# Pink Boxes and Chocolate-dipped Broccoli: Bad Game Design Providing Justifications for Reluctant Learners

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**Abstract:** The use of games to make boring activities fun is usually a bad idea. The thoughtless use of points and badges as a method of "gamification" is usually a bad idea. Pandering to stereotypes about women by making games pink and on "girly" topics is usually a bad idea. Yet, these design tactics may provide face saving strategies for those who are reluctant to openly engage in learning. In this paper I review tactics such as *sugar-coating* learning with games, *pointsification* of educational experiences, and *pink boxing* games and ask why, if these are such bad design tactics, they sometimes work. In answering these questions the pretense of gaming and fun can be seen as a powerful justification for participation in learning.

## Introduction

*Sugar-coat*ing, *pointsification* and *pink boxing*, and many other phrases identify critiques leveled at game designers who have used games to make learning fun and appealing. In 1999 Bruckman suggested that educational games that treat fun as sugar-coating for learning "Makes as much sense as chocolate-dipped broccoli." (Bruckman 1999). And this argument is logical, taking bad pedagogy and wrapping it up pretty doesn't make it good pedagogy. However, I suggest that sugar-coating, *pointsification*, when gamification tactics such as points and badges are used to make learning fun, and *pink-boxing*, when game aesthetics and topics use stereotypical feminine traits to appeal to girls, may provide affordances for reluctant learners to engage in learning – even when the pedagogy is not ideal. Students who are reluctant to learn because of cultural pressures or identity issues, often still have intrinsic interest in learning. Providing a justification for participating in learning, because it is wrapped up in a game that they can incorporate to the way they hope others see them, their *presentation of self* (Goffman 1956), may open new experience up to reluctant learners.

Students who are reluctant to learn are often motivated to not participate in educational experiences because of cultural pressure to not be seen as a learner. This reluctance can be found in relationship to specific disciplines, such as women and African Americans who may fear being seen as geeky or unfeminine if they participate in technology related learning activities (Eglash 2002)(Margolis and Fisher 2002)(Margolis 2008). It has also been theorized that young African American males adopt a *cool pose*, publically rejecting education and avoiding being seen engaged in learning academic subjects (Majors and Billson 1993)(hooks 2003). In previous work I have identified a way that young African American males could engage in learning by participating in video game related activities. These young men obscured the fact they were learning computer science by only telling their friends and family about activities related to gaming, effectively using video games to save face for the time they were putting into learn computer programming (Author, 2014).

Face-saving in the form of lying about effort given or through self-handicapping has been observed by scholars as a way to avoid looking interested in learning (Juvonen 2000) and to avoid looking unintelligent (Urdan, Midgley, and Anderman 1998)(Want and Kleitman 2006). This analysis suggests that face saving may also be used to obscure an interest in learning that a student fears others will them judge negatively for. The potential of games providing this smoke screen for learning should not be ignored. The poorly designed sugar-coating of a game, the posture of competitiveness through pointsification, and a pink girly wrapper, may be justification for participating in a learning experience, allowing students to save face.

## Gaming as a Quick Fix for Fun and Motivation

There are a number of strategies for making educational software appealing through games, gamification, or making games for a specific demographic – most notably games for girls. All of these strategies have been criticized for being surface answers to complex pedagogical problems and not contributing to compelling gaming experiences. Yet, each strategy has indications that they increase time on learning tasks or gaining interest in learning activities.

### Sugar Coating Learning with Games

Most semesters I am given the opportunity to teach a course focused on the design of educational technologies. I generally start the semester asking the undergraduates and graduate students to share some of the educational games they enjoyed as a kid. Every semester *Math Blaster* (Figure 1) is the game that most students remember, and remember fondly. *Math Blaster* is an excellent example of this type of game because it has been repeatedly held up as exactly what we don't want to do with educational games. In the 1990's (when most of these students would have been playing it) *Math Blaster* was a skill and drill game to teach basic mathematics. The criticism of *Math Blaster* was that it took boring math problems and simply put a skin on them so they were solved in outer space, with aliens, and other aesthetic conventions of video games. Thus creating a game that was neither educational nor fun (Bruckman 1999)(Foster, Esper, and Griswold 2013).


