

Rubric to Evaluate Serious Video Games by: Jane Christensen, Wendy Blancher and Kris Sward

Name of Game: Ludwig	Score: 16 /18	Date: April 3, 2014
Content/Topic/Grade: Physics/Energy Resources, Ages 11 & up	Cost: Free trial, then \$33.28 CDN Free license for school groups - 30 logins per class	Developer/Version: Ovos realtime3D GmbH (Austria)
Reviewed by: Kris Sward		Website: www.ovos.at

Criteria	Exceeding (3)	Accomplished (2)	Developing (1)	Not Meeting (0)
Embedding - Connect with LO's and accuracy of info	Game is very closely aligned with curriculum objectives and content within is accurate.	Game is aligned with curriculum objectives and/or content is mostly accurate.	Game is somewhat aligned with curriculum objectives and/or some content is accurate.	Game is not aligned with curriculum objectives and content is not accurate.
Relevance - Age/Gender/Needs	Game is very relevant for age group and strongly appeals to both genders. Adaptations are possible to engage all learners. Game allows for numerous individuality and collaboration possibilities	Game is relevant for age group and appealing to both genders. Some adaptations are possible to engage all learners. Game allows for some individuality and collaboration possibilities.	Game is somewhat relevant for age group and/or may be more appealing to one gender. Few adaptations are possible. Game allows for only individuality or collaboration possibilities.	Game is not appropriate for age group and does not appeal to both genders. No adaptations are possible. The game only allows for individuality possibilities.
Transfer - use previous knowledge, knowledge transfer, time to proficiency	Game strongly encourages the use previous knowledge and behaviour changes to progress. LO's are easily transferred from game to reality. Game is not complex and takes very little time for proficiency.	Game encourages using previous knowledge and behaviour changes to progress. Transfer of LO's from game to reality fairly easy. Game is somewhat complex and takes a little time for proficiency.	Game occasionally encourages the use of previous knowledge or behaviour changes to progress. Transfer from game to reality is possible. Game is complex and takes time for proficiency.	Game does not encourage the transfer of knowledge and behaviour to progress. Knowledge/behaviour transfer difficult. The game is very complex and needs a lot of time for proficiency.
Ease and Enjoyment of Use	Game is easy to use, intuitive and provides a wealth of information that helps players to figure out what to do next. Tutorials are easy to access and appear prior to being needed or when requested by players. Consistent and timely rewards encourage players to	Game flows logically from start to finish and information on how to progress through the game is available throughout to assist players. Tutorials on all aspects of the game can be found in a main menu tab. Players are rewarded for patience and perseverance and want to continue playing	There are some lags or inconsistencies in the game or in how players progress through it. No sense of linear completion. Some tutorials can help players progress - they may be hard to find or follow. Players often get frustrated with how the game 'won't work' and quit, leaving them with no desire to finish.	Game is difficult to follow or understand and little help in the form of tutorials or hints are given. Levels tend to seem un-passable and player fatigue or frustration is high. Players aren't motivated to stick with it and finish the game.

	persevere and want to learn more.			
Functionality, Cost and Graphics	Game is available for multiple platforms/devices and is reasonably priced. Online option. Bulk pricing is available for use in schools. Graphics are clear and provide detailed information to the player. Great processing speed with extra information given while levels are loading.	Game is available for the major platforms/devices. Online available. Cost is marginal and bulk pricing may or may not be available. Graphics are engaging and entertaining but are not cutting edge. Good processing time and not much lag between levels.	Game is available for only one or two platforms/ devices. May or may not be available online. Cost is somewhat prohibitive for many users and bulk purchasing is not available. Graphics are somewhat primitive and leave the player wanting more. Processing time is slow with little 'filler' between levels.	Game has limited availability to one platform/ device. Not available online. Game is expensive for purchase and bulk pricing is not available. Graphics are primitive and rough, leaving the player unsatisfied with the quality. Processing time is slow and frustrating.
Quality	'Missions' have detailed outlines and prompts are provided for sub-goals. Each level builds on knowledge learned in previous levels and all skills are used to progress through the game. There are few distractions or glitches to lead the player astray. This is a well produced and entertaining video game. There is ample storage	'Mission' outlines are clear and concise. Players can find supports and prompts if they are unsure how to proceed. Knowledge and skills learned in previous levels are applicable throughout the game. Some glitches or distractions allow players to get side-tracked, though the game effectively brings them back on track. This is a well produced video game. There is ample storage.	'Mission' outlines tend to be vague or incomplete. Players struggle to understand how to proceed in a logical manner. Knowledge and skills learned in levels are used randomly and inconsistently. Players often get off track and struggle to find their way back to the overall goal. This video game is not recommended. There is some storage available.	There is no outlined 'mission' to follow and very little information is provided that guides the player through the game. No incremental learning and skills learned in one level don't apply elsewhere in the game. This is a poorly produced video game. There is very little storage.

