

Impact Based Research:

Closing the Gap between Game-Based Learning Research and Sustainable, Scalable Real-World Impact

There is currently a significant gap between the potential for game-based-learning and the reality of sustainable, scalable real-world impact of products and services informed by this research. Impact-Based-Research is an evolving methodology designed to help close this gap.

Over the past few years, there has been a significant increase in funding by foundations, government agencies, universities and non-profits eager to harness the power of computer and video games to further their learning and social impact goals.

There are good reasons for this embrace of game-based learning. Digital games are different from other media in that they are interactive and participatory. They enable players to step into different roles, confront a problem, make meaningful choices and explore the consequences. Well-designed games and game-infused experiences offer a delicate balance of challenges and rewards that can drive deep levels of engagement and time-on-task, enabling players to advance at their own pace, fail in a safe environment, acquire critical knowledge just-in-time (vs. just-in-case), iterate based on feedback and use this knowledge to develop mastery.

Games are also increasingly transitioning from “products” (games that one plays and finishes) into “services” (games and game-infused experiences that do not end, but are continually optimized for engagement and scale). These game-based-services are using the principles of game design along with best practices from the behavioral and learning sciences to continually optimize their offerings for engagement, learning and scale through a combination of carefully designed extrinsic and intrinsic motivators that focus attention, inspire action, offer continuous feedback, and provide a trajectory of advancement.

That’s the good news. The bad news is that there are still few examples of game-based learning research initiatives transitioning from promising pilots into products and services that are financially sustainable and making meaningful impact at scale. Millions of dollars are being invested in research-based games—but many of these games wind up sitting on shelves because the organizations



developing them ran out of money when the grant funding ran out, tripped up over technical issues, failed to engage users, don’t fill a clear need in the market or lack good marketing and distribution support. This is especially true of game-based-services that require the financial support of multi-stakeholder teams to continually optimize the service for learning impact and scaled implementation.

The fact is developing and publishing engaging, impactful and sustainable digital and game-based services is very challenging and requires significant domain expertise. The process involves a complex set of competencies in software development, game design as well as a deep understanding of diverse and constantly evolving platforms, distribution channels and business models. Building an effective, scalable and sustainable game-based service requires building trust and strong communication across multiple stakeholders with a flexible research, design, development and publishing process that iterates in relation to how well the system is meeting impact goals.

To help accomplish these goals, we’ve developed an Impact-Based Research (IBR) methodology; an agile approach for building, researching, and implementing products and services that align stakeholders, a theory of change, and ecosystem capacity into products and services that are continually optimized to achieve project outcomes through sustained real-world implementations



and shared best practices. The following are key considerations we have found important when planning, implementing and optimizing a game-infused suite of products and services for impact;

- **Identifying key stakeholders and interests** (ensuring all stakeholders have aligned interests and impact objectives);
- **Defining impact outcomes** (clearly articulating the real-world objectives for the work);
- **Conducting landscape and opportunity analysis** (ensuring new initiatives are informed by and effectively building upon existing communities of practice);
- **Developing theory of change** (clearly articulating how the specific intervention will foster desired outcomes);
- **Analyzing key considerations for full lifecycle of implementation** (considering impact objectives, audience, context, design, develop, publishing, assessment and scaling);
- **Assembling and empowering team** (building a successful partnership requires assembling the right stakeholders and ensuring agency and voice);
- **Engineering and implementing the intervention** (applying the theory of change through the design, development and implementation of the product, service or practice);
- **Assessing and optimizing for impact** (tracking evidence of impact through intervention that has credibility with key stakeholders and optimizing the intervention based on this feedback);
- **Sustaining and scaling for impact** (ensuring the intervention can be sustained locally and scaled globally);

While our particular focus is on the production of sustainable and scalable outcomes through game-infused products and services, the goal of our work is to develop an impact-based methodology that will be relevant and informed across multiple sectors. Such IBR methodologies are essential in the current financial times to ensure that large research expenditures of dollars are resulting in research that is being turned into innovative products and services with the potential for broad sustainable and scalable impact. Similarly, we want to help ensure that commercial investments and products are being developed in a manner that not only achieves scale, but advances scaled impact in a manner that achieves meaningful outcomes.

Since we've begun discussing the notion of IBR, numerous researchers, software developers, philanthropic investors, and public foundations have expressed deep and urgent interest in learning more about, and applying the insights and best practices we have been developing. There is a pressing need to ensure that we ground key considerations related to this evolving methodology within the necessary cross-sector insights so that the recommendations are rigorous, relevant, and informed by the field more generally.

At this point in our research, IBR is a proposed thesis with some initial work around key assumptions and process, as well as some aligned initiatives that leverage and inform the emerging IBR tenets. With support from the National Science Foundation, we are hosting workshops and inviting colleagues to share promising insights and exemplar projects, with the goal of iterating this thesis to make it more widely applicable.