (Ireland), 5th/6th October 2012**

- **IGBL 2012, Waterford (Ireland), June 2012**
- **http://www.wit.ie/gbl/gbl2011/**

- **CFP IJGBL 2(2), deadline: 30th September 2011**
- **http://igi-global.com/ijgbl/**

The end...

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