Gamification and working life cooperation in an e-learning environment

Despite the importance of cooperation between education and the working life, there are substantial difficulties on the road. Gamification refers to introducing game elements into another domain. While there is evidence on the usefulness of gamification in education, its potential in bridging education and working life is still untapped. Our contribution is in investigating the possibility of facilitating knowledge sharing through a gamified platform. The case study describes the development and execution of a game-based platform for working-life cooperation, acting as a knowledge-sharing platform between schools, students, and participating entrepreneurs. In the case study, the hurdles identified in previous research were successfully overcome. Entrepreneurs evaluated the results of the game positively, expressed high motivation, and felt the produced knowledge was useful. Results suggest the potential of a gamified learning environment in increasing engagement, motivation and participation in a problem solving community of students and entrepreneurs. The nature of a game supports a shift towards learning in working life, the interviewees argue.

1. Introduction

There is a high demand for partnerships between education and the working life. In Europe, the Council of the European Union calls for enhancing partnerships between vocational and higher education, employers and other parties. One purpose of better cooperation is to ensure that the competencies students learn match those needed in the labor market. Employers have an important role in identifying these competences and contributing to them. This is particularly important in terms of the competitiveness of Europe in a difficult global economic climate. There is also the perspective of knowledge sharing and knowledge dissemination. Educational institutions possess vast bodies of knowledge, which should be put into use in fostering innovation and ensuring its transfer into practice (The Council of the European Union 2009).

Working life cooperation is particularly necessary in entrepreneurial education. Entrepreneurial education has a positive connection to the propensity of becoming an entrepreneur (Kolvereid and Moen 1997), but it is necessary to employ learning by doing. Entrepreneurship is difficult to teach only based on theory – a link to actual practice is necessary (Fiet 2000). One way of ensuring authentic education is through cooperation with real-life entrepreneurs. However, the hurdles of cooperation may compound in the entrepreneurial context, where time is scarce and scarce resources considered critical (Mariotti & Glackin 2014, p. 14).
In this article, we approach cooperation between education and the working life from a new angle: through gamification. Deeper cooperation between education and the working life is essential and strategically important from the point of view of student competences as well as innovation transfer. However, research suggests that even though the importance of cooperation is accepted, it is difficult to achieve. Some of the hurdles in cooperation relate to motivational dispositions, while others relate to the lack of common working cultures between the parties. Gamification is a new development that addresses the issues. There is evidence that gamification can impact motivation as well as changing the working cultures – whether in education or in business use. We describe an example of a community of multiple educational institutions, businesses, and students working together through a gamified environment.

2. Cooperation between education and the working life

Educational systems are facing challenges. Today, the production of knowledge requires deeper cooperation with the working life, which raises multiple questions of interaction between the school, the workplace, and society. As Tynjälä et al. (2003) discuss, new demands change the way knowledge is produced and disseminated in education.

The new way of thinking about education ties closely together the topics of learning, innovation, and solving working life problems (Tynjälä et al. 2003, Van den Bergh et al. 2006). This type of thinking is based on a socio-constructivist view of learning, where issues such as learner activity, authenticity and problem solving become important (Blumenfeld et al. 1991). The idea of learning through experience is not new, dating back to Dewey’s conceptions of learning by doing and having been extensively developed by Kolb in his experiential learning theory (1984).

Integrating all of these aspects is no simple feat. As Gibbons et al. (1994) have noted, the entire production of knowledge is shifting from a research focus towards more practical application. The shift takes place through what Gibbons et al. term “Mode 2” interaction. Similarly, Engeström (2001) has discussed the application of expansive knowledge creation in bridging learning and workplace development.

Rogers and Horrocks (2010, p. 142) discuss this shift in terms of two dimensions: the processes of learning and the settings where learning takes place. The structured, formalized processes often associated with schools are a separate dimension, they argue. Of course, these are often related: we expect school learning (formal setting) to be structured (formal process), and workplace learning (informal setting) to be unstructured (informal process).

Historically, a gap has existed between the two worlds of formal and informal learning, theory and practice, and school and work. As Resnick (1987) has famously noted, traditional learning in schools has been formal, structured, intentionally planned, whereas learning at work has been and still is mostly informal at nature. The challenge is to break the barriers between these silos.

