The Value of Games

by Helmut Wittenzellner

Games motivate players to explore the boundaries of their capabilities, skills, and knowledge by playing. In an educational context, they help learners to develop their competences in a range of areas, from strategy (e.g. chess) to specific technical skills (e.g. archery). In recent years 'gaming' has become an important tool of the entrepreneurial educator, with a range of serious games and simulations being developed to support the learning process. In many ways, entrepreneurship itself is like a complex game, with startups and established organisations competing against each other in a given market or responding to a specific scenario; and, just like a game, entrepreneurship has its own roles, rules, and resources.

My Story

In this story I would like to share my experiences of developing and using role-play simulations to support my course in entrepreneurship. At the heart of my course is the 'Entrepreneurial Game', in which learners are divided into teams and given a role, an entrepreneurial challenge, some limited resources, and a mission. The game is part of a three-day training programme.

In my experience, three key factors are required to ensure the game delivers a successful learning experience for participants:

- The game design itself.
- The educator as facilitator for the training programme.
- The role of the educator in the training pro gramme.

'A picture says more than 1000 words, a game says more than 1000 pictures.' (Duke, 1974)

The game design itself should follow the rules of good game design [see Klabbers, 2009, Greenblatt, 1979 and Duke, 1974). These include elements such as:

- A good storyline.
- Tools to engage the player, such as rewards and recognition.
- Dynamic, unforeseen elements which engage and motivate.
- Clear rules and stages.

Entrepreneurial educators must have experience in facilitating groups of participants for this kind of structured role-play. There are many experts in managerial training but few in entrepreneurial training. This is because the entrepreneurial topic is even more complex, as training participants should not only be shown how to get things right, but also how to do the right things. The challenge here is to help the individual to develop their own entrepreneurial mindset, as well as personal and group leadership skills.

Learning by Doing

Entrepreneurship educators who choose to use games as part of their course need to dedicate time to understanding and practicing the game. This is because sim-

ulations are often complex. A tutor who lacks experience may find it difficult to both brief and debrief complex situations and scenarios. In my own experience, the facilitators who use simulations on a regular basis have the best chance of becoming, and remaining, good educators in the field of interactive simulation and gaming methods.

The Importance of a Role Model

I have discovered that, for the 'entrepreneurial game' to work, it is necessary for learners to have a role model, who can:

- Demonstrate how the entrepreneurial role game should be played.
- Make connections with 'real world' experiences of entrepreneurship.

This works best if this role is played by the facilitator, as entrepreneur (or innovator). A critical stage for learners is the transfer of entrepreneurship and innovation management theory into practice. This transfer can be done in the classroom by the educators themselves, or by an external representative, perhaps a founder from a startup, angel investor, banker, innovator, or IP-Holder. The main topics that should be covered include the 'magic triangle' of 'team dynamics', 'ideas & innovation', and 'resources & stories.'

The Value of Competition

Successful entrepreneurs are usually highly competitive: striving to be first to commercialise a new idea, bring a new product or service to the market, or transform an organisation. This makes competitive games an ideal framework for entrepreneurship education. In terms of developing such a game, the process of including a competitive element is the same, whether designing a Massive Open Online Game (MOOG) or a game-based workshop (see Figure 1).

In our courses, we start with a briefing session, in which the basic rules of the game are introduced. Teams are then formed or re-arranged from existing groups: this can be a

