A Caution on Computers, Luck, and Children

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In what is sure to be a jam-packed near-seven minutes, I will quickly explain how games are time machines for human identity, why this is important, and how our current fixation on data-driven outcomes for kids kills an important part of humanity in them as well as in our culture. Core to this argument will be an understanding of Callois' "alea," (or chance) (1961) and how deterministic computational models can remove this core aspect of self-determination. Traditionally, Americans have ironically preferred cultures of control to cultures of chance, banning gambling and touting a meritocratic ideal that hard work pays off even as fundamental components of our economy thrive on chance. I will argue that current attempts to computationally track, assess, and predict our kids are ideologically driven and fundamentally at war with something at the core of why games and gaming are important to us as humans, and that the GLS Community is in a key position to push back.

The era of "big data" is upon us, and educational entrepreneurs and academics alike are, for a wide variety of reasons from that run the entire gamut from base greed to a genuine desire to help individual children (as opposed to trying to make predictions about what might happen on average in the population from a sample). The idea is to collect student data from their performance on tasks, frequently surreptitiously, and make probabilistic models of what students know and in extreme cases, who they are. There is good and interesting work being done here, but there are some extremely salient features that need to be considered. Where this information goes matters immensely.

If students are passed information about how they're doing, it can have a strong influence on their identity as a learner, limiting their ideas about who they believe they can be. There is also research that indicates that if this information is passed to them, it influences who the teacher believes the student is, and their subsequent treatment of the student (Rosenthal & Jacobson, 1968). Unlike assessments and opinions received from human opinions, there's evidence that we treat algorithmic material with considerable weight and without expertise we don't know how to interrogate or make inference about the nature we've been provided. It's information about our children whispered by a black box. At least the bias and error in grades from a human can be understood based on our everyday understanding of one another.

This matters because many of these algorithms aren't great and we're ironically worshiping the wrong randomness. I argue that instead of using to tell us who we are in systematic and deterministic ways, carving out likely tracks of performance, we should be using randomness to inform us in more traditional ways, through serendipity and whimsy. This is something that I believe the GLS community is well suited for. Games have used teetotums, dice, spinners, and other randomness to help humans make sense of the very real randomness of life for thousands of years. Of course, U.S. culture tends to prefer safe, deterministic routes, so there were long periods of our history where, as my Media Lab colleague Kevin Slavin notes, dice were more regulated than guns or prostitution (2013). As he also notes, we live in a world where we can use computers to "solve" Snakes and Ladders, but of course the experiential point of Snakes and Ladders was the not knowing (2013). Players, especially children, rise and fall as one does, making sense of fortune and misfortune, emphasizing our inability to control our fate sometimes.

Of course, this is not an endorsement of allowing kids to only build an identity based on luck. The mindset research (Dweck, 2006) is too compelling to believe we should let our children accept the randomness of the world around them. Hard work its rewards are important lessons. I like this understanding of "grit" (as opposed to a valence where students are expected to learn a degree of self-regulation to endure and grind through makework their intuition rightly tells them is such). Finding *what* we want to work hard on is a somewhat more felicitous process. Instead of allowing computers to artificially "solve" the serendipity from our students' lives, let's use computers as pathways to serendipitously discover what's interesting to them. The Wikipedia hole, in which one investigates one phenomenon only to find oneself learning about something else an hour later was not a foregone conclusion – the technology was not necessarily created with design affordances to support hour-long self-learning fugues. Instead, hyperlinked knowledge and the human desire to learn united in glorious bursts of self-directed curiosity slaking. Our engineering efforts may make better use of probability in learning by working on ever better ways to interconnect knowledge and supporting serendipitous discovery instead of just allowing a black box to make a guess – however educated – with impersonal authority.

References

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