As Wenger (2011) argues, schools are in a transformation related to the management of knowledge. While education-working-life cooperation can take multiple forms (Ylikoski & Kortelainen 2012), there is a need for bringing together students, academics, teachers, and practitioners in new practice-oriented communities. These “knowledge communities”, as defined by Earl (2001), “exchange and share knowledge interactively, often in nonroutine, personal, and unstructured ways, as an interdependent network”. Such networks are often seen in businesses striving to create learning organizations, by connecting various bits of knowledge with the knowledge-enable actors (Earl 2001).

According to Wenger (2011), the new type of cooperation borders on issues such as organizing educational experiences that ground learning in practice; connecting students’ experiences to actual practice; and serving the lifelong learning needs of students by organizing communities of practice.

These knowledge-creating communities serve multiple purposes. They support developing the organization through improving skills, assisting learning by sharing best practices, help develop professional skills, help in recruiting talent, and even driving company strategy and identifying new business opportunities (Wenger & Snyder 2000). Moreover, as Wenger (2004) has noted, communities of practice are “social structures that focus on knowledge and explicitly enable the management of knowledge to be placed in the hands of practitioners.” The idea here is that the people who use knowledge in day-to-day activities, are in fact in the best position to manage this knowledge. The difference from the conventional expertise-related emphasis is dramatic.
Even though the need for closer cooperation between schools and the working life is becoming accepted, it still appears difficult to achieve (e.g. Lee & Hung 2012). Studies (Henricksen 2012, Katajavuori et al. 2006) point that much more needs to be done before true collaboration is achieved. Gupta and Govindarajan (2000) have outlined the major difficulties in sharing knowledge in knowledge communities. Some of the main hurdles in knowledge flows relate to motivational dispositions of the parties. Other issues have an impact as well, such as the value of the information, the existence and richness of information channels, and the absorptive capacity of the receiving party.

The gap between schools and the working life stems at least partially from different cultures. Aside from different cultural backgrounds, Gomes et al. (2005) have found a gap in the nature of knowledge. According to their results, business people find that the knowledge produced by an educational institute is of little practical value to the company. Hence, the benefits of knowledge sharing may not always be perceived as worth the cost (Gupta & Govindarajan 2000). The phenomenon may be emphasized in small business contexts and entrepreneurial businesses, where time becomes crucial (Mariotti & Glackin 2014, p. 14). This links back to Resnick’s (1987) address on what is perceived important in a learning setting.

All of the problems as listed by Gupta and Govindarajan (2000) can have an effect in the knowledge sharing community of a school and its surrounding working life. Both parties can be affected by motivational issues. Proper information channels may be absent as well. There may not be appropriate processes of collaboratively creating the knowledge, hence making new cooperation platforms necessary.

3. Gamification and overcoming hurdles in cooperation

Gamification, the introduction of game-like elements and logic into other domains, is one of the hottest topics today. While there appear to be numerous accounts of gamification’s positive effects on learning and business (e.g. Corcoran 2010, Daniels 2010, Lee and Hammer 2011), there is very little evidence on its effect on bridging these fields. Interestingly, the effects of gamification parallel the problems related to education-working life cooperation. We argue gamification could be used as a tool to overcome the hurdles in a knowledge community.

Gamification can boost student motivation, focus and activity in the matter, particularly when combined with a student-centric, active learning view (Thomas & Brown 2011, Shelton & Scoresby 2011). A game logic and game elements of a learning environment can increase engagement and sense of ownership. Muntean (2011) argues that these are essentially based on improved feedback. In a game, instant feedback is essential to create a sense of urgency and immediacy. Similarly, in a gamified environment, the user gains a feeling of being in control of the results (e.g. Pavlus 2010).

A relevant feature in a gamified environment is the sensation of total involvement, often termed “flow” (Csikszentmihalyi 1990). Sheldon (2012) argues that an immersive feeling of being in the flow is one of the most important benefits that gamification can offer. Feeling of being in the flow causes people to lose track of time, bordering the feeling of happiness (Csikszentmihalyi 1990).

The sensations of being in the flow, feeling engaged and immersed, assist learning by increasing participation and consequently, expended effort and focus. Typically a gamified context contains elements designed to improve felt immersion and flow (see e.g. Deterding et al. 2011). However, it is important to differentiate between different focuses of these elements. Extrinsic rewards (or motivators) refer to outcomes separate from the activity while intrinsic motivators relate to the inherent enjoyment of the activity (Bonus 2011, Shelton & Scoresby 2011). The traditional way of motivating students is related to extrinsic rewards, such as credits or grades, which is prone to causing difficulty as the learning and rewards become separate. In gamification, it is important to avoid choices increasing separation from the content.