**Figure 1. In screen shot of Math Blaster episode 1, circa 1990.**

Now the students at (name of institution redacted for review), have strong skills in math, and likely identified as good math students even in grade school. I am not suggesting that *Math Blaster* caused this skill or identity. It is likely that the interest of many of these students would have lead them practice math problem even without a game. But the fondness and nostalgia they relate about *Math Blaster* is rather remarkable. And leads me to ask: *Why would students so fondly recall a game, which at its core, was about drilling them on arithmetic?*

### Pointsification as Gamification

*Gamification* is a contested term, but generally it is referring to applying game like mechanics or attributes to learning or other purposeful activities (Deterding et al. 2011). There have been critiques of the methods in general, with a number of games designers and scholars criticizing the practice as pointsification where developers simply make a point system to match what they hope users will do and then call it a game (Bogost 2011)(Roberts 2010). Some have critiqued the specific application of gamification and badges to educational technology, (Abramovich, Schunn, and Higashi 2013) and many more have critiqued the gamification of formal education (Dicheva et al. 2010).

The majority of critiques have looked at the way that badges and points have been added on to existing, frequently not very good, educational content. The goal is for the scoring system to

motivate, but the lack of connection between learning and earning points or leveling up makes it unlikely that the learning will be achieved through gamification. Yet, the notion of points, badges, and achievement levels continues to gain popular support. We can see it in growing number of gamification companies and consultants (Kim, Robert 2015), in the increasing use of these types of systems in online courses (Gené, Núñez, and Blanco 2014) and educational technology (Figure 2.) (Morrison and DiSalvo 2014) that the trend isn't going away. *What is it about gamification that is appealing, despite its lack of pedagogical strength in most applications?*

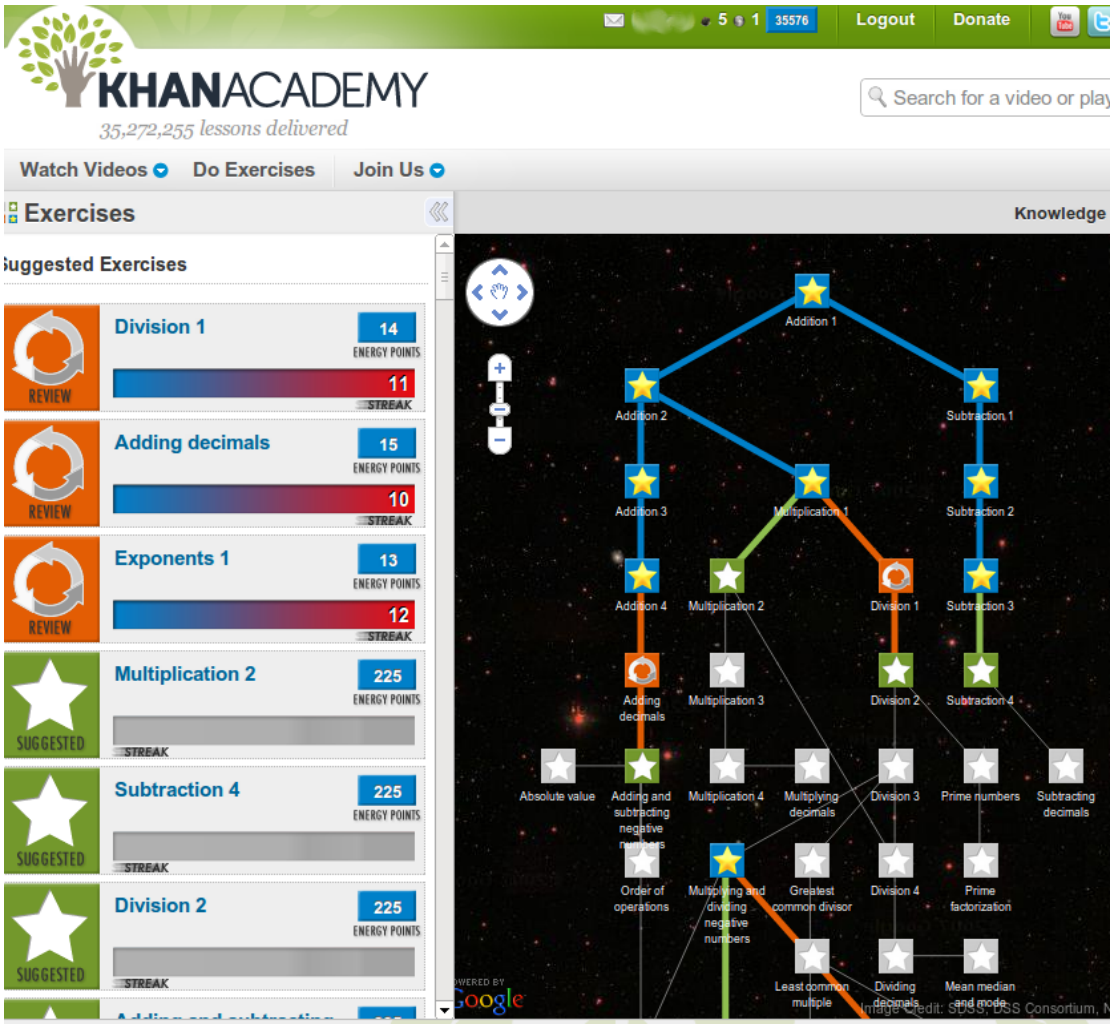


**Figure 2. Example of badges and knowledge tree gamification efforts on Khan Academy a free educational video and interactive tutorial site. https://www.khanacademy.org**

