Competitive paper

Paper would fit in: Innovative teaching methods

Developing and testing a EU funded experiential learning game-based teaching module on branding during a pandemic

Sabine Emad

University of Applied Sciences Western Switzerland, School of Management Geneva HES-SO / HEG, Switzerland
Sabine.emad@hesge.ch

Stephane Ganassali

Université Savoie Mont Blanc, France
stephane.ganassali@univ-smb.fr

Marta Grybs-Kabocik

University of Economics in Katowice, Poland
marta.grybs@uekat.pl

Diana Ionita

University of Bucharest, Romania
diana.ionita@lls.unibuc.ro

Justyna Matysiewicz

University of Economics in Katowice, Poland
justyna.matysiewicz@uekat.pl

Magdalena Platis

University of Bucharest, Romania
magdalena.platis@unibuc.ro

Francisco Suay Perez

University San Pablo CEU University CEU Cardenal Herrera, Spain
francisco.suay@uchceu.es

Lieven Theys

Hogeschool West-Vlaanderen Howest University College, Belgium
Lieven.Theys@howest.be

Frederic Vlummens

Hogeschool West-Vlaanderen Howest University College, Belgium
frederic.vlummens@howest.be

Developping and testing a EU funded experiential learning game-based teaching module on branding during a pandemic

ABSTRACT

A funding grant was awarded in August 2020 by the European Union to a consortium of 11 European universities to develop a game-based experiential teaching module to train marketing students in brand management to improve their employability. A first round of testing was scheduled for March 2021, in the surge of the Covid pandemic. This paper aims at describing the solution found by the research team to perform the testing despite challenging circumstances and to prevent postponement of the project end date. Clear opportunities for improvement were identified thanks to the participation of very highly engaged students from 4 countries to an online paper prototyping based testing session.

Keywords Branding, game-based teaching, experiential learning, employability

INTRODUCTION

According to Eurostat, in the EU-28, there were 4.4 million students in 2017 studying business, administration or law. The job market for that profile of graduates is very dynamic in EU: employers' expectations are high. At the same time in the recent literature (Finch&McIntyre, 2019 for example) shows that there is still a significant gap between graduates' profiles and employers' expectations. Finch, Nadeau & O'Reilly (2013) explored this challenge exclusively in the marketing field and found an important gap between the individual skills and knowledge areas defined as important by professionals and the corresponding performance of new graduates. Consequently, experts tend to agree that there should be a shift in focus, from knowledge generation to skill development (Rundle-Thiele, Bennett &Dann, 2005). This leads to the question on effective teaching methods and techniques in the field of management, and particularly in marketing.

In recent years, much attention was given to experiential methods in teaching and learning. A review of publications in the Journal of Marketing education between 1979 and 2019 (Donthu et al, 2021) shows the interest of marketing educators for experiential learning methods. "Experiential learning" has been among the most published subject (124 articles, by 272, 2357 citations) in JMA, right behind "self regulated learning" (126 articles, 274 authors, 3179 citations). A study conducted by Farashahi

et al (2018) on 194 undergraduate and MBA students shows that they perceive simulation as the most effective teaching method for developing their interpersonal skills and self-awareness followed by case study and lecture respectively. Regarding problem solving skills the study found that simulation and case study are perceived as being similar but more effective than lectures. As J.G Clawson (2008) from the University of Virginia emphasizes, experiential teaching methods are those that rely on data generated during the exercise/learning experience rather than on data prepared in advance as with lectures and cases. Experiential methods engage students in experiences that simulate social phenomena. They include games such as Starpower[1] and the Organization Game (Randolph & Miles, 1979) as well as computer simulations like Markstrat[2] or CESIM[3].

With this in mind, a consortium of 11 European universities[4] have received a funding from the Erasmus Plus Strategic Partnership program of the European Union[5], to develop a game-based experiential teaching module to train marketing students in European brand management to improve their employability. The framework is based on the concept of one-week international intensive programs (IP) taught outside the students' home university.

The project started in September 2020 and in a context where game development requires testing as early as possible in the development process, the researchers had to quite rapidly find a solution to hold a first test IP, planned to gather about 30 students from 4 different universities in a European location. This IP was scheduled for March 2021, during a surge of the Covid-19 Pandemic, where all participating universities only operated through very strict distant learning rules. This testing round was key to provide the researcher with the feedback they needed to pursue the development of their game, in-line with the tight project schedule.

This paper aims at describing the solution found by the research team to perform the required testing despite the challenging circumstances and the achieved results.

