

Games Based Learning Analysis and Planning Tool (Version 0.9)

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Introduction

Overview

This Games Based Learning Analysis and Planning Tool has been developed by [games-ED](http://www.games-ed.co.uk) to help educators select and utilise games based learning.

Acknowledgements

The tool has been developed with experience built up over a decade of designing and delivering serious games / games based learning. But, some inspiration has come from:

- Becta report (2010) on games based learning;
- The RETAIN Model - Gunter; Kenny and Vick (2007);
- And a debt is owed to Jan Herrington and Ron Oliver, who have written on situated learning and multimedia, and have inspired our designs.

Uses:

- Creating buy-in for games based learning;
- Choosing a particular supplier / product;
- Planning the use of games learning;
- And, if we can be so bold, designing games based learning.

How to Use the Tool

The tool is split into five aspects to make it easier to use. But, it is important to realise that the aspects are not mutually exclusive; for instance, a well designed game is more likely to deliver better outcomes. Therefore, scoring well across the board is more important than excelling in one area.

The aspects are broken down further into sections and elements. Each element is rated (out of 10) and multiplied by its weighting to create a score. The scores are totalled to create a final judgement. If an element is irrelevant, then score it a reasonable 6.

Quicker Version

A quicker version of the tool is presented on the final page.



1. Design (20/100)

Games need to be fit for purpose...

Element	Question(s) / Notes	Rating	Weighting	Score
Realism (as opposed to pure fantasy)				
Context	Does the game provide a relevant context drawing learners into an authentic experience / scenario, so they become part of the learning as opposed to passive recipients?		0.2	
Authentic activities / interaction	Does the game provide engaging interaction by means of authentic activities (not just playing for the sake of it)? Note: game playing supports the development AND practice of skills & knowledge.		0.3	
Graphics	Do the graphics immerse learners in the experience rather than being a distraction?		0.1	
Appropriateness	Is the game too real, by depicting violence, for instance? Note: Potential problem with commercial entertainment games and can lead to parental concerns with use of games.		0.1	
Complexity and Inclusiveness				
Learning curve	Is the game too complex? Note: The game needs to be quickly understood, to ensure everyone participates. Commercial entertainment simulations can be complex.		0.3	
Too simple / simplistic	Is the game too simple / simplistic? Party games which are prevalent on the Wii are quick to learn, yet might be lacking in learning content.		0.2	
Level playing field	Can the game be played in a way where different players can take on different roles, so that they all have a chance to use their talents?		0.3	
Learning Styles	Do the graphics and gameplay support multiple learning styles? Note: "Pro" gamers might dominate proceedings, particularly if they have expertise in the game or console.		0.3	
Age Level	Can the game be played by different age groups? Note: This can potentially be achieved through the provision of tailored surround activities.		0.2	

2. Delivery (20/100)

Games need to work in typical educational settings...

Element	Question(s) / Notes	Rating	Weighting	Score
Learning Focused				
Conversations	Does the game inspire dialogue and articulation? Do conversations occur amongst learners and at the class level (educator-led)? Note: Conversations enable tacit knowledge to become explicit.		0.3	
Teacher-led and/or Solo	Is the educator actively involved in the learning (scaffolding and inspiration)? Can the game be played on its own without support (and still be effective)?		0.2	
Collaborative	Does the game support group level play and collaborative problem solving? Note: A shared learning experience also develops personal, learning and thinking skills.		0.2	
Flow				
Challenging	Does the game provide a suitable challenge? Note: Challenges can lead to peak performance and learning flow, but can tip into frustration if the game is pitched too hard.		0.2	
Ease of Use	Is the interface and gameplay suitable? Note: Time spent moving around an interface or world, might add to the contextualisation, but it reduces time spent learning / teaching.		0.2	
Time for reflection	Does the game provide time for reflection? If there are no natural break points, can you create them? Note: Round-based games provide natural break points.		0.3	
Time Constraints and Flexibility				
Game Length	Will the game fit into standard lesson times? Note: With a lengthy commercial entertainment game, consider setting up a part played scenario with a specific goal.		0.2	
Extended Play	What more can you do pre and post gaming? Does the game have a save routine to allow the game to run over multiple lessons? How do sessions of the game build on each other?		0.2	
Flexibility / Depth	Does the game have enough depth to allow it to anchor a term topic? Does the game have enough depth to to anchor a special day / event? Does the game support revision?		0.2	

3. Technology and Support (10/100)

Games need to utilise typical kit and offer support...