## Pink Boxing Games for Girls

A trend in packaging games to make them more appealing to female audiences is sometimes called pink boxing. The popularity of *Barbie Fashion Designer* in 1997 set this trend in motion and changed the landscape of what types of video games were made and who they were made for (Dickey 2006). There are critiques of these games as insulting to women, limiting in the roles they portray for girls, and, by considering girls games as alternative than the norm, placing masculinity as the normative behavior (Perry 2012)(Fantone 2009)(Justine Cassell and Jenkins 2000).

It is important to note that not all of the games for girls have been simply made pink or put into the context of stereotypical feminine activities. In the late 1990's a number of education oriented game research and design efforts sought to increase girls' interest in gaming. Much of this was based upon computer games as segue into greater comfort and more advanced computer use and possibly to increase skills they may gain from complex strategy and simulation games. Those interested in designing games for girls have identified several gaming mechanics that are more appealing to girls, such as collaborative play, exploration, game balance, and opportunities to create and socialization,

(Miller, Chaika, and Groppe 1996)(AAUW 2000) (Kafai 1998) – although most, if not all, of these preferences could be attributed to boys as well. Others considering game design for girls have set up a binary between what women and men like in technology, e.g. women see technology as a tool and men see it as a weapon (Brunner, Bennett, and Honey 2000). And some have appreciated that games that portray typically female activities and interest broaden the diversity of games available (J. Cassell and Jenkins 1998). For good or bad, these approaches have been considered in the development of educational games and other software that are appealing to girls and women and in many cases have shown success in increasing girls interest in digital games, such as Laurel's Purple Moon games (Churchill 2010). However, the ostensible goal of increasing interest and comfort with computing based on more video game play is questionable (DiSalvo and Bruckman 2009)(Dickey 2006).

But the majority of the learning games that are targeting girls have placed adjustments in game mechanics as secondary to the main appeal they make to young females. The way most learning games target girls is by using a lot of pink and purple in the visuals and focusing on stereotypical interest of girls, such as picking out clothes, cooking or babysitting (Figure 3). This pink boxing of games is a successful marketing strategy in attracting girls to games (Bulik 2015) and the rise of female gamers may be the best indication of that (Entertainment Software Association 2014). Which leads me to ask: *What is appealing to so many girls about pink games even when their design is so poor?*

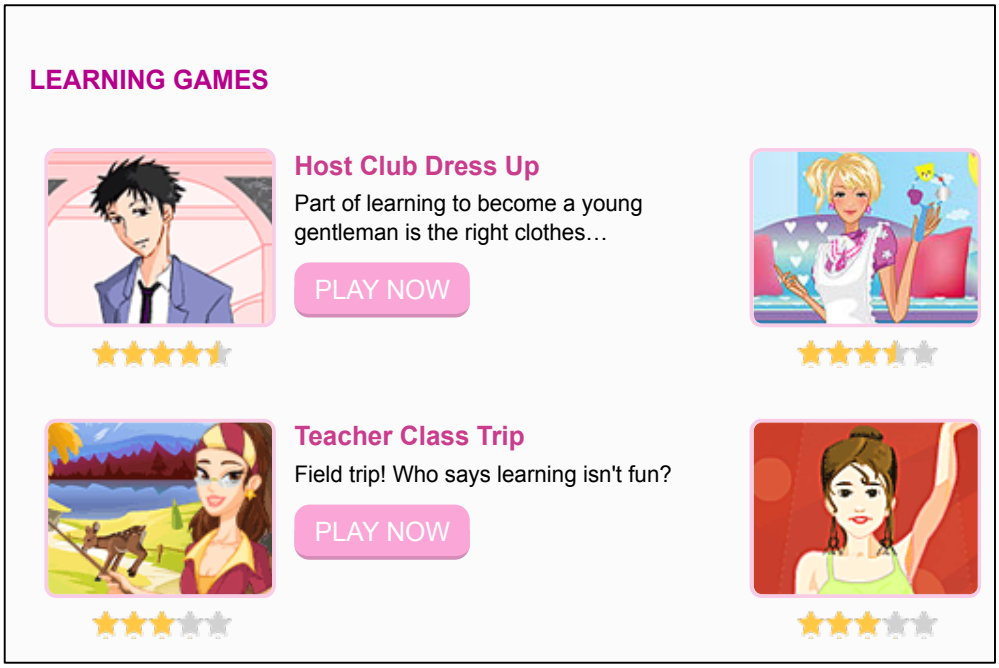


**Figure 1. Many learning games for girls are focused on dress up, animals, decorating and performing? http://www.girlsgogames.com http://always-icecream.com**

