Playful Possibilities for Assessment: Fluffy Ducks and The Queen's Gambit

Words of Introduction

Is it possible for anyone to regard assessment as "fun"? Is it possible that we have hamstrung ourselves into boredom and resistance to assessing student learning by forgetting our love of play? How might the delightful aspects of games transform our approaches to assessment? Here, SEHS Lecturer Remi Holden (winner of the inaugural Bruce and Lillian Wright Online Teaching Award) explores these questions as he describes how "playful teaching and learning" has become central to the work of the Educational Technology Master of Arts Program.

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How have a box of fluffy ducks and the queen's gambit helped me assess learning? My reflections are a mashup – literally and metaphorically – and so I ask your grace and flexibility while introducing this story's players, programs, and predicaments.

The University of Michigan-Flint recently reorganized its *Educational Technology Master of Arts* program. I graduated from this department with my master's degree in 2008. Since then I have served as a teacher, game designer and course developer, and also as a resident cheerleader for graduate courses taught on campus, in Geneva, Switzerland, and online.

As I reflect upon my history with the program and anticipate future initiatives, it is my understanding that our program – buoyed by its many partners and imaginative faculty – aims to accomplish three goals. First, we intend to transform how teaching and learning intersect with technology so as to span contexts and ways of knowing. Second, we seek to design and then leverage networked media to make, in the vernacular of pro-social tech-tinkerers, "cool stuff to change the world." And third, we hope to sustain professional communities of educators – whether classroom teachers, administrators, or entrepreneurial designers – committed to the creation and dissemination of immersive learning experiences that foster knowledgeable and compassionate global citizens.

Are our goals ambitious? Certainly. And, like design-based researchers who influence our work, we're "building the plane while flying it."[1] Yet we've been doing so for quite a few years now, and in that time we've learned a thing or two about program design, administration, and outreach. We've also gained insight into effective pedagogies for teaching teachers about technology as both media product and mediating process. And we continue to appreciate the importance of honoring our students' experiences and questions – for, more often than not, they too are educators, whose desires and curiosities remind us that unanticipated outcomes can be as meaningful as prescriptive objectives.

In a dynamic field like educational technology, and at a time when teacher education is simultaneously under threat and open to transformation, student learning is as critical a focus as it is an enduring mystery. How do we attend to student learning when open-ended processes define our pedagogy and field? In what ways have we begun to assess across scales and contexts; that is, from our students' learning and our teaching to the program's long-term impact, and in settings throughout Michigan, across the nation, and around the globe? In developing, prototyping, and refining assessment mechanisms and mindsets – from tools and processes to new dispositions – we have a strong and collective sense that play, and more specifically playful teaching and learning, is central to our work as educators. Inspired by Maria Montessori, who noted that "play is the child's work,"[2] we believe educators, across contexts and disciplines, can benefit from and help to expand the possibilities of playful teaching and learning.

Before I define playful teaching and learning and consider what play as a means for assessment reveals as evidence of student learning in our graduate education context, a few introductions are necessary.

The Players and the Program

Who are some of the players in this story? My colleagues and I are process-oriented teacher educators. We are more interested in verbs (what we do) than nouns (formal titles). For example, while "lecturer" is my institutional designation, my instructional practices are not illustrative of the traditional didacticism associated with that term. My colleagues and I facilitate learning through iteration, enact cycles of design and experimentation, embrace failure, and commit to critical and

communal reflection. And our practices are not innate. We actively cultivate relations among individuals, institutions, and inquiry, like UM-Flint's *Technology in Education: Global Program* (the now defunct pre-cursor to our new program) and the *Interactive Communications and Simulations* group on our Ann Arbor campus. We also create communities that are both scholarly (we administer THEN, a peer-reviewed journal about technology, humanities, education, and narrative, thenjournal.org) and entrepreneurial (we recently initiated the *Institute for Innovation in Education)*.