It is important to keep in mind that gamification as such does not imply turning everything into a video game. For example, Bonus (2011) argues that a successful instructional game represents a simplified, simulated picture of reality. The authentic nature of a learning task and gamification are not opposing goals. According to Bonus (2011), gamified learning needs to offer constant feedback on activity with little concern for failure; needs to align game mechanics with instructional goals; needs to align the game narrative with instructional goals; and finally, needs to allow players to choose and customize their characters.

Based on the problems in education-working life cooperation and the potential benefits of gamification, we propose the following. As previous research has found, motivational issues can cause a major obstacle in creating a practice-oriented knowledge community (Gupta & Govindarajan 2000). We
propose that the motivational effects of gamification can be expanded from students to working life participants as well.

One reason for the shortfalls in knowledge community creation is related to how the created knowledge is perceived (Gupta & Govindarajan 2000). There is ample evidence of students having created world-class innovations and started successful corporations (e.g. Google and Yahoo! originated as student projects), suggesting students can have tremendous potential. The difference may be related to how students approach knowledge creation. Is it only a compulsory chore, or is it about really putting your mind to it? We propose gamification can have a positive effect on the outcomes.

Lack of common culture and platforms are problems, which might benefit from gamification. The flow and immersion of a game lowers the threshold to participate, while potentially increasing the propensity for risk taking. In knowledge communities, we propose that a gamified approach may facilitate entrepreneur as well as student participation. It may be easier to formulate the goals of the cooperation in a game, taking a different angle than in “real life”, with less to lose if the project fails.

4. Methodology

The case study brings together entrepreneurs, students, and teachers in a knowledge-producing game. Our analysis focuses on participating entrepreneurs’ perspective on work-based and game-based learning as well as co-operation with schools. As discussed by Gomes et al. (2005), business people are particularly critical in finding practical value in educational cooperation. The participating entrepreneurs represent small businesses, where the entrepreneur is actively involved in daily business operations, strengthening the research argument. All participating entrepreneurs had had some cooperation with an educational institution, although none had participated in a game. Hence, the entrepreneurs may have had a lower threshold for participation. Importantly, they also had experience of traditional educational cooperation.

We interviewed all six participating entrepreneurs on their experiences. We also sought input to our assumptions of game-based learning in education–working life cooperation. The theme interviews focused mostly on experiences with the game, while also covering other possible experiences in educational cooperation. Additionally, we collected student input to support the key criteria. While the focus of the research is on the entrepreneurs’ perspective, students brought valuable information about the cooperation. Students participated in a group discussion in class, which was videotaped and transcribed. Also, students’ reflective thoughts in written reports were used. Interviews were conducted during the spring of 2013.

We adopted an emotionalist view on interviewees as experiencing subjects who actively construct their social worlds. We treated the data as means to an authentic insight into people’s experiences, and tried to achieve this through semi-structured, in-depth and open-ended interviews (Silverman, 2001, p. 87). Following Holstein and Gubrium, 1997 (p. 116), our aim was to formulate questions and provide an atmosphere conducive to open and undistorted communication. This way, respondents were allowed to use their own ways of defining and describing the phenomenon of interest, and also to raise important, fresh issues not contained in a more structured interview schedule or data collection procedure (Denzin, 1970, p. 125; in Silverman 2001, 93).

Following the chosen approach, our concern was not with obtaining objective facts but with eliciting authentic accounts of subjective experience (Silverman, 2001, p. 90). The interviews were first videotaped, and then transcribed into written form. Following that, the textual data was analyzed through different categorization devices. We categorized the data firstly on the basis of the described forms of cooperation, and then focused on the descriptions of the drivers and modes of various actions. On the one hand, our aim was to find similarities between the narratives; on the other hand, we identified contradicting and absent experiences.

Additionally, we applied frame analysis to explore the relationships between interviewees’ interpretations of the cooperation and the cultural context of the cooperation (see e.g. Alasuutari, 1995, p.111-115). In this case, the frame refers to sets of rules that constitute activities so that they are defined as activities of a certain type (Goffman 1974). When interviewees created a picture of “what is going on” within the cooperation, our aim was to locate a frame that makes the situation understandable.

In the project, a business perspective, an entrepreneurial perspective, a pedagogical perspective and social media perspective were present in a knowledge community. Because of the gamified nature, however, the community appeared as a game to the participants. As argued before, we introduced gamification into the community to lower the thresholds in cooperation.
The “LOL¹” game was an online community of entrepreneurs, students and teachers. It featured an online game board, designed to support learning on three educational levels. The purpose was to enable students to work on authentic business problems in teams. Entrepreneurs, on the other hand, offered their skills and knowledge for the community’s use.