## Bad Game Design to Save Face

In an ideal world all of the educational games designed would be perfectly balanced games, pedagogically sound, and have cultural indicators that reflected well on the learners they are targeting. But with limited resources, most educational games fall short on at least one of these fronts. I seek to explain why, at times; even bad game design tactics such as sugar-coating skill and drill educational activities, pointsification, and pink boxing may be a strategies for engaging reluctant learners. To do so I answer the three questions posed after exploring these bad game design tactics.

*1. Why would students so fondly recall a game, which at its core, was about drilling them on arithmetic?*

*Math Blas*ter is just one example of this type of skill and drill game. Currently many school districts have similar games that they require students to play online in place of worksheets. Through my work in afterschool programs, elementary school students seem to prefer these games to worksheets even if the task and time is not much different between the two activities. The *Math Blaster* game of the

1990's and today's skill and drill games are not fundamentally different than worksheets or other practice activities, and these games certainly do not meet most criteria for a quality game in terms of balance, narrative, or aesthetics. Yet the students I work with express they are more willing to spend time with these games, repetitively practicing a skill, rather practicing the same skills with worksheets or other more straightforward educational tech. I suggest that this willingness is due, in part, to other people's attitudes towards these activities. The students perceive that others, including their parents, will see them playing a game as more reasonable, and possibly more appropriate, than doing math problems for fun. The students may simply enjoy math or they may seek to get better at math but do not feel comfortable practicing publically. In this way students intrinsic motivations to learn can be hidden from friends and family with bad game design – allowing our future mathletes to practice without fear of judgment.

2. *What is it about gamification that is appealing, despite its lack of pedagogical strength in most applications?*
One of the observations in the (blank for review) project was that a competitive points system we set up was a justification for learning (Author 2014). A participant might say they were only working hard on a programming project because they wanted to win – even when they were so far behind in points that there was no chance they could win. And all of the other participants, even though they knew better, participated in this face saving strategy, and allowed their peer to appear to not care about learning. If encouraged, this strategy may be used with educational technology that has implemented poor gamification design elements. This would mean that even if the points system implemented with the technology has no relationship to attaining learning goals, the objective to reach the next badge or level can be a justification to others, or even to the learner themself. In this way using points systems to save face may allow reluctant learners to participate in what they are intrinsically motivated learn but fearful to show enthusiasm for.

*3. What is appealing to many girls about pink games even when their design is so poor?*
What is it that makes these games appealing may not be fundamental changes to game mechanics, but the permission that pink boxed games give to females to play. Females who often play games may choose not to identify as "gamers" (Shaw 2012). Pink games, fashion games, and casual games may allow them to play because they do not fit the stereotype of what "gamers" play. In addition, for young people, their access to informal educational is often left to their parents and parents biases about what is appropriate for girls may be based upon such surface factors as the colors or gender of the character on the games marketing materials. Similar to this, a study of museum visitors found that parents were less likely to direct their daughters to science exhibits unless there was a female character as part of the exhibit (Lobel and Crowley 2001). And as young females take on their parents expectations of what is appropriate for them, they may feel a science game about make-up or a city simulation with pink castles will be a more accepted way for them to spend their time, rather than a game about outer space or zombies. Packaging learning games in cheap pink boxes may be the cover that a young woman needs to explore chemistry or engineering.

## Conclusion

The use of bad game design to justify learning should not be a justification for bad game design, but it can shed light on how the pretense of games can be a powerful justification for students who are afraid to seem interested in learning. Perhaps there is a boy playing a skill and drill math game because he loves math, but doesn't want to be seen practicing division because he fears others would think it is weird. Maybe it is a mother who enjoys learning about a wide range of subject for the joy of learning on *Khan Acadamy* (2013), but tells her children (and herself) she is just trying to get the next badge. Or maybe it is a young woman whose anticipates her parents expect her to dedicate her life to being a wife and raising children, and she can justify time spent learning about running a business because it is tied into an amusement park or babysitting simulation game. While these game design strategies can seem like they are candy coating, easy fixes or pandering to stereotypes, we can also leverage them to offer buffers to those reluctant to openly engage in learning. Using some bad game design tactics also doesn't mean that design should be tossed out. Considerations of what will be acceptable justification or wrappers for the game, must be something that designers looks at. This places a burden on designers to engage in a deeper understanding of the audience rather than only a deep understanding of games.

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