The history and evolution of our graduate programming acutely reflects our dispositions as teacher educators – and our ongoing experimentation with assessment. From 2007 to 2012, the department's *Global Program* welcomed three successive cohorts of educators from around the world. Students in the 2011-'12 cohort, for instance, hailed from Egypt, Japan, Canada, Switzerland, Hong Kong, Taiwan, Germany, and a handful of American states. Throughout 16-month cycles including two three-week summer residencies in Geneva, we did more than enjoy the Swiss chocolate and mountain air. We intentionally removed faculty and students from the familiarity and fatigue of daily routines. In doing so, we created the conditions for divergent thinking about schooling and learning, collaboration across disciplinary and inquiry traditions, and the adoption of "anything is possible" design – whether we were tinkering with website code, building mobile apps, or writing organizational mission statements and grants.

Located blocks from the United Nations, and with student learning informed by emergent partnerships and international initiatives, the diversity of our successes and outcomes were matched in measure by compelling assessment predicaments. Consider a few examples. Educators worked with the world's leading fair labor watchdog to design and implement an online economic justice simulation for high school students. Websites and curricular resources about human rights in China, community gardening in Michigan, environmental conservation in Mexico, and global citizenship in the Congo were presented to – and then critiqued by – an official from the UN's International Labor Organization. An elementary school science teacher partnered with an early college social studies instructor to develop a "gameful" approach to learning with digital and analog tools. Once in Geneva, they shared results from practitioner inquiry with visiting educators from South Africa and Mexico. A team built solar photovoltaic systems, developed a curriculum to address barriers to rural electrification, and handed the hardware and digital resources to a South African mobile learning organization.

Across this mélange of activity and outcome, what and how do we assess?

A Few Predicaments

Both our bygone *Global Program* and the revamped *Educational Technology Master of Arts*, like all programs within UM-Flint's Education Department, were developed to align both formative and summative assessment with teachers' knowledge proficiencies, their development of pedagogical practices and skills, and cultivation of professional dispositions. For example, our students' capstone portfolios are assessed in relation to both state and national teacher education standards, like those developed by the International Society for Technology in Education (ISTE). We want our students becoming teachers who are ever curious about – and increasingly capable of – designing and developing digital-age learning experiences and assessments for their own K-12 students. And we plan and facilitate our courses to model and foster deep, interdisciplinary, and flexible ways of knowing. Knowledge, skills, and dispositions are of critical importance.

Yet as evidenced by the previous examples, our students – weaving together varied capacities as educational innovators, technology designers, and organization leaders – generate products and engender ways of being that, more often than not, are difficult to capture via the requirements of any standardized rubric. Perhaps it is more accurate to observe that what our students exhibit, indeed who they become, exists "beyond" the anticipated or a priori requirement. Working within and across international contexts, the contingencies of local needs and opportunities are difficult to anticipate. Designing new digital media to address emergent learning challenges requires a flexibility of plans and goals. Living and learning as "members of multiple lifeworlds...[our] Identities have multiple layers that are in complex relation to each other,"[3] demanding assessments that are simultaneously culturally relevant, broadly applicable, and open to interpretation and representation.

It's not that our bar for assessment has ever been set "too low." Rather, it's that the bar is set – that the standard is static, not dynamic.

In reviewing forms of assessment typical of our graduate programming – Master's theses, web-based portfolios, digital and mobile media, curricular resources, grant applications, presentations, scholarly manuscripts, to name but a few – I am aware that even a distinction between formative and summative fails to capture a tension my colleagues and I constantly manage. It's not that our bar for assessment has ever been set "too low." Rather, it's that the bar is set – that the standard is static, not dynamic.

Our students often surprise us by initiating processes and delivering products that reveal some other type of standard. Their learning reveals a bar previously unobserved, a standard honoring evidence of knowledge that is particular, practical, experiential, and even moral (something akin to what Plato termed *phronetic* knowledge [4]). To complicate matters, by the time new ways of doing, being, or knowing are articulated and

incorporated into course pedagogy and program curricula, some students have surpassed even that benchmark.

Lest I give a false impression that we have created some magic incubator of endless innovation (which is neither a goal nor desired outcome), let me pause and review our track record. Not all our graduates write books, found organizations, develop new technologies, win international digital media competitions, travel the world implementing projects, or author research with faculty mentors. No, every student in our program has not done that. And yes, despite our best intentions, not every student will achieve these or similar outcomes in the future. Generative activity at the intersection of teacher education, technological innovation, and learning design is a messy process – but it is not a secret. With enough of our students' accomplishments unanticipated and inspiring, it behooves us to think of assessment differently.

