Response to Merrilea Mayo's paper Bringing Game Based Learning To Scale: The Business Challenges of Serious Games

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The key point Merrilea Mayo makes in her paper, **Bringing Game Based Learning To Scale: The Business Challenges of Serious Games** is that the enormous potential of computer and video games to transform both informal and formal learning in America is not being realized due to business challenges; specifically distribution, consumer acceptance and financial sustainability.

I agree that the enormous potential of games to make a meaningful educational, health and social impact is not being fully realized. I also agree that solving the business challenges of distribution, consumer and financial sustainability are essential to scaling the potential impact of games. That said, I disagree with Mayo's conclusion that learning games have failed primarily for business reasons **unrelated to a lack of product.**

In fact, I would argue much the opposite; that the business reasons Mayo describes are **directly** related to lack of product; specifically a lack of product **designed from the ground up to successfully meet a market demand**. While there may not be an over-all lack of learning games, I believe there is a lack of learning games whose designs and business models have been informed by an effective consumer or moderated (e.g. school, after-school, library, community center) publishing strategy.

To understand this point, it is important to understand the difference between a game **publisher** and a game **develope**r. A game developer is a person or group of people that makes computer/video games. Development teams range is size, ability and focus and, in general, have the following skill-sets:

- **Lead Programmer/programming stuff** (responsible to the technical implementation of the game)

- **Lead Game Designer/design staff** (responsible for the game design)

- **Lead Artist/art staff** (responsible for the look and feel of the game)

- **Producer/production staff** (responsible for making sure the game is developed on time and on budget.

Larger development teams have other roles such as sound designers, composer etc., but the roles listed above generally serve as the anchor of a typical game development team. Teams can be as small as one person (e.g. creating a simple iphone app) or can involve hundreds of people with many highly specialized technology, design, art and production skills (e.g. creating a massive multiplayer world).

Publishers, on the other hand, are responsible for more than just the making of a game; they are responsible for the whole lifecycle of a game (or slate of games). A typical game publisher serves the following functions:

- **Determines greenlight and funding thresholds**
- **Provides capital to make games**
- **Selects development teams to design and create games**
- **Manages developers through the game development process**
- **Builds awareness for games through marketing, pr, trade shows**
- **Ensures games reach their target market through distribution**
- **Provides on-going support for games after launch**
- **Mazimizes the value of the game/franchise through business development**

Many publishers have internal game development talent and also engage external game development teams. In addition, publishers have staff with extensive experience in **quality assurance, customer support, game producing, marketing, sales, distribution, business development** and **executive management.** A key role for this staff is knowing how to select and do due diligence on development teams, manage teams when they run into trouble (and most do), and ensure that there is effective communication and feedback from sales, marketing and distribution to ensure that development is informed by the needs of the market.

Foundations, non-profits, universities and government agencies that fund digital games to further their educational, health and social impact goals are game publishers –**and yet most do not realize it.** These organizations did not set out to become game publishers and certainly do not consider themselves game publishers, but they have taken on all of the key functions of a game publisher. When a foundation, non-profit or university decides to fund a game they are responsible for all of the same functions listed above:

- **they provide capital for games** (often through grants or RFPs)

- **they select developers to make games** (through a peer review board or similar selection process)

- **they are responsible for ensuring that the games are completed** (if the games are not completed, they will not have impact)

- **they are responsible for ensuring that the games reach their target audience** (if they don't reach their target audience, they will not have impact).

- **they are responsible for ensuring that the games effectively engage their audience**
  (if they don't engage, they will not have impact)

- **they are responsible for on-going support of the games**
  (if the game runs out of money, it will not have impact)

Other than providing capital, these impact-focused organizations are almost entirely unqualified to execute these functions. As a result, hundreds of millions of dollars have been invested in learning and impact-based games that are sitting on shelves because they ran out of money, have been shut down because developers ran into technical troubles; have reached only a handful of players because they are not fun, have not been effectively marketed and distributed to their target market or simply do not fill a clear need.

Learning from Hollywood hubris

The impact sector is not the first group to hear the siren call of games, or to underestimate the complexity of publishing games. Since computer and video games emerged as a mass-market in the late 1980s, there is a long history of eager new entrants into the business. The most high profile example is the Hollywood studios.

In the early 1990s, as game revenues began to rival the revenues of popular films – Hollywood took note. Until that point, the studios looked at video games much like they look at lunch boxes; an opportunity for quick and easy licensing revenue. Once the movie studios saw the revenue potential of games, they all decided to open their own game divisions. After all, Hollywood studios had effective distribution and a deep understanding of consumer engagement. A few years later and a few hundred million dollars poorer, nearly all of them left with their tail between their legs. Most studios now license or partner with traditional game publishers. Simply having distribution channels and understanding consumer engagement is not enough.