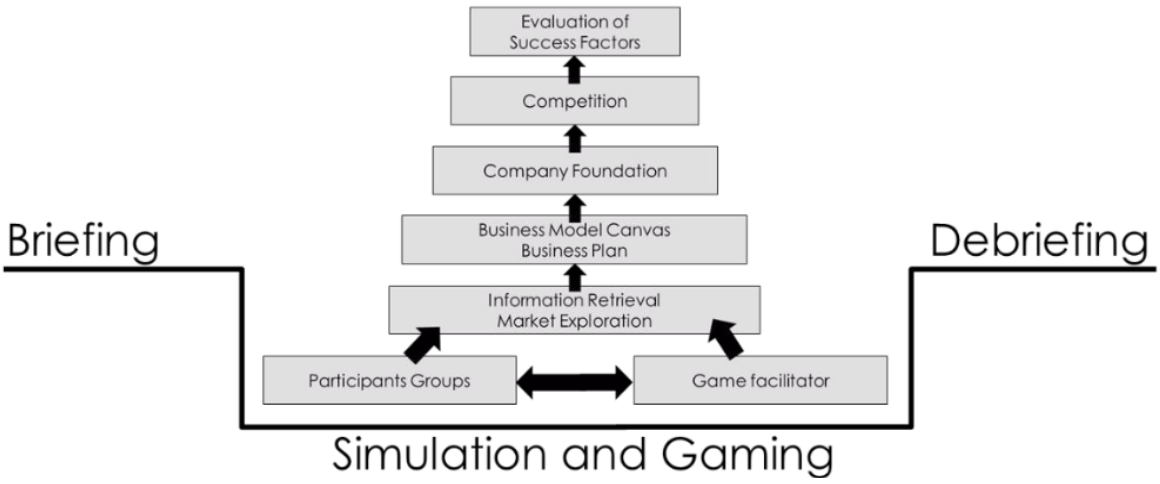

Figure 1: Process of a simulation gaming event.

part of the game. This is the point at which immersion into the simulation and gaming session begins. Students dive into a 'magic circle', as Klabbers (2009) describes it, and clamber out of the pool only when they reach the debriefing section. Studies have shown the long-term-effects of the inspiration that gaming gives to participants, stating that 'learning starts when debriefing ends.' (Kriz et al., 2008)

Trade-offs in Game-based Entrepreneurship Education

When using games as an instructional tool, two trade-offs have to be made:

1 Quality vs. Scalability: The gaming and simulation communities discuss the divergence between quality and scalability (Becker, 1988), thereby making a distinction between educational models (that have a function in communicating insights and policy models) and models that can be used to help a planner or policy-maker find a strategy to solve specific issues. Both function as a way of drawing attention to important problems on the level of an individual, a group, a branch, an addressed market, a group of stakeholders, a nation, or worldwide.

2 Simplicity vs. Complexity: There is also a trade-off between the simplicity of a game which is designed to be a better device for teaching the principles of the problem involved, and the complexity of close-to-reality needs (Becker, 1988). In entrepreneurship education, we have found that the middle ground is the best (See Figure 2). Clear rules and instructions are essential, but a good game must also have enough complexity to challenge learners.

Figure 2: Education game experience for innovation & entrepreneurship purposes.

Lessons Learned

After twenty years experience of using simulation games with groups including students, founders, and business leaders, I decided to migrate my games to a digital environment. This made sense to me, as many of the new entrepreneurial challenges that my students may go on to experience will involve working for, or founding, businesses which make use of technologies such as 3D-printing and the 'Internet of Things'. I decided that my goal would be to build a simulation which would better prepare my students for entrepreneurship in what may well be the next industrial revolution.

The scenario for my simulation priME SIM places my learners in the role of entrepreneurs in the internet age, where they are expected to develop and deliver products and services which harness the power of newly emergent technologies, such as those described above. A key element of my new game is the use of the hybrid gaming approach. Hybridisation is a recent trend in worldwide simulation and gaming. It combines simple board games, computer games and other interactive elements. My own open innovation board game, SysTeamsRYBI (Realise Your Business Ideas), is an example of this.

Figures 3, 4, and 5 provide examples of my simulation in action at an open innovation workshop recently held at Keio University, Tokyo, in July 2015. The teams consisted of staff and masters students from the faculty of Sociology, who wanted to learn how to generate their own business models for founding a startup. In the pictures, they are evaluating their own business model ideas, after the creativity session.

My simulation is easy to use, and ideally suited for running multi-level competitions, with teams coming from different backgrounds and with different levels of knowledge and expertise. This allows more experienced participants to share their knowledge with less experienced players. Figure 6 shows how such a multi-level competition might be configured.