The project was funded by the Uusimaa Regional Council (Finland), as part of the European Regional Development Fund Program. The coordinating party was InnoOmnia, the development unit of the Omnia Vocational School of Espoo, Finland. The Kasavuori Secondary School of Kauniainen (Finland) and Laurea University of Applied Sciences of Lohja (Finland) participated in designing the game and piloting the game in fall 2012. The game was played in three physically separate schools by piloting student groups.

The game took place on a virtual game board, running on a web server and accessed with a browser. The game board was designed for keeping track of all the sections within the game. The game board was programmed by a game designer agency, using the Google Education platform. A visual designer created the board’s visuals, aiming for “fun and accessibility” in the layout.

Using Google Apps for Education, the teams were given virtual workspaces for developing and sharing ideas. The game also featured a Facebook page, which was used for communication and collaboration. Game board updates, new tasks, and task feedback appeared as notifications in Facebook. Finally, a YouTube channel was used for distributing related videos such as interviews and video reports. The main game application was connected to the applications in the workspaces as well as the game’s Facebook page. Virtual trophies appeared both on the game board and on Facebook.

The game tasks focused on entrepreneurial day-to-day issues. The educational purpose was to support students’ business studies by giving them the opportunity to solve real entrepreneurs’ authentic problems. For the entrepreneurs, the community offered new insights and solutions into their business problems. In practice, all of the problems were related to marketing issues such as product design, marketing communications, and distribution. This was the result of the entrepreneurs’ decisions and not a limitation of the game itself.

In the game, students formed teams and tackled the tasks as presented by the entrepreneurs in YouTube interviews. They sought to find creative solutions to the problems, while keeping in mind typical business constraints.

Two rounds were played in the game, with different entrepreneurs participating in each round. The rounds consisted of several sections to break up the workflow into meaningful segments. As an individual game round consisted of multiple tasks requiring planning, research and presentations, taking several weeks, only two rounds of the game were played within the semester. First, students formed teams and devised a strategy. The next phase consisted of a pitching contest, where teams made presentations on the tasks that they preferred. An educator served as game leader, giving feedback and assigning the tasks to teams based on these pitches. The game’s Facebook group was the main platform for discussion, feedback and commentary during the game rounds.

Next, students got to plan their final solution. They made a rough outline of the creative idea and implementation, on which the game leader gave feedback. Finally, students designed the final solution for the task and videoed it for YouTube.

Having reviewed the final propositions, entrepreneurs gave feedback, while teachers gave education-related feedback on the video reports. A jury of participating entrepreneurs chose the winners based on best match with business objectives. Virtual trophies and awards were distributed to the winner teams.

¹ LOL is a dual meaning acronym, representing both the well-known Internet meme and the words “Slightly Odd Business” in Finnish. The name was chosen to represent something easily approachable and non-intimidating. While it would be accurate, we will nevertheless refrain from calling the game S.O.B.
5. Findings

In the interviews, a recurring theme relates to the flow of information and knowledge sharing. Importantly, the knowledge flows exceeded the borders of the schools and businesses. We could observe knowledge sharing between student teams and entrepreneurs, as well as between different entrepreneurs. In this sense, the knowledge community created in the game represents Earl’s (2001) description.

Moreover, the interviews suggest that the community met Wenger’s and Snyder’s (2000) call for multiple purposes. We could observe knowledge flows from the students to the entrepreneurs, helping in identifying new business opportunities. Students reported gaining new insight into their studies, reflecting Wenger’s & Snyder’s skill improvement. Finally, with entrepreneur collaboration, sharing of best practices could also be observed.

Transferring knowledge and ideas in multiple directions was perceived as the most substantial result. The ideas that students created brought “new approaches” and “useful input”; in the interviewees’ own words. Many entrepreneurs commented that the ideas surpassed their expectations. Some of the students managed to go outside the box in their thinking, which was commended in the interviews. This was particularly apparent in the cooperation across educational levels.