What Hollywood (and other, such as toy companies and traditional educational publishers) have learned is that game publishing is hard**and requires a significant domain expertise to be successful**. Developing, marketing and distributing games combine all of the complexity of traditional software development with all of the unpredictability of entertainment in the context of a relatively new and rapidly evolving medium. Add pedagogical and impact goals and you have a very challenging and risky process.

Mayo's paper does a good job of addressing some of these challenges and 'friction' points and has good suggestions on how to break down the friction. She also makes the point that most academic developers are 'unskilled at the tasks required to get the product to a level of commercial acceptability'. What her paper does not address is how to increase the pool of developers and publishers that have the experience and skill-sets to execute on these insights; teams that can manage the entire lifecycle of making, marketing and distributing learning games in an effective, budget-appropriate way.

If we are going to successfully turn **accidental publishers** into **effective publishers** we need to develop a robust learning game publishing methodology where game development is informed by a well planned go-to-market strategy and we need to increase the number of qualified teams that can execute such a strategy.

Learning Games: A Publishing Methodology

Most game publishers have a rigorous slate planning process where they evaluate the market, industry trends, competition, consumer demand – and then build a slate of games to best take advantage of these market opportunities. Publishers also carefully align their slate to maximize their skill-sets and assets (brands, channels, consumer base etc.) and they do their slate planning with active input from the all of the key stakeholders – development, marketing, sales, distribution, business development etc.

A key part of the slate planning is the design and implementation of rigorous greenlight process to do determine which games get funded and at what threshold. Often a game concept is jointly presented by the development and marketing teams who present a detailed go-to-market plan along with a pro forma P & L (estimated cost, revenues and profits). Funding often comes in stages based on accomplishing key milestones.

I believe this same rigor needs to be applied to learning and impact focused games – even if profit is not a primary driver. As Mayo's paper clearly highlights, in order to have an impact, learning games much reach a critical mass of players and need to be financially sustainable. Accomplishing these goals requires a similar disciple as that employed by the commercial sector. This is true for a non-profit that wants to spend $25,000 for a mobile game about the environment for tweens as it is for a major government agency planning to spend millions for a portfolio of high-end simulations for college students.

The following is a list of some of the questions that a typical publisher will ask when assessing whether a game should be greenlit. I have added to this list specific additional questions that need to be added when looking at educational or impact games. The subpoints under each questions are ideas to help flesh out the answers to each question.

Who is the target audience?

- Consumer
  - Demographic
    - Age, Region, SES…
  - Psychographic
    - Interests, Affinity groups…
  - Purchaser
    - Child, Parent, Combination…
- Moderated
  - Formal
    - K-12, College, Trade…
  - Informal
    - After-school, Library, Community Center…
  - Purchaser
    - Teacher, Dept head, District purchaser…

What is the desired learning goal or impact?

- Consumer
  - Motivation, Behavior change, Awareness…
- Moderated
  - Core curriculum, Supplemental, Enrichment…

What evidence is there of market demand?

- Consumer
  - Competitive landscape
  - Testing with target market
- Moderated
  - Replace existing content or introduce new content…
  - Competitive landscape
  - Testing with target market

What is the best game platform and genre to reach this audience?

- Consumer
  - Console
    - X-Box, Playstation, Wii..
    - XBLA, PSN, WiiWare
  - Handheld
    - DS, PSP...
  - PC
    - Box, Download, Browser-based…
    - Single player, multiplayer, MMO…
  - Mobile
    - SMS, Download, Browser…
  - Other
    - ARG, Board, Paper…
- Moderated
  - Classroom
    - 1 computer, Multiple computers, Smart board
  - Computer Lab
    - Level of moderation, coordination

What is the business model and is there a viable P & L that aligns costs with goals?

- Consumer
  - Game as product
    - Retail, download
      - Box product, One-time download, Rental…
  - Game as Service
    - Virtual world, Social networking
      - Subscription, Micropayment, Sponsorship…

- Moderated
    - License, Purchase, Services

What are the financial requirements and expectations of the project?

- Balance of financial and social/educational return
    - Maximize financial, qualifying social
    - Maximize social, qualifying financial
    - Blended value
- Budget appropriate
    - What is size of opportunity and is budget aligned
    - If game as service does revenue cover costs

Who is the most effective team to develop the game?

- Experience of key leads
    - Programming, Design, Art, Producing
- Experience on platform
    - New or 'code-released' engine/tools
- Experience in genre, game design
    - Organic alignment of fun and learning
    - Chocolate and peanut butter vs. chocolate and broccoli

Is there a well thought-out development plan with natural funding milestones?