This appraisal of perspective and predicament invites a turn towards play. Or, more specifically, playful approaches to teaching and learning. In many classrooms, as in many games, students are told what they must involuntarily do (e.g. "complete this math exercise"). Sometimes, though not always, students learn what they can voluntarily do (e.g. "I can do this or that"). Often, because of mentorship and experience, students recognize what they should or should not do (e.g. "when I do this, that likely happens"). And, in some important cases, students discover they are not told everything that they cannot do (e.g. "I have not been explicitly prevented from doing this or that"). Observing a continuum of prevention to permission to possibility recalls what scholars (and many parents) know well – play is characterized by positive affect, non-linearity, intrinsic motivation, process, and free choice. [5]

Building upon these insights, we advocate playful teaching and learning as a means to minimize fatigue associated with the required, invite the voluntary and imaginative, and delimit the forbidden in light of the possible. How might such a vision help forward alternative assessment processes and outcomes? Before addressing this question, it is necessary to sketch how and in what ways we teach and learn playfully.

Playful Teaching and Learning

While play might appear an atypical (even offensive) descriptor of graduate education, playfulness is an increasingly common characteristic within educational technology and related fields. In this sense, UM-Flint's *Master of Arts* program reflects trends in many leading programs committed to design thinking, rapid prototyping, fast failure, team-based projects, and the production and public dissemination of knowledge, content, and product. [6]

But Swiss chocolate notwithstanding (which, admittedly, is hard to forget), we are unique. So what is playful teaching and learning within the context of our programming? And, furthermore, how might our pedagogical commitments – those core features of our work – depart the contingent and serve more broadly our colleagues in teacher education, other departments across campus, and additional disciplines and settings? I will briefly describe how we embrace four features of playful teaching and learning, and then share in detail one example directly related to assessment methods and outcomes.

First, play requires the acceptance of constraints. We do not encourage our graduate students to just "go outside and play" sans structure. If play is to be explicitly pedagogical, it must be constrained in relation to environments, purposes, and activities. "But hold on!" you must be asserting. "Aren't constraints the 'required' and 'involuntary' you previously sought to minimize?" My response to this rebuttal is rather unsurprising: "Not entirely."

We gravitate towards Bernard Suits' definition of game play as "that curious state of affairs wherein one adopts rules which require one to employ worse rather than better means for reaching an end."[7] For Suits, an individual participating in this "curious state of affairs" has adopted a "lusory attitude." Consider golf. Why use a stick to hit a ball hundreds of yards, aiming for a small hole hidden behind a bunker of sand? Wouldn't it be far easier to pick up the ball, drive down the fairway in a cart, and drop the ball in the hole? Well, yes, it would be easier. But, then we would be playing drive-and-drop-ball-in-hole, and not golf. Voluntarily accepting obstacles by adopting a lusory or playful attitude affords the opportunity to play. Abstracting this concept, it becomes possible to appreciate how constraints provide meaning; well-crafted and deftly managed constraints create the conditions for play – and, we believe, learning. As noted, we do not wish to burden our students with tedious requirement. Rather, we hope to reveal – and to play with – sets of constraints that provide meaning.

Second, we want our students playing with things. Of course, "thing" is as quotidian as "technology" is obtuse (and this can be a problem in our program and field, but I digress). I prefer the term "tool." Tools do include physical objects, like mobile devices with their many apps. But tools also include interpersonal interaction, conceptual knowledge, and disciplinary tradition. The learning scientist Roy Pea provides useful language for understanding "ubiquitous mediating structures that both organize and constrain activity [and] include not only designed objects... but people in social relations, as well as features and landmarks in the physical environment."[8] Not only do we want our students playing with iPads, we want them playing with assumptions about how such a tool changes schooling, conversation, and inquiry. In what ways are the locations and practices of a high school mathematics class transformed when mobile devices collect and analyze data about food insecurity across classroom, neighborhood, and online contexts? Playful teaching and learning recognizes that tool constraints – whether of an iPad, mathematics content knowledge, or social milieu

– afford innovation.