The entrepreneurs brought their skills and experience into the table, offering this knowledge to the students. At its best, this resulted in cooperation, shared learning and transfer of knowledge to the end of creating new business opportunities (see Wenger & Snyder 2000). New business opportunity development is apparent in the following quote:

“For me, the biggest thing is that we got to think about issues together. The kids brought up new ideas – like suggesting new youth target groups for my products – and I have expanded my marketing scope based on those ideas.” (Interviewee)

The entrepreneurs felt the students’ ideas as particularly useful when the students brought in a youth perspective, whether in terms of marketing, service use or technological literacy, as this quote demonstrates:

“Students have a lot to give for marketing and sales based on their own experiences in life, such as ‘how I do this thing’. You can go to a corporate seminar to hear media gurus talk about technology and social media, but they do not really live in that world. These young people do.” (Interviewee)

Entrepreneurs participated in jury sessions, where the winners for each round were decided. In terms of knowledge transfer, these sessions offered a lot particularly in terms of sharing best practices. As this quote suggests, the game succeeded in creating a network of knowledge where every participant had the opportunity to learn and share knowledge for others:

“I was totally blown away by the closing session, where other entrepreneurs were present. I got a lot of ideas, like what you could do with this or that, and even commented another entrepreneur’s business problem. The diversity was a very good thing.” (Interviewee)

Based on previous research, we expected difficulties in cooperation and knowledge sharing to focus on motivational dispositions, perceived value of information, and suitable platforms. Overall, we managed to overcome these hurdles. In general, entrepreneurs perceived the game highly positively. Cooperation across multiple educational levels, a fun approach to serious content, a creative implementation and fostering creation of new ideas were all perceived as worthwhile and valuable goals.

In the interviews, there are multiple mentions of the value of the information produced in the game, supporting our proposition of the usefulness of gamification. Entrepreneurs were surprised how well the game succeeded. Many felt they received something concrete from the ideas that students produced – perhaps for the first time ever. Another sign of success is that several entrepreneurs would have liked to see the ideas taken into practice: they felt the students’ ideas had so much potential that they could have been developed further to a more detailed level. Within the schedule, this was not possible, however.

A recurring theme in the interviews concerns the level of involvement and motivation resulting from the game. Motivation was one of the potential problems identified in the literature review. Based on the results, all entrepreneurs experienced increased motivation to participate, and most students reported the same.

Genuine problems taken from an entrepreneur’s life make for a more authentic learning experience. For the students, this had several benefits. The students reported a higher level of motivation because of the authenticity. Similarly, entrepreneurs felt the novel approach increased their interest in cooperation.
It was easier to participate in cooperation with a limited scope and a fun aspect. Educators and entrepreneurs observed a sense of ownership taking place within the students. It was as if the students started feeling the tasks and ideas more as their own. This would imply a shift towards intrinsic motivation. This is an important observation from a learning standpoint.

Because of the nature of the game, the tasks could be constructed so as to resemble reality. This is at the core of the motivational aspect of the game. In the interviews, entrepreneurs praised the knowledge creation tasks on multiple occasions. Students were presented with genuine real world problems with no single solution. The entrepreneurs felt these open-ended tasks were a unique opportunity to learn the challenges of business life as well as cooperation skills. Students had an opportunity to learn in practice what it is like to solve business problems. There was no single predetermined correct outcome – just like in real life. This forced students to look for solutions creatively, not relying only on textbooks in their search for knowledge. This approach emphasized the practical nature of the required ideas, as the following quote demonstrates:

“I feel it is important to be able to give the students the tools and a place to work, but not limit them with ready-made solutions. We should let them think it out and come up with a solution. During the game, I think it was important to note that for every group who had made their own decisions, each and every one of them stood behind those decisions in the end.” (Interviewee)

The game appeared to facilitate cooperation and thus overcome the hurdles of missing common platforms (discussed by Gupta and Govindarajan 2000). Entrepreneurs were highly in favor of development of games such as this. Students taking on the role of the entrepreneur, solving daily problems and cooperating through gamification were perceived as important future directions. Knowledge creation becomes more concrete through these directions. The game succeeded in transferring real knowledge and ideas, through which cooperation gained a genuine, concrete meaning, as discussed in this quote:

“This is a good way of linking the school with businesses. Rather than the usual ‘pretending to cooperate’ way, here we have really done something concrete with real outcomes.” (Interviewee)

Entrepreneurs were unanimous on the need for more informal, “real life” learning opportunities. In order to learn skills required in today’s workplace, students need an authentic, genuine learning environment. On-the-job learning came up in multiple instances as an example of a non-institutional learning setting. Entrepreneurs also felt that interviews, discussions and meetings were necessary in order to create better learning and interaction, as opposed to classroom learning. These observations suggest that potential differences in cultures and perceptions of knowledge between the participants could be overcome.

