Computer Games Making a Difference

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Computer Gaming and Gamification Computer gaming is a multi-billion dollar industry and has been around since the 1970s along with personal computers. On average, young people will put in 10,000 hours of computer game play. They are a voluntary workforce that has the potential to be put to good use. Those who play computer games frequently have been shown to - make decisions faster - focus on more things at one time (6 as opposed to 4) - perform eye-hand coordination tasks better - reduce stress, ease pain and be more active Computer games can be used for many purposes from entertainment and relaxation to serious learning. Gamification is applying what works about gaming to learning such as immediate feedback and a sense that it is ok to fail some. Many companies are applying gamification techniques to training and are seeing increases in sales, service, revenue, collaboration, and learning. Employers are finding that employees will often opt to do more training than is required. Games have been made to learn or practice all sorts of knowledge and skills including all the Core Knowledge top level subjects. Computer games have been shown to be effective for learning in many areas including reading, mathematics, science and business. Even physical skills such as bowling have been shown to be improved with gaming.

Top global issues and concerns

Most of today's global issues and problems can be grouped into the three categories of economic, environmental and social-political. For example, placing the 10 important global issues for the

Brogan Project (www.borgenproject.org/top-10-current-global-issues), the 10 most serious problems from Inc.com (www.inc.com/businessinsider/worlds-top-10-problems-according-millennials-worldeconomic-forum-global-shapers-survey-2017.html), most of the United Nations global issues (www.un.org/en/sections/issuesdepth/global-issues-overview), and the 2019 State of the World Scorecard from the Conference for Global Transformation in the 3 categories gives the lists in the table below. Many of these issues are interrelated as will be their solutions. There are many computer games that can address some or many of the issues. The games to the right are just a few that can address topics in one or more of the categories.

| Categories	Major Issues	Impact With
Economic	Homelessness	Shelter
	Hunger	Food security
	Low education	Education
	Malnourishment	Food availability
	Poverty	Opportunity
Environmental	Climate change	Sustainability
	Physical resources	Distribution
	Pollution & emissions	Clean energy
Social-Political	Health & well-being	Accessibility
	Inequity	Equity
	Government corruption	Ethics
	Substance abuse	Health services
	Violence & terrorism	Appreciation
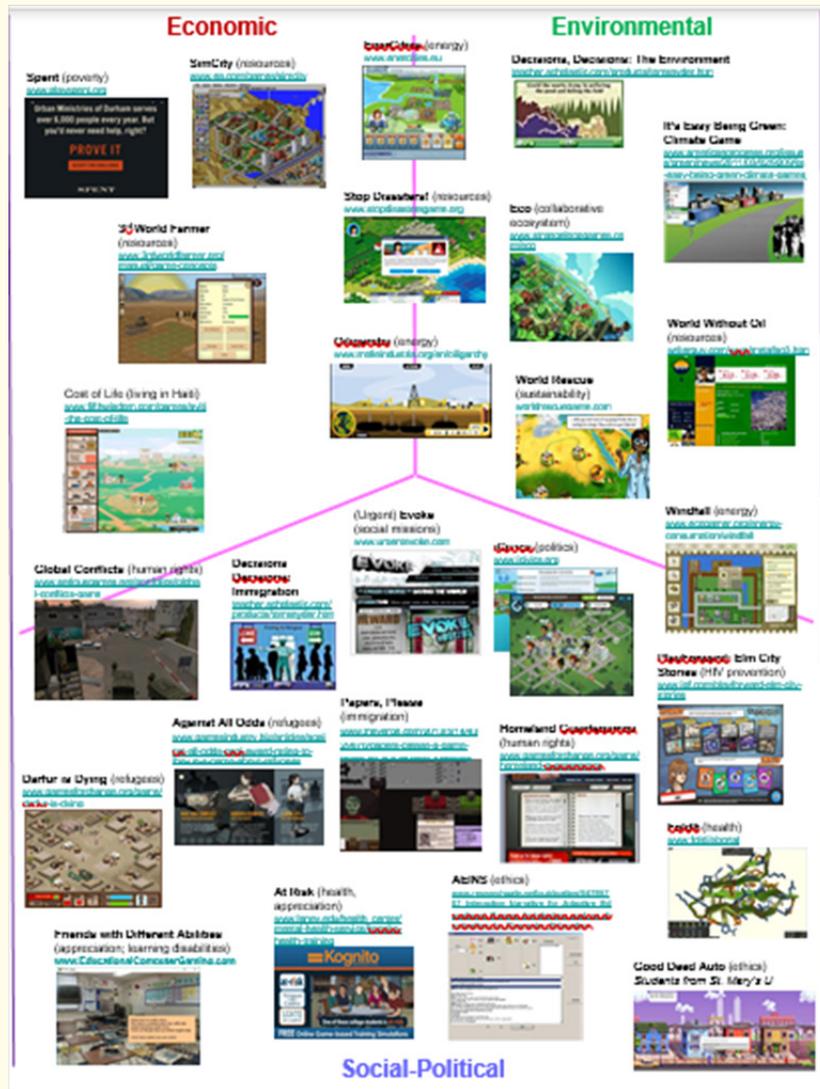
Figure 1