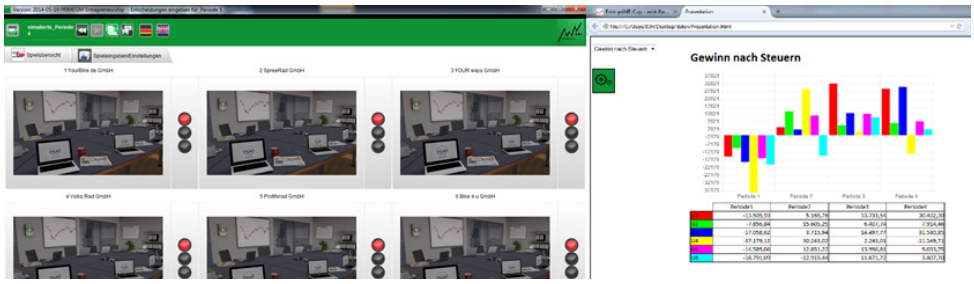

Figure 3: priMESIM screenshots: Six teams at Keio University, Tokyo, with their profits after taxes.

Figure 4: SysTeamsRYBI as a hybrid game compilation for open innovation.

Figure 5: Selecting the 'right' idea for their own business model in SysTeamsRYBI.

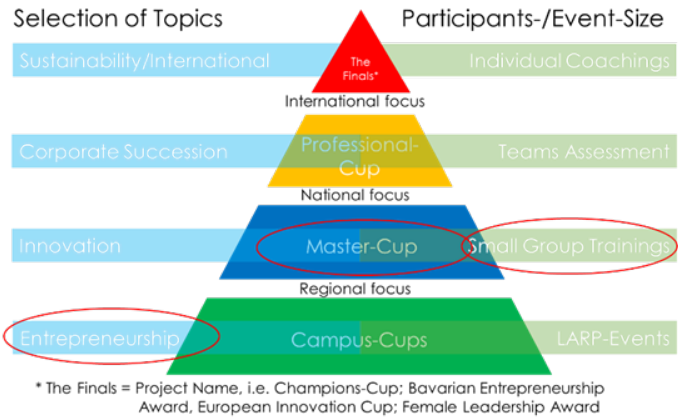

Figure 6: Multi-game example: priME CUP pyramid

One of the great merits of games is that they allow us to change the model and/or the rules of the game, as is so often the case in reality. The training impacts of long-running programs, where models can be switched, are therefore exponentially higher than those of many single initiatives.

It is worth participating in such events, even for those who already (seem to) know how the system works. Gaming allows us to experience change in a given virtual social system, and it encourages us to change the world and improve social systems in reality.

Simulation Games for Many Purposes

There are more than 2050 Simulation Games in the market, meeting different requirements. The following table contains a list of those I would recommend to support the teaching of entrepreneurship and innovation.

Topic	Simulation Game	Type	Source
Change Management	SysTeamsChange	Hybrid	www.riva-online.com
Project Management	SysTeamsProject	Hybrid	www.riva-online.com
Open Innovation	SysTeamsRybi	Board	www.riva-online.com
Team Competence	priME SIM Teamtest	Online	www.primeacademy.eu
Innovation Process	priME SIM Innovation	Online	www.primeacademy.eu
Management	priME SIM Strategic Management	Online/PC	www.primeacademy.eu
Sustainability	Napuro	Board	http://ucs.ch
Negotiation Skills	Strike Fighter	Board	www.simxp.com
Leadership	InterLAB	PC	www.ninecubes.ch

My motto is:

"Entrepreneurship skill is like reading and writing. We need it to change the world for the better!"

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I am a professor at the Stuttgart Media University, Head Media Entrepreneur Center, and president of the priME Cup Academy AG Supervisory Board. I am a software simulation and business games designer with a special focus on entrepreneurship and business. I am the founder and initiator of Prime Cup competitions with more than 15,000 participants since 2002. I am also a Mentor and Supervisor for EXIST Gründerstipendium. My motto is 'Entrepreneurship skill is like reading and writing. We need it to change the world for the better!'