Third, play assumes failure. Again, let me preempt an anticipated rebuttal – "You advocate playful learning, open-ended and process-oriented discovery, and yet you fail your students?" Of course not. Failure, in our context, does not equate with outcome (i.e. a letter grade). Rather, we design course activities encouraging experimentation, failure, reflection, and insight for the next attempt. Such low-stakes and iterative processes are typical of video game play, something digital media scholars have written about extensively. Indeed, in many playful experiences, whether video games or our graduate courses, failure does not prevent learning. On the contrary, it augments cognitive processing, emotional investment, and social cohesion (volumes of empirical evidence exist supporting these dynamics).[9] Failure matters – it matters a lot. What we hope to suggest is that failure need not be experienced as exclusively negative, something to be avoided at all costs, shameful, and necessary to conceal from others. Rather, it is through iterations of engagement, productive struggle, and reflection that failure becomes anticipated, accepted, and normalized as an essential element of learning.

Finally, playful teaching and learning cultivates community. Solitaire aside, the type of playfulness my colleagues and I foster is neither isolating nor individual. Like group work in a classroom, consider another example of group-oriented play – soccer. Note prior characteristics: voluntarily accepting constraints about how hands and feet touch the ball; that ball, characteristics of the field's physical environment, offensive and defensive strategies as tools; failure of the misplaced pass, opponent's goal, the losing side (and, for the loser, incentive for redemption next game). Having established some conditions for play, consider how soccer also requires the cohesiveness of a team. The players who field a team rely upon specific positions and responsibilities to advance the ball. A well-executed pass highlights the importance of cultivating, maintaining, and strengthening a community of players. As a fourth characteristic of playful teaching and learning, we design experiences that rely upon the creation and successful leadership of teams, whereby social relationships are managed in pursuit of shared goals.

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Playing POST Cards

Playful teaching and learning requires voluntarily accepting constraints via a "lusory attitude," using tools like devices and disciplinary knowledge, embracing failure in relation to iteration and reflection, and developing and strengthening social relationships. These four characteristics are neither exclusive to any particular form of play, nor are they the intellectual property of our program. However, as complementary characteristics they do define how and in what ways we approach our teaching and learning.

So what of assessment? What does playful teaching and learning reveal? And can such an approach prove anything? To address these questions I require that box of fluffy ducks and the queen's gambit.

POST Cards is one example of our playful approach to teaching and learning. POST (Project Oriented Semantic Trading) Cards is a game-based method for project development and technology design. Sponsored by Microsoft Research and developed in partnership with the University of Wisconsin-Madison, this card game was created through a months-long collaborative endeavor between the students and faculty of our graduate program. The purpose of POST Cards is rather simple: initiate a game-based structure for teamwork, inspire creative conversation by trading cards, promote project visioning via task completion, and make knowledge public by sharing representations and justifications.

The intricacies of trading, points, and scoring, while critical for game play, are less relevant to this discussion about teaching, learning, and assessment. I'll focus our attention on that box of fluffy ducks, and wormholes, a treasure map, glorious junk, flow, alphabets, smoke and mirrors, rules made to be broken, and 115 other thematic cards and quotes. Every player receives a random selection of such Theme cards, which are then traded multiple times across multiple teams. As a team's collection of theme cards changes, it is matched by a smaller set of Task cards. Tasks, which can also be traded, instruct a team to do something, like draw a comic, create a presentation, interview an expert, storyboard, mock up a website, or evaluate an idea. Teams voluntarily choose to complete some combination of 30 tasks, based upon which Task cards they possess, and in order to advance their project development. During one game in Geneva, a project group paired "mucking about" with over two dozen other Theme cards, and organized this collection into a concept map that identified "gameful" design elements, ideal learning characteristics, and future project goals. Whether a game lasts hours or days, every team collaborates in a generative, pro-social way to publicly share outcomes relevant to learning.