Brief Overview:

Ludwig is an educational game that teaches students about alternate energy resources in a fun and entertaining way. 'Ludwig' the robot crash lands his spaceship on earth and must collect energy in a variety of ways and learn about resources in order to fix his spaceship, as well as save the space-station that over a billion humans now call home since they depleted earth's resources. There is also an element of physics in the game as Ludwig must learn how to move and work within the new environment that he finds himself in. Players can add tools and adaptations to their 'Ludwig' and upgrade their knowledge as they move through the world, collecting tools, resources and information. This award winning game is highly intuitive, helpful and fun to play. A collection of resources for parents, students and teachers (including units) is provided on the developer's site and support is available from a number of social media groups.

Overall Comments/Concerns

I, myself, am not a gamer in terms of RPG games. That being said, I thoroughly enjoyed learning by playing in Ludwig's world. First off, the graphics are amazing. Caricature-ish yet believable and beautiful. The music soundtrack is upbeat and happy and I found the world to be engaging and easy to move around in and explore. I would bet that students in my class would appreciate the fun aspects that Ludwig has to offer and would be eager to explore and see what the game could do for them.

In marking this game against the rubric I came across only a few concerns:

1) Alignment with curricular objectives - as I was only able to play the demo, which was limited in where I could go and what I could do, I wasn't able to tie it directly to established learning outcomes. There was an area that I couldn't reach that had a series of wind turbines turning and I can guess that there are direct correlations to learning outcomes, but wasn't able to explore them for myself.

2) Evidence of player adaptations: There were different sets of keys that players could choose to move, or they could choose to control their robot by using a mouse. There were sub-goals to complete while working towards the main goal and there are also many prompts that help keep the player on the right track. Information can be accessed repeatedly, if necessary, and activity logs and tool collections can be monitored at any time. There is also a map that allows the player to see generally where they are in the world. These are just a few of the traits that allow for differentiation between users.

3) Initially I balked at the price - \$33.28 CDN per user license with no bulk purchasing plan. However, upon further inspection I found that Ovov works directly with sponsor groups to provide free classroom licences for up to 30 students per class. In this way, they are trying to allow easier access to more people and I appreciate that in a world where resource funding can be hard to find.

4) Tasks start off easy (identifying fire) and prompts continuously point the player in the right direction. I found it very easy to understand what I was supposed to be doing, where I was supposed to be going and what I needed to do to progress towards my goal. Being my first experience in this type of game, I needed a lot of extra guidance and this game provides it in abundance.

5) One thing I really liked about Ludwig is that there is a comment section on the website that allows players to make suggestions for improvements in the game - and that these comments are monitored and often included in updates. There is also a Facebook group, a G+ community and Twitter page where players can share information and support other players.

6) Collaboration is lacking. This is a single player game where users are expected to work their way through a number of tasks in order to 'win' the game. Aside from the potential social media connections noted above, there is no collaboration within the game for multiple players.

7) The only frustration I encountered in the game was that it kept stopping me from playing in order to teach me how to do something or direct me where I needed to go next. Seeing as I was playing the 'tutorial' mode in the free demo version, the constant interruptions are to be expected and I would think that in playing the full version, these distractions would be fewer and farther between. As I noted above - I was new at playing these types of games and needed the extra support, however, even I was thinking "okay - just let me play!"

Overall, I thoroughly enjoyed playing Ludwig and will personally try to use it in my classroom next year during our resources/electricity unit. I would recommend it to other grade 5/ 6 science teachers who cover the electricity unit and talk about alternate resources.

References:

Ulicsak, M.& Wright, M. (2010). Games in Education: Serious Games. Bristol, Futurelab. Retrieved on April 1, 2014 from http://archive.futurelab.org.uk/resources/documents/lit_reviews/Serious-Games_Interviews.pdf

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