Moving Outside the Box: From Game-Centered Interventions to Gameful Contexts

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In his seminal book *Flow: The Psychology of Optimal Experience*, Mihaly Csikszentmihalyi writes: "Mowing the lawn or waiting in a dentist’s office can become enjoyable provided one restructures the activity by providing goals, rules, and the other elements of enjoyment" found in games. This idea – that games hold valuable principles for making even the most mundane activity more engaging – has a long history in human-computer interaction and education, regularly re-emerging under names like funology, ludic design, playful interaction, serious games, or game-based learning. Its most recent iteration has come to be known as "gamification": using game design elements in non-game contexts.

One may rightfully question whether "gamification" is anything more than a marketing ruse to sell the next digital snake oil. The current field is certainly littered with shallow interpretations and implementations – essentially incentive and customer loyalty programs repackaged with a superficial "gamy" veneer as software services that disregard decades of research on the limited effectiveness and unintended consequences of such systems. (This is one reason why educators have reacted with such mixed feelings to the current Digital Media and Learning Competition, "Badges for Lifelong Learning".)

However, cases like the Quest to Learn schools, the Just Press Play project, or the health application Health Month show that "gamification" can also be approached thoughtfully. More importantly, even if "gamification" (or gameful design, to use a term I prefer) will ultimately prove to be a fad, I do believe that it helps to move our current thinking on games for impact forward in two crucial ways – regarding how game play facilitate learning and engagement, and regarding the scope of what game-based interventions could and should encompass.

Back to Play

What is the first thing you think of when you hear the word "video game"? Likely, it will be a box: Some square screen, some interface tied to a piece of hardware running a piece of software. That is, you are thinking of a game as a designed artifact. There is nothing to say against that; it is a lasting achievement of game research to have demonstrated in detail how the design of games makes and breaks their experience and potential effects, and we are far from understanding these matters fully. Still I would argue that this box is what currently most limits our thinking, because it disregards
what happens outside of it: the specific way in which people come to frame, experience, and interact with games. Simply put, it ignores that people are usually playing them. For although games certainly uniquely cater to being played, there is no necessary connection of the two. We can do very many things with games – we can build, test, debug, review, analyze and play them, and we can work in them, as gold farming demonstrates. Likewise, there are many things we can play with – our hands, sticks and stones, passing cars on a long highway drive, games, even work assignments.

Is this a trivial point? Well, a small but growing movement in game studies – driven by the likes of Miguel Sicart, T.L. Taylor, Mark Chen, Aaron Chia-Yuan Hung and others – urges us to extend our attention to the many ways games are being played, and to the way both, games and play, interact to create the unique affordances of fun, motivation, learning that we are hoping to harness.

To be sure, the games and learning community has long been at the forefront of pushing game research "from content to context", towards the broader "ecology of games": how participation in the cultures, communities and affinity spaces surrounding games is not only a crucial part of gaming, but also a crucial site of learning. Yet arguably, it has not paid as much attention to the psychology and sociology of what constitutes "playing" as a mode of engagement.

**The Troubles of Instrumentalising Games**

For if we start to look closer at this matter, we immediately notice how the instrumentalisation of games for a serious purpose may interfere directly with one essential aspect of play: its voluntariness. Scholars from Johan Huizinga on have stressed voluntariness as a defining feature of play. And this feature is mainly found in the social interactions and interpretations that envelop a game: to what extent others force an individual to do something, and to what extent the individual, in light of such actions of others, comes to define said activity as self-determined or not.

Now a rich literature in psychology has demonstrated that voluntariness – autonomy – is a core part of intrinsic motivation, and that attaching rewards or punishments to an activity may thwart the experience of autonomy, making the activity paradoxically less motivating. Some studies suggest that good video games are engaging precisely because they support strong experiences of autonomy: In them, we can choose who to be, what goals to pursue, and how to pursue them. But by the same logic, games should also be engaging because they are played, that is, because they are engaged with voluntarily. In contrast, if a game becomes mandatory and consequential by being...
made part of graded homework, it might easily stop being experienced as voluntary, and thus, play. “Gamified“ applications are almost natural experiments in that regard, as they intentionally take game elements into non-playful contexts.

**From Games to Playful Contexts**

Could it be, then, that the mixed success of serious games in the past is at least partially also due to the fact that learners often encountered them in such non-playful contexts? Once we grant this possibility (and there is some, though no conclusive evidence yet pointing in this direction), we grant that how people encounter games, how they are socially placed and framed, might be as consequential to their impact as their design.