As noted, such play is non-linear and messy, and outcomes are difficult to anticipate. Will a team's final product describe a vision for the future, or might they create a digital media collage? Will they amass and mash up piles of Theme cards, or

select only a few to inspire their Tasks? These are interesting questions to consider, but in many respects they don't matter. Or, more generously, they are less revealing than other dynamics and curiosities that emerge from POST Cards play. Yet let me be clear – I am not arguing in favor of process rather than product, or that we privilege the doing of play over the result, or that formative is a more apt approach to assessment than summative. Rather, as a method illustrative of our commitment to playful teaching and learning, we've come to appreciate how POST Cards creates conditions for both and more; that is, for both meaningful processes and products, and also much more.

So what else is POST Cards? First, POST Cards is public ritual. We routinely play versions of this game at academic conferences and program gatherings. It introduces project partners, guests, and new graduate students to the cultural norms of our work by being playful, not merely telling about it. In this capacity, the game functions as a public mechanism inviting others to join our scholarly community. Second, POST Cards is inquiry. Here's a recent example. One of our faculty and a former student, modified the game to spark a reflective dialogue about graduate study for a recent research article. A digital media representation of their conversation – essentially a text-based play product – was included as one of three cases illustrating scholarly inquiry at the intersection of game-based learning, identity development, and design thinking. Third, POST Cards is template. The game has real world relevance and impact. It has been adopted and adapted across contexts as our graduates and colleagues tinker with both its design and applicability. For instance, one of our graduates, a fourth grade social studies teacher, has used the game to teach her students about the branches and functions of government. She has also posted modified samples of POST Cards online, encouraging other educators to become game designers.

Yes, we play games with our graduate students. Yet describing POST Cards as merely a game jettisons nuance and shortchanges an opportunity to examine how a playful approach to teaching and learning advances project development and technology design, and creates the conditions – in both immediate and longer-term contexts – for ritual, inquiry, and design.

Assess(ment)

Having described how UM-Flint's Educational Technology *Master of Arts* program adopts a playful approach to teaching and learning, my concluding play – and reflection on assessment – concerns language. Too often have I listened to educators speak about assessment as a thing, a test or set of procedures, as a noun. My reflections here, however, indicate that my colleagues and I work to enact teaching and learning whereby conditions are created to assess. POST Cards, as one example among many, illustrates how playfulness engenders an environment, fluid social relations, and tool design and use. This playfulness is active, a framing of "assess" as verb, a means of doing the work of assessment differently. To assess playfully becomes a way through which our graduate students show us what they know and seek to learn, how and in what ways they solve emergent problems, work together in teams, imagine project possibilities, and plan future educational visions. Such a playful approach to teaching and learning is predicated upon the doing of knowledge, skills, and dispositions. Experiences like POST Cards reveal as they remind. We see the cultivation of communities, interdisciplinary inquiry, and new understandings of knowledge – and by making the act of assessment playful, we are prompted to (re)experience assessment as meaningful.

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[1] See diSessa, A. A., & Cobb, P. (2004). Ontological innovation and the role of theory in design experiments. *The Journal of the Learning Sciences*, 13(1), 77-103.

[2] See Montessori, M. (1964). *The Montessori method*. New York, NY: Schocken Books.

[3] See New London Group. (1996). A pedagogy of multiliteracies: Designing social futures. *Harvard Educational Review,* 66, 60-92. p. 71)

[4] For a description of phronetic knowledge in teacher education see Loughran, J., & Berry, A. (2005). Modelling by teacher educators. *Teaching and Teacher Education*, 21, 193–203.

[5] See Johnson, J.E., Christie, J.F., & Wardle, F. (2005). P*lay, development, and early education*. Boston, MA: Pearson Education.

[6] As one example, in 2012 the White House created an academic consortium of leaders at academic institutions with programs relateto "games for impact." Many of these programs exhibit the noted characteristics as aspects of their teaching, learning, and research.

[7] See Suits, B. (1978/2005). *The Grasshopper: Games, life and utopia*. Ontario: Broadview Press. (p. 52)

[8] See Pea, R. D. (1993). Practices of distributed intelligence and designs for education. In G. Solomon (Ed.), Distributed cognitions: Psychological and educational considerations (pp.47-87). New York: Cambridge University Press. p. 48

[9] See, for example, Squire, K. (2011). Video games and learning: Teaching and participatory culture in the digital age. New York, NY: Teachers College Press.