

## **Gaming Our Educational System**

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School sucks. That sentiment is one which has come to be widely accepted in America. One can simply turn to the various depictions of education in the media as evidence of how ubiquitous this belief has become. The image of students groaning as they are assigned homework, sighing in disappointment as they turn down an offer to hang out with friends in order to study, and even trembling in dread at an upcoming day at school; all of this is evidence of a system which is outdated and, in many places, outright broken. It is for those reasons that teachers have spent the past several years looking for solutions which could make learning enjoyable, and one of the more recent and promising experiments is to implement a pastime which most students nowadays enjoy every day – a pastime which they can actually look forward to, share with their friends, and which can potentially remove a lot of the fear the current system creates: video games. While games by themselves cannot solve all of the problems education has at the moment, they are most certainly a tool which could prove useful in a future where educators want students who are as enthusiastic about learning as they are about teaching.

In order to understand how games can help improve the learning environment in schools, the first thing which must be examined is what problems actually exist in that environment to begin with. The first of these issues which games can most easily solve is that of disengagement. Schools as they are right now do not really encourage students to take an active role in their own education, instead being content to have information thrust upon them and expecting them to memorize it. In his article in *Scientific American*, Gershenfeld notes:

Most students enter elementary school with a natural curiosity about how the world works, but all too often, by the end of middle school, we have beaten this out of them. Every eight seconds an American public high school student drops out of school; over the next decade that alone will cost the nation an estimated \$3 trillion in lost wages, productivity and taxes. Forty-six percent of college students fail to graduate with any credential within six years.

Clearly, for many kids, traditional education is neither relevant nor engaging.

The traditional school system is simply not very effective at capturing the audience which it is trying to educate, and the tools currently in place are insufficient to remedy this situation. Trying to revitalize this system using variations of the same practices which have been used for the past couple of centuries is not going to create a significant change in student engagement levels any time soon.

Thus, the search for new tools – ones which have proven themselves capable of, if nothing else, capturing people’s attention for hours at a time. Here, games are almost undoubtedly king. Chicago International Charter School’s ChicagoQuest demonstrates this by being a game-based middle school – using card games, board games, and video games to encourage students to learn and discover on their own. One example *Polygon* writer Charlie Hall provides is from his time visiting one of the school’s algebra classes. The students were loud and energetic, to the point that their instructor eventually had to calm them down a bit. This is in itself nothing out of the ordinary for middle school students. What Hall found remarkable was what had led the students to reach that level of energy in the first place. The students were playing a number game. The instructor said that it was, “Not a sophisticated game, mind you, just a simple game of war using playing cards to create random, negative numbers. But for 15 minutes, they got more repetitions solving arithmetic in their heads than some students will get in an entire

week. And they liked it” (Hall). Although games can seem simple when one is playing them, often they take complicated concepts – like algebra for children – and ask their players to master them, creating an entertaining challenge for the individual to overcome.

Even at higher levels of education, games can benefit students. One history professor at the University of Akron took the steps to create a class in which he teaches historical theory through games; the benefits of which can clearly be seen in his students’ feedback where they comment, “It is far more involved with the students. The class seems far more invested in the class” and “This course was more open-ended than most courses. It encouraged critical thinking” (Wainwright 602). Even in undergraduate courses, games can be used to get students invested in learning, with this particular instructor placing his students in the game, *Civilization IV*, where they got some “first hand” experience with issues that have historically faced civilizations. Such games contain inherently educational themes which allow them to actively take part in what is being taught.

Another issue with education at this time rests with the other half of the system, the teachers. As much as students feel disconnected from their teachings, teachers can often feel just as disconnected from their students, and this is due to the great deal of work which is asked from them in their jobs. Instructors are given the unenviable task of standing in front of twenty-plus students and trying to help every last one of them reach their full potential. James Portnow, who has had some experience teaching, suggests that “it’s very hard to give 100 percent to more than ten, maybe twelve students at a time” (“Responsive Learning”). Beyond that, attending to every student’s needs is quite difficult. And according to a teacher from ChicagoQuest, “It’s hard. ... You have to wear so many hats as an educator. You have to be a social worker. You have to be a parent. You have to be an educator” (Hall). Teachers need to do more than simply teach; they have to act as guides for students – at least, if they truly want their students to learn and not just

memorize facts for this week's quiz and forget before the next one is even assigned. And guiding such a large number of individuals with different needs, different skills, and different challenges is rather infeasible.

