

**Aims of Education Speech**  
**The New School, Convocation September 6, 2007**  
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**Instruction Sets for Learning Engines: Games and the Architecture of Persistence**

It is an honor to be here with you today in this first week of classes, reveling in the chaos that generally ensues as we shake off the vestiges of summer sleep and half empty subway platforms. It is a time when we are emboldened by the promise of beginnings, inspired to chart new and exciting courses for our students, eager to share with them what we ourselves have been learning. But it is also a time when we are reminded of just how hard it is to sustain an excitement about learning when there are so many issues to be attended to, not the least of which is how to keep our students safe while challenging them to act within a world that changes with each passing day. How will they shape their own futures, we wonder, and how can we help them find their way?

While I have been a professor for many years I recently started a project that has thrown me deep into consideration of the future of learning as it relates to my own field of study: game design. The project is the design of a new 6<sup>th</sup> grade through 12<sup>th</sup> grade public school, here in New York City, developed in partnership between a non-profit I run called the Institute of Play and New Visions for Public Schools, an organization that has helped start and support many innovative small schools here in the city. What makes the school different from many traditional schools is that it is being designed to support what is becoming known as “game-like learning,” or learning that takes its cues from the intrinsic qualities of games and play. These qualities include things like thinking like a designer and understanding models and simulations. They include cultural dispositions toward risk-taking, experimentation, and collaboration, and support many new media and technology literacies that have been identified as critical to 21<sup>st</sup> century life. Many of you may be gamers yourselves or have children or students who game. I would argue that anyone committed to lifelong learning is a gamer at heart for games teach us nothing if not that we must be good learners in order to keep playing.

Those of us who make games and study their effects---both good and bad—are seeing that games are not only potential gateways into certain kinds of technology or design expertise, but also into mastery of things like teamwork, conflict resolution, systems-based thinking, planning, and the ethics of fair play. Well-designed games support the acquisition and performance of expertise of all kinds, and instantiate in players what I like to call *the architecture of persistence*.

The architecture of persistence creates in players—who we can also call learners—a need to know, a need to find out how and why and what if. This need to know drives players to persist on a problem, sometimes over a long period of time, sometimes in the face of failure. The architecture of persistence requires players to create theories, to test out those theories, evaluate outcomes, and try again. It creates conditions for an exchange of questioning and expertise across a community of players working on similar problems and leads to a natural engagement with learning about the issue at hand. The architecture of persistence connects engagement with the need to plan, a need to know exactly what one is trying to figure out, which in turn teaches players how to ask good questions. Persistence on a problem and asking good questions are two values I certainly strive for in my own classroom but see much less often than I would like.

Now I believe that students have it in them to be persistent in the pursuit of their own learning. A couple of years ago, for example, I had a student who unbeknownst to me had been waiting for me to review his portfolio to gain entrance into our program. This student's application had initially been rejected because of a low TOEFL score, and he made the decision to move to New York from Taiwan anyway, to enroll in English language courses, and retake the TOEFL test. He raised his score enough to gain entry and so appeared one day outside of my office, standing quietly with what looked to me to be a small suitcase. This was several days before the start of classes and I was busy advising. Someone had told him that I was too busy at the moment to see him, so he should just wait and I would work him in. This was a

great plan except no one told me who he was waiting to see, and I assumed that he was waiting to meet another advisor, even as I passed him time and time again as I ran to and from my office trying to solve other student's problems. Almost three days passed and still he was standing there. I finally asked him who, pray tell, he was waiting for. "You," he said, but I see that you are very busy. I can wait until you are free."

Now this just knocked me out, that this student was willing to wait, to persist in his goal of having me look at his portfolio, even if this meant standing for three days without uttering a word, much less a complaint. Needless to say we accepted him and he went on to graduate last year with honors from our program.

While I hope our program helped to support the persistence that drove that student to wait, I am not 100% sure that we served him as well as we could have. Persistence requires that attention be paid in kind not only to what we think students need to know to graduate, but also what they need to have in order to use this knowledge in a way that becomes meaningful to them. If students cannot act in and with the knowledge they gain in our courses, they cannot persist in crafting their own identities as independent learners. Because of this, I believe that it is the role of all learning institutions—The New School among them—to create the conditions where persistence is celebrated, internalized, and demonstrated across levels as a mode of action. I am not convinced that we are doing the best that we can in this respect and designing the infrastructure to support the architecture of persistence has become a key issue in the design of the school I am working on, as well as in the Design and Technology program in which I teach.

Designing conditions for persistence as a mode of action is critical to the aims of education, and I was recently inspired in my own thinking about this by a group of design and education experts that convened in Detroit at the Henry Ford Academy last month. The Academy was looking to redesign their curriculum around ideas of creativity and innovation and had invited the group to come together to help them imagine what such a curriculum would look like. Over the course of the day we worked in small groups to identify the skills and values that we thought a student in the 21<sup>st</sup> century needed to have upon graduation. While it might be expected that our focus be on gaining fluency in technology or learning about globalization or entrepreneurship, this was not the case. Consensus instead formed around the need to support students in their quest to develop identities as social citizens, as learners, collaborators, and members of local communities. The models we proposed explored, for example, how teachers could create empathy in their students through a pedagogy based in the negotiation of divergent perspectives, or how they could create dispositions toward adaptability and resiliency through creative iteration and critique, or innovation through attending to the everyday conflicts present in a student's life. It is from these skills and dispositions we argued, that the capacity to learn in meaningful ways would grow. I myself remember thinking as a young professor that what I was really spending my time doing was helping my students to become the kind of people they wanted to be, not educating them to know a particular set of facts or theories. The work of education for me, both then and now, was in attending to the movement of an individual from their conception of themselves as social beings to those as learner beings capable of a lifelong project around reflection and change.