Therefore, if we want to fully understand and harness the unique affordances of game play, we need to pay closer attention to play, and how to design the social context of games to support playful engagement. What are the features of play that are conducive to learning and motivation? How do good moderators, teachers, and game masters facilitate a playful atmosphere? Voluntariness and lack of consequence are certainly crucial aspects, but there are many others pointed at in various literatures, like the lack of outer imminent threats, a shared focus and attitude within the co-present group, mutual trust, or lived ethics of fair play and benign mischief, to name a few. Many of them connect to what we already know about the negative impact of stress and fear on learning, but our understanding of these matters is arguably at the beginning.

**Beyond Transfer**

The second “thinking box” that gameful design pushes us out of is our notion of the object and scope of game-based interventions. The predominant approach in serious games has been to deploy games as interventions within an educational institution or public policy program to convey attitudes, knowledge and skills for later situations. This leads to the familiar question of transfer: How do we ensure that what is learned actually gets applied afterwards? For instance, will a student playing an AIDS prevention game make use of what he experienced in it when he is out for the night? Game-based learning usually tackles this issue by emphasizing situated, participatory, interest-driven learning that involves learners’ interests and life and resembles the context of application as much as possible.
In contrast to this stands a recent line of reasoning in policy and design circles heavily informed by behavioral economics that goes under names like persuasive technology, choice architecture, or design with intent. It argues that traditional measures in health communication, civic engagement, and consumer education have seen only limited success not so much because people don't learn, or learning doesn't transfer, but because emotion, habit, cognitive biases and material environments strongly shape and bound our conscious action and decision-making. In other words, we don't necessarily do better just because we know better. Instead of educating people in the hope that they will later consciously act on what they learned, they propose that we should try to affect decisions and actions directly when and where they are happening, operating on the level of emotions, habits, cognitive biases, and material environments.

From Games to Gameful Contexts

And that is exactly what gameful design (or “gamification”) attempts: It implements features of games that are presumably conducive to desired actions right where they occur. Instead of building a simulation game about personal budgeting to improve financial literacy, say, one creates a personal financial management tool informed by good game design to make its use fun and self-explanatory (see Bobber for one example). Thus, gameful design broadens the scope of games for impact from designing games as interventions deployed within certain contexts to designing contexts as interventions, informed by game design.

Again, there are legitimate doubts whether this strategy is ultimately effective and sustainable on its own: Shouldn't we empower people to reflect and self-regulate their own conduct, rather than making them even more dependent on technological environments 'nudging' them? Well, for one, embodiment and distributed cognition have taught us that thinking, learning and acting always already involve tools – done well, gameful design 'just' improves the tools at our disposal (which puts it in neighborhood with transformational objects, ReflectOns, or the quantified self movement). And two, even if we remain focused on learning, gameful design still opens our eyes to its context as part of our intervention. Are the tools and environments of learning self-regulation optimally designed? Why further a particular learning goal with a well-designed game, for instance, only to curb its effectiveness by placing it in a larger structural context of grading, class organization, etc. whose design goes against all the principles of learning and motivation said game embodies?

This broadened approach is exemplified by teachers from primary to graduate education who, following in the footsteps of Lee Sheldon's, "Multiplayer Classroom," are organizing their curricula
and classrooms according to principles of game design. Admittedly, these are often crude beginnings, full of trial and error and slippery slopes into shallow ends. But they also point towards the high mark of what games and game design for impact could become: A marriage of the sciences of learning and motivation with the practice of game design to restructure not just interventions, but tools, environments and institutions in a playful and gameful manner so as to optimally enable and motivate the people that live with and in them.

**Conclusion**

To summarize, I believe that to move the use of games for learning and change forward, we should expand the scope of our attention and ambition beyond *games* towards the social and material *contexts* of learning and behavior as our interventions, or at least as a necessary part of them. This strikes me as the logical next step in the exploration and utilization of the ecology of games. Doing so immediately raises important academic and practical questions:

- What characterizes play as a mode of engagement? How does it support motivation, learning and behavior change in and beyond game-based interventions? How to design game-based interventions and their social contexts to optimally afford playfulness?
- How might we redesign tools, institutions and environments themselves in a playful and gameful manner to directly support learning, engagement and behavior change?
- What are the limitations, unintended consequences and side effects of these approaches, and how to best tackle them? Are gaming tropes universally appealing and accessible to all audiences?
- Finally, how can we best equip educators and change agents to transform the tools and environments they are operating with into playful and gameful ones?

Current proponents of "gamification" have sparked the imagination of many about the potential of games, but turned away an equal amount with troublesome ethics and a disregard for the complexities of design and human motivation. Uniting the momentum of the former with the thoroughness and care of the latter is the big opportunity I see for games for impact today.