- How early can the key engagement points be tested?
    - Ensure time to rework based on feedback
    - Ensure feedback from sales and marketing
- Is there management to troubleshoot if problems
    - Technical, design, marketing…

Who is the most effective team to market the game?

- Consumer
    - Have they successfully marketed to same audience?
    - Is there a clear plan? Budget appropriate?
- Moderated
    - Do they understand the friction points?
    - Do they understand the context game will played?
    - Is there a clear plan? Budget appropriate?

What is the methodology and plan for assessment?

- Leverage existing assessment models?
- Real-time assessment and optimization?
- Embedded assessment?

What is the greenlight threshold?

- Who is on greenlight committee?
- What is greenlight process?

An entire paper could be written on each of these questions. Collectively they speak to the range of knowledge necessary to develop and publish games. The game business is actually many different businesses with very different platforms, technologies, design constraints, marketing and distribution channels.

For example publishing high-end console titles (X-Box, Playstation and Wii) involves understanding 1st party (Microsoft, Sony, Nintendo) approvals, physical inventory and retail distribution. Publishing a mobile game requires an understanding of complex cross-carrier compatibility and mobile specific pricing models. Publishing a free-to-play MMORPG requires and understanding of the micro-purchase model and running a game as a service vs. a game as a product. When each of these types of games are mapped to the education sector, they each have very different opportunities and friction points unique to their platform and genre that need to be addressed for effective use in either formal or informal learning environments.

If foundations, government agencies, non-profits are going to invest in games, they need to understand these distinctions. Like good publishers, they need to develop core competencies in the areas where they believe they will make the most impact. They need to develop effective models and continually optimize them (successful game publishers are not built overnight). When they fail, they need to fail early and learn from their mistakes. Crucially, they also need to create multi-stakeholder partnerships with individuals, teams and organizations that have the experience (and passion) to help them navigate these waters.

Given these thoughts, here are my brief reactions to Mayo's concluding recommendations:

1. **Build business/sustainability planning into proposals**

   I certainly support the idea that business/sustainability planning should be part of the proposal process as it forces the publishing strategy to be thought through

before development begins. That said, if the teams submitting proposals do not have the skills to put together such a plan, asking them to do so will likely meet with marginal success. Also there is a very big difference between putting together a plan and executing it. I think more thought needs to go into a) how to source proposals from teams that have the qualifying skill-sets; b) how to fill the skill-set gaps for team that are close but not quite there; c) how to create partnerships between organizations and teams that have aligned or comlimentary skill-sets. Mayo points our a few good examples of teams that have had some success in bringing learning games to market. These teams should be supported and engaged in this process.

2. **Use SBIR feedback to educate community on proper business/sustainability planning**

   This also makes sense, but with the same concerns listed above. First, the reviewers need domain expertise (e.g. many VCs understand business, but not necessarily the game business). More than just providing feedback on a plan, the reviews need to be able to do due diligence on the teams and provide feedback on building the right skills. As the game business has matured, an increasing number of experienced game executives are now raising families and thinking about the impact of the games they are making. Those that have a real passion for learning games should be recruited into the sector to augment the skills of existing teams or possibly launch their own ventures.

3. **Accelerate the SBIR process.**

   Absolutely. Also, it is critical that if a company is told they will receive funding on a certain date, then the funding actually shows up on that date.

4. **The government should fund research that could break open new markets for game based learning.**

   Absolutely. If the goal of the research is to open new markets, then their should be active input experienced publishing teams and constant feedback from the target audience.

5. **Philanthropic foundations should consider establishing bridge loan programs for commercial entities to take on software 'hardening, user testing, marketing and distribution for serious games software.**

I think this makes sense if a) the commercial entities have the right skill-sets; b) the commercial entities get engaged early enough in the process to ensure the project is developed with the publishing strategy in mind and c) other financing mechanisms are also considered (e.g. program/mission-related investments).

6. **Government should fund research that ties learning outcomes on games to specific features or approaches on that game.**

Absolutely. I would also include best practices by teachers, librarians, community facilitators, parents etc. on how they effectively used a particular game to advance learning. Informal teacher networks can be very powerful. Also, leading publishers with games that could be harnessed for learning could be matched with innovative curriculum and educational companies and leading researchers to marry effective curriculum and school-friendly features to the AAA game content (e.g. teaching management through WoW, history through Civilization, math through Madden algorithms)

7. **Establish a review board for rating games on learning outcomes and user engagement.**

Tricky, but worth piloting User engagement can be very subject, and very dependant on context.

Another potential government recommendation would be for potential mass purchasers of software (e.g. Department of Education) and widely trafficked portals (e.g. CPB/PBS) to offer an AMC (advance market commitment) for software that meets certain success metrics. This would be a huge motivator to qualified developers/publishers.