Many leaders of education from Dewey onward have recognized such a need, and I think that we have a good many workable theories about how to do this at the level of the individual. The past 20 years alone have seen remarkable work being done in this area. We are on the cusp of what I believe can be a revolution in education if we can now shift our attention from the individual to a conception of the larger social, cultural, technological, and ideological forces shaping the design of institutions in which these individuals learn. This is the issue facing me in the design of our game school, and is an issue worth addressing today as we celebrate the launch of a new school year.

How does one create change within an institution in such a way that the institution begins to conceive of itself not just as a supporter or provider of learning, but as an environment in

which learning persists? How are issues around legacy, precedent, and planning for the future integrated into the design of an institution in such a way that it sees learning not as something it wants or should do, but as the thing it simply does do? How might an institution navigate a transformative moment in history, like the one currently facing The New School and schools around the country, in a way that sustains thinking around the persistence of culture and ideology as pathways for learning, rather than as structures of resistance? How can the design of the architecture of persistence help us in this endeavor?

While I don't have answers to these questions I'd like to return one more time to games. I in no way want to suggest that games are the BIG ANSWER but only that in understanding how games work we can gain ideas about how to design institutions in which learning persists.

The working name we have for the game-inspired school I mentioned is Ellipse. I personally tend to use the ellipse—those sequential three dots--to fault when writing emails or conversing through Ichat, as it serves as shorthand in these spaces for "I am still speaking," or "take this as an incomplete thought...I'm still working on it." I use the ellipse equally often when text messaging and have found that it lends itself well to the culture of multitasking in which I, and my students are most often immersed. I can be working on several things at once, using the ellipse as the bridge between. Even now I'm imagining this talk as a giant ellipse that I will surely return to again before long. Last, the ellipse can represent presence, as in "I am still here" and "Hold on, I will be back."

In the context of the design of a school the name Ellipse references the state of learning as something that may be initiated in one space but continued in another. The name embraces the idea that learning persists in the pathways between experiences, communities, and contexts, and reconsiders "school" as just one node within a larger network of learning spaces within and across which students move. The kind of "horizontal" consolidation of new M.A. programs being introduced across The New School shares in part, some of this thinking. These new programs combine the best of design and the social sciences, building on the connective tissue that runs between. A next possible step might be to expand our own ideas about what constitutes the network in an age where navigation of the connective tissue is the primary space in which learning occurs. As a result, institutions in which learning persists attend to the mechanics of transition, designing infrastructures that exist equally between traditional knowledge domains and experimental practice, not so much occupying space as creating the signposts for movement through it.

The design of the architecture of persistence is something games do very well and so we have a number of examples to work from, in asking questions about how the concept can be applied to the design of other kinds of systems. Are there any World of Warcraft players out there? What about Golf or Bridge? Surely there must be some Poker players among you? Take a moment and think about all the ways you continue to play and learn through these games even when you are not "at play." All of the hours you spend practicing your swing, for example or playing practice hands online, or perusing a WOW community site looking for tips on who to go questing with next. An institution in which learning persists occupies a similar mindset. It learns from each student that moves through its hallways, through each global partnership it creates, from each new professor it hires. Through this infrastructure learning persists. In so doing, lots of good questions get asked. In so doing, an institution grows, reflects, and changes.

There is one more lesson to be learned from games, which can inform our thinking about the architecture of persistence. Trust. All of the great social theorists of games and play, from Sutton-Smith to Piaget to Huizinga and Caillois on, point out that one of the remarkable features of games is that they must be perceived by players not only as *fair* spaces of play but as *trustworthy* spaces for learning. Now what do I mean by this? Because games are *chosen* to be played, games must nurture a belief that once players step into a space of play, all of their learning needs will be attended to. In others words, players must trust that the game will teach them everything they need to know to play. When games don't, players walk away. Institutions of higher learning are not unlike games in this respect, as students *choose* to continue their education by enrolling in our courses. This is quite a remarkable choice, I think,

and one that carries with it an inherent belief that learning is valuable and worth significant effort.

When players trust that a system sees them as capable, persistent, and willing learners, all magnitude of things is possible. The degree of challenge created for players in games, for example, far outdistances that of the problem sets or design problems given to students in most traditional institutions of higher learning. How is this possible? Simply put, games create a system of trust that players accept wholeheartedly and often with much gusto. Through this contract of trust games can and do demand that players will fail many times, before they succeed. Games can delay gratification so that a player must play thousands of hands of Poker or run hundreds of Starcraft missions before achieving a significant level of reward. Because well-designed games maintain the trust of players they create in them a sense of agency as learners and explorers in that space. Players come to know that the game believes in them and in fact, expects something from them. What the game expects is nothing less than that a player will do their very best, will seek outside resources to gain new knowledge toward better play, will find and exploit its weaknesses toward creative ends, and will share their successes with others. In others words, players will persist on the problem until they can have their way. We must ask if the students in the institutions we are building are this willing to be challenged, this willing to believe in what we have to offer, this open to failure and change. I believe they can be if our institutions too, are willing to learn.

This, then, is a possible blueprint for the architecture of persistence. Belief and trust that a system teaches because it has to, because learners demand that it do so. As we move forward in our own pursuits as leaders, designers, and players of these systems it is worthwhile to keep this in mind. I know I will as my team works to envision the future of learning for a coming generation. They, as true players in the game of learning and life should expect nothing less.

Finally, as Bell Hooks has written, if we are to transform our thinking about schools we can only generate excitement through an interest in one another, in persisting on making one another feel present. This includes an ongoing recognition that everyone influences the dynamics of education, that everyone contributes. As we kick off the 2007-08 school year I look forward to being present with all of you. Thank you.