Finally, one purpose of the game was to advance entrepreneurial education. Students had the opportunity to assume the role of the entrepreneur and try a small-scale version of the entrepreneur’s daily life. Students described this as having been useful, e.g. in a potential future situation, where one would have the opportunity to create an innovation, as this quote suggests:

“…we worked on this innovative product, and talked to the entrepreneur. I’m thinking entrepreneurship is not so far away anymore. If I had a good idea, I might think about commercializing it and becoming an entrepreneur.” (Student)

Entrepreneurs felt similarly about entrepreneurial attitudes and education being transmitted. This final quote summarizes the benefits of the game:

“In best cases, students get to see all aspects of an entrepreneur’s life. The students get to play in the entrepreneur’s role, coming out of the everyday school settings. For some, it can be exciting to work with a live entrepreneur, doing real things, seeing what the entrepreneur does for a living and what it takes to survive.” (Interviewee)
6. Summary and conclusions

Education today requires a cooperative relationship with the working life. This cooperation can evolve into an authentic partnership, where knowledge is created and transferred interactively, in mutual collaboration. There is an increasing need for practice-oriented communities to support learning. However, it seems that the parties are often worlds apart. Differences in cultures, perceived benefits of the cooperation, and lack of appropriate platforms render true collaboration between education and the working life difficult. Deep collaboration requires letting go of the preconceptions of who is the learner and who is the information provider. In the new type of cooperation, all participants must be able to contribute equally.

We have experimented with an online gamified platform with the purpose of bringing the parties together, towards closer cooperation and knowledge sharing. The platform can be seen as a way of creating a more informal, realistic and authentic learning setting, where real-life problems can be tackled. In addition to bridging the education-working life gap, we experimented with bringing together schools in three educational levels.

The LOL game is an example of a practice-oriented community that is built on knowledge sharing. Gamification was used as a tool for improving collaboration, motivation, and perceived authenticity. Numerous statements from entrepreneurs as well as students emphasize the sensation of authenticity arising from the game. The ability to work on a “real” problem and produce “real” results recurs in the findings.

Previous research suggests that gamified environments can support active participation. In the LOL game, the learners became active participants on the hunt for new information. This was achieved by designing the game so that success relies on active studying, information search, problem solving, and risk taking. The fun, concrete approach resonated with the entrepreneurs as well.

An intensive learning game requires substantial effort from the learner, supporting active seeking, trial and participation (Thomas & Brown 2011, Cohen 2011). On the other hand, gamification also makes collaboration and peer support possible and even more rewarding. Several observations suggest that gamification facilitated in communicating the target problem. This seems to have impacted on pedagogical aspects as well as collaboration with the working life. We found multiple examples of the entrepreneurs being highly motivated in the project. Could gamification support in making educational outcomes more concrete and valuable in the eyes of the practitioner? It would appear so. The entrepreneurs seemed delighted with the results obtained.

Overall, the results are highly promising. At its best, cooperation approached a true knowledge creating community, where all parties were involved in creating and transferring knowledge. The game acted as a bridge between the world of education and the working life. It seemed to motivate the participants in both ends, by creating a fun way of thinking about the curriculum and the day-to-day business problems. It also helped in creating a platform through which new ideas could be transferred in one direction and entrepreneurial skills in another direction. Finally, the ideas developed through the game were perceived as highly practical, addressing the third obstacle in cooperation.

Based on the results, a gamified approach shows potential in the light of entrepreneurial education. The game lowered the threshold of participation for students and entrepreneurs. Making entrepreneurship something that is fun and involving does not necessarily take away the seriousness of the message. On the contrary, student quotes suggest entrepreneurship may be closer than before the game. Nevertheless, more research is needed to measure gamification’s effects on students’ entrepreneurial attitudes.

A practice-oriented approach is in many ways the future of education. However, research suggests that often the cooperation remains rather superficial and lacking in depth. The entrepreneurs in this case study felt very strongly about the concrete results produced in the game. Also, by participating in the game, entrepreneurs were forced to take a new angle to their business problems. Many expressed that the new way of thinking opened up new horizons altogether.

In the future, we would welcome research into the effects of gamification in knowledge sharing. This project has touched some of the issues, but several topics are still uncovered. The small scale of the study imposes limitations; while the observations support our conclusions, more research in larger quantities is needed. Also, the role of the educators should be investigated. This project was in the fortunate situation of having a number of involved and motivated educators, but sometimes more effort may be needed to convince all participants.
7. References


Daniels, M. (2010). Businesses need to get in the game. Marketing Week 2010


From the field