Element	Question(s) / Notes	Rating	Weighting	Score
Requirements				
Quantity	Is the game played collaboratively or standalone (requiring many computers / IT Suite)?		0.1	
Platform / Spec	Console, high spec computer or existing classroom computer? Note: Games based learning should ideally run on classroom computers to reduce costs and logistical issues.		0.2	
Environment	Will your current classroom cope? Console games that make use of motion peripherals need enough space to swing the proverbial cat rather than move a mouse on its mat.		0.1	
Installation	Will the game need to be installed on multiple computers, and how long will this take? Note: Adobe Flash based games don't need longwinded install routines.		0.1	
Support				
Technical Support	Does the supplier provide technical support?		0.1	
In game support	Is contextual help embedded into the game? Note: You don't want to be digging out an instruction manual during a lesson!		0.2	
Teaching Support	What level of teaching support exists? Teaching guides, community site and resources?		0.2	

4. Outcomes (40/100)

Games need to reach the parts traditional teaching doesn't...

Element	Question(s) / Notes	Rating	Weighting	Score
General				
Engagement	Will the game engage the pupils, including reluctant learners? Will the pupils be able to relate the gaming experience to the real world and specific subjects? Note: Even commercial entertainment games can still inspire follow on activities / exercises.		0.5	
Improved Learning	Will the game improve learning? Does the game utilise prior skills and knowledge? Notes: Games can also develop learning styles, visual processing and speed of cognitive responses. Repetition (levels / rounds) supports skills and knowledge development.		0.5	
Accelerated Learning	Will the game accelerate learning (of complex topics)? Notes: Games, in particular simulations, allow complex topics to be explained. Games can also accelerate the learning process through learn by doing (activity focus) AND learn by being (experience focus).		0.5	
Curriculum				
Linked	Is the game integrated into the curriculum? Does it provide knowledge that can be used in multiple subject areas? Note: For specific subject links, commercial entertainment games might be limited unless you do pre and post gaming work.		0.5	
Assessment	Does the game play and score feed into an assessment model?		0.3	
Generic / Employability Skills				
Creative Thinking	Does the game help develop new ways of thinking? Note: Simulations, in particular, are built round cause and effect. They enable learners to test and re-test ideas and solutions.		0.3	
Critical Thinking	Will the game enhance critical thinking skills? Notes: Games can place learners in roles and provide perspective on a virtual and ultimately the real world. Learn by doing / being allows learners to develop a wider understanding and build beliefs.		0.4	
Decision making	Does the game help develop decision making skills? Note: Perspectives and competing drivers can be built into the games and offer a "realistic" decision-making environment.		0.4	
Collaboration	Is the game played at a group level as opposed to being standalone? Does the game allow knowledge to be shared amongst the learners? Note: Collaborative games enable learners to play a role and work with others to deliver mutual goals.		0.5	

5. Cost (10/100)

Element	Question(s) / Notes	Rating	Weighting	Score
Initial cost	Do you have the budget?		0.3	
Hidden Costs	What are the hidden costs, and can they be justified? Notes: Additional hardware will add to the cost, but can be reused. The cost of multiple licences for different machines can make commercial entertainment games expensive. Annual upgrades add to the cost, but can keep games up-to-date, so arguably might add to value for money.		0.3	
Value for Money	Does the game represent value for money? Notes: some games have multiple uses across the curriculum, different age groups and can be used in special days / events.		0.4	

6. Quicker Version

Element	Question(s)	Score	Weighting	Score
Design (20/100)	<ul style="list-style-type: none"> Is the game fit for purpose (relevant context and activities)? Is the game pitched right (complexity and age)? Does the game support multiple learning styles? 		2	
Delivery (20/100)	<ul style="list-style-type: none"> Is the game focused on learning (collaborative, conversations and teacher-led)? Does the game provide a challenge that generates learning flow? Can the game fit into a standard lesson, but also be used for events / term topics? 		2	
Technology & Support (10/100)	<ul style="list-style-type: none"> Will the game work on your classroom computers? Is support provided in game and via communities /guides / resources? 		1	
Outcomes (40/100)	<ul style="list-style-type: none"> Will the game engage the pupils, including reluctant learners? Will the game solve problems that traditional learning finds difficult? Is the game linked to the curriculum and does it support assessment? Will the game improve generic and employability skills? 		4	
Cost (10/100)	<ul style="list-style-type: none"> Have you got the budget (not forgetting hidden costs such as kit and multiple licences)? Does the game offer value for money? 		1	