Educational computer games and efforts

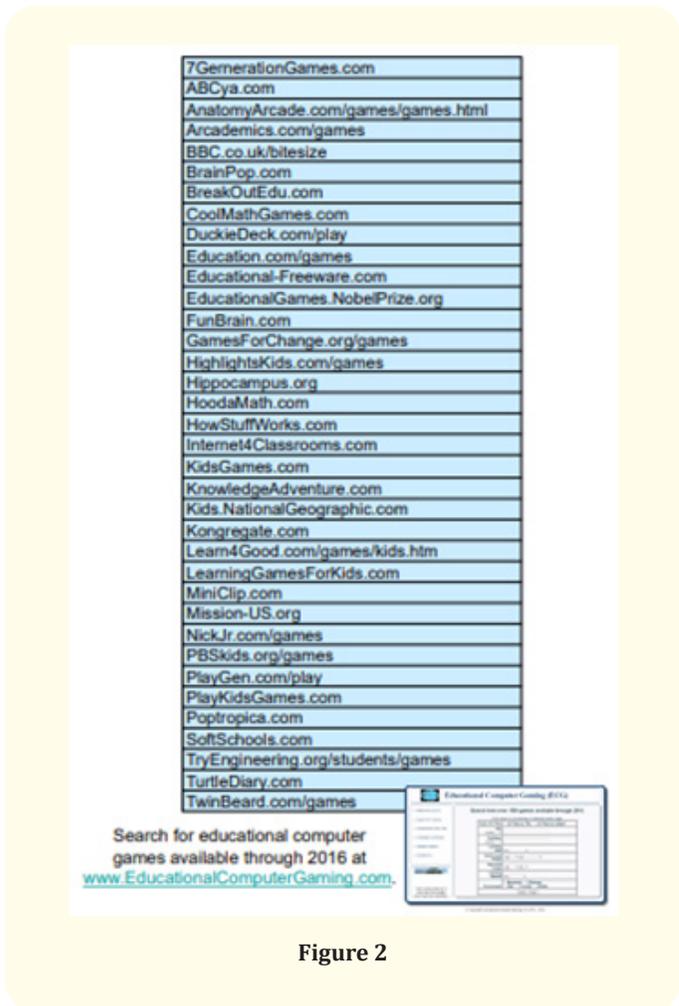These websites have some educational computer games.

Figure 2

Bibliography

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2. Kapp K. "The Gamification of Learning and Instruction". USA: Pfeiffer (2012).

3. Dorner Effelsberg Gobel and Wiemeyer. "Serious Games: Foundations, Concepts and Practice". Switzerland: Springer (2016).

4. McGonigal Jane. "Reality is Broken: Why Games Make Us Better and How They Can Change the World". New York, USA: Penguin Press HC (2011).

5. Mental Floss. "15 Surprising Benefits of Playing Video Games" (2017).

6. Patrick K. "How to Save the World". San Francisco CA: Hello World Labs (2019).

Conclusion

It looks like most any issue or problem can be addressed with computer games. Some areas may need games created for them. Gaming and gamification have the potential to have a variety of impacts in the world. Many collaborations and solutions to problems can be accomplished with crowdsourcing such as Fold. It has done to solve protein folding problems. Other efforts in the educational gaming area include Bunchball, Games for Change, Play2Prevent, Playing for the Planet, and Serious Games. McGonigal says that we need to play 21 billion hours of computer games to solve big world problems. What do you want to make a difference in? There may be a game for it. Let's get playing! [1-6].