Fortunately, games could at least reduce some of the guess work teachers would need in order to be the guides their students need. In Extra Credits' "Responsive Learning" episode on using games in education, they provide an example of a student who believes they aren't good at math, arguing that the problem is not the student's inability to master the subject, but the fact that some students will end up getting left behind as the teacher sees the majority of students are ready to move on, and could easily miss that one who has started to have difficulties which will only compound as the class tries to build on previous knowledge. The Extra Credits team reflects that, "This problem could of course be corrected if teachers had both the information they needed to identify where each student was struggling and the ability to tailor their assignments to each individual student's needs" ("Responsive Learning"). So where do games come in? Well, video games are a form of entertainment which was spawned by and is unique to the information age. As such, they are constantly taking in data and using it to create custom experiences for the player, constantly responding to his or her inputs. It would not be a difficult matter to put that information in the hands of teachers, allowing them to see precisely where a student needs help, and thus removing a great deal of the guesswork which instructors currently have to do.

Imagine a child going home each night, and the game being able to feedback massive amounts of data to their teacher, automatically calling out anywhere the child is struggling, or highlighting places where they excel. Imagine it doing *more* than that. Imagine the game they play actually choosing challenges for the child based on this data... And finally, imagine the game being able to put a special flag on the assignment

so it immediately got noticed by the teacher if the systems within the game weren't enough to help the student through whatever they might be struggling with ("Responsive Learning").

One of the best ways the current educational model could be improved is by giving teachers the tools they need to give students the time and effort they need to flourish while also allowing them to discover things on their own when the direct guidance of an instructor is not really necessary.

Finally, one of the biggest problems with modern education is that it isn't. According to Michael B. Horn and Meg Evans of *Journal Sentinel*, "The education system in place in urban school districts around the country was created in the early 1900s to serve a different time with different needs. In 1900, only 17% of all jobs required so-called knowledge workers, whereas over 60% do today." The set-up which is currently in place was not designed to meet the needs of students today, and so they are being prepared to work in 20<sup>th</sup> century factories in a 21<sup>st</sup> century world. This is especially concerning as education *should* be at the forefront of change and innovation, constantly updating itself to meet the needs of students in a constantly-evolving society. However, schools have been among the slowest to adapt to new technologies and demands, leading to students being less prepared than they should ideally be to face the challenges of the modern world. Some schools have attempted to keep up with changing technologies, but most of these attempts are half-hearted at best. As Joel Rose of *The Atlantic* puts it, "many of our technological capabilities (which can now support both scale and personalization) are either inaccessible or clumsily grafted on. Three computers added to the back of a classroom may look like a positive step toward bringing that classroom into the advanced technological age. However, smoothly integrating three computers into a daily lesson

is not always easy...” One could easily go a step further and say that it is nigh impossible to reach students when classes in school are so completely out-of-touch with their lives outside of it. People today live in a period where they can carry around a library’s worth of information in a device that fits comfortably in their pockets. Trying to sit these same people down and have them fill in bubbles on the type of exam designed for 1900s factory workers is just asking for problems.

For today’s world, new skills need to be taught to students, ones which will prepare them for this century rather than the last. Extra Credits describes them as, “Critical thinking, communication, collaboration, and creativity... These are called 21<sup>st</sup> century skills. These have been studied and discussed at the highest level of the educational system...” (“How Games Prepare”). The interesting thing is that each of those skills are practiced to a considerable extent in games, as reported by Sardone and Devlin-Scherer when they state that, “Critical thinking and problem-solving, deemed most important of the 21st-century (21C) learning skills, can be enhanced by repeated exposure to computer games and other digital media.” Each of these skills is intimately tied to modern gaming, which often requires the players to figure out the most efficient way to advance based on subtle contextual clues. In essence, the player must figure out how to first identify a problem and then come up with a solution, of which there may be several. This flexibility is essential in modern careers, where people often face problems which have never been seen before and require not simply knowing the right answer and checking the corresponding box, but actually creating an answer where one did not previously exist. In this way, games have considerably more potential than the tools currently in place to try and teach these complex skills.

Now, considering everything that has been said here, it should be said that games are not “The Solution”. Games cannot fix all of the problems the educational system has and the types of games used to educate students do not exist in any great capacity. As it stands, a wide gap exists between games and education, and the integration of the two has only recently started to see any kind of success. What needs to happen in order to make a system of game-based learning a reality is for people to work together and share ideas: game developers, publishers, teachers, school boards, parents, perhaps even some of the students such a system would be trying to help. The potential educational benefits of games are incredible, like books that can ask questions and give one the freedom within them to try and make their own answer, documentaries where instead of hearing about a phenomenon, one can experience it first-hand. But none of this is possible without the communication and collaboration of those individuals with the knowhow and experience to ensure such a system works, and there is still a ways to go before all of the necessary components have joined together. Regardless, the power of games in pedagogy has been proven time and time again – even without the express purpose of education in mind – so one can only imagine how much the face of education will change once the wall dividing games and school is finally removed.

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