LITTERATURE REVIEW

There were in2017, about 19.8 million tertiary education students across the 28 EU countries, , more than one fifth (22.2 %) of which were studying business, administration or law, representing a total of 4.4 million students. A recent EFMD 2019 survey[6] shows that 67% of European companies plan

---

[1] https://www.simulationtrainingsystems.com/schools-and-charities/products/starpower/

[2] https://web.stratxsimulations.com/simulation/strategic-marketing-simulation

[3] https://www.cesim.com/

[4] See appendix 1 for the list of participating universities

[5] Experiential education.Interactive/Intensive course of European brand management (BrandY) (2020-2023) reference number 2020-1-PL01-KA203-081852

[6] https://efmdglobal.org/wp-content/uploads/2019_corporate-recruiters-survey-2019_may-2019.pdf

to hire a "Master in Management" talent within the current year. Yet, research shows that there is a significant gap between graduates' profiles and employers' expectations (see for example Walker et al., 2009; Wellman, 2010; Di Gregorio et al., 2019; Finch & McIntyre, 2019, Gawrycka et al, 2020). For example, 96% of university rectors in the US responded that they were adequately preparing graduates for the workforce while in contrast only 33% of senior executives shared the same opinion. Finch, Nadeau & O'Reilly (2013) explored this challenge exclusively in the field of marketing and found an important gap between the individual skills and knowledge areas defined as important by professionals and the corresponding performance of new graduates. European experts also confirm the existence of this gap in their report "Skill shortages and gaps in European enterprises" published recently by EU[7]. Consequently, experts tend to agree that there should be a shift in focus, from knowledge generation to skill development (Rundle-Thiele, Bennett&Dann, 2005; Rohm et al, 2019; Miklosik et al, 2019).

Beyond the curriculum content, another issue is students' motivation to learn. A research conducted in 2006 by Bridgeland, DiIulio, and Morison, aiming at understanding the reasons why US high-school students drop out, found out that nearly half of them said a major reason was that the classes were not interesting, and 70% said they were neither motivated nor inspired to work hard. Research conducted by the US National Center for Educational statistics (2003) shows evidence indicating that the students who are most at risk for failure in the traditional classroom setting, also spend an average of twenty seven minutes per day more than their counterparts, using video games.

Games have proven their motivational power, leading increasing numbers of people to contribute, through collaborative effort, to solve problems without any other incentive than the fun of play and the sense of achievement. Games have the power to engage the masses, who end up spending enormous amounts of time

in or around games: In her book "Reality is Broken" McGonigal (2011) states that World of Warcraft[8] (WoW) players have collectively written a quarter of a million articles, creating the WoWWiki[9], at the time the single largest Wiki after Wikipedia.

---

[7] https://www.cedefop.europa.eu/files/3071_en.pdf

[8] World of Warcraft is a Massively Multiplayer Online Role Playing Game (MMORPG) launched by Blizzard entertainment in 2007. According to Wikipedia, it is the most subscribed MMORPG with over 12 million subscribers at its peak in 2010 (http://www.ign.com/articles/2013/07/26/world-of-warcraft-down-to-77-millionsubscribers) and 7.7 million subscribers as of July 2013 http://us.battle.net/wow/en/?-

[9] http://www.wowwiki.com/Portal:Main since moved to https://wowpedia.fandom.com/wiki/Wowpedia?utm_source=Fandom&utm_medium=banner&utm_campaign=wow

The use of games in education has been studied at length from different angles and still is. To cite a few examples, Malone explored the intrinsically motivating qualities that games have and how they might be useful in designing educational games (Malone, 1980; Malone, 1981), Squire explored the use of commercial games as a means for engaging disenfranchised students in schools (Squire, 2005), Kafai had schoolchildren design games to learn computer programming concepts and mathematics (Kafai, 1995; Kafai, 1996), Gerber explored how video games shape students' reading and writing in both online and offline spaces (Gerber, 2009; Gerber & Price, 2013), Green and Bavelier studied how action-video-game playing can alter a range of visual skills

(Green and Bavelier, 2003) and Rosser et al. studied the impact of video games on training surgeons (Rosser et al, 2007). After conducting a systematic literature review of papers published after 2012 covering the use of games and gamification techniques in higher education, Subhash and Cudney concluded that there are several benefits of using gamified learning, such as improved student-engagement, motivation, confidence, attitude, perceived learning, and performance (Subhash & Cudney, 2018). More specifically in business education, more recently Manzano-Leon et al. studied the potential impact of educational gamification on the academic performance, commitment, and motivation of students (Manzano-Leon et al,2021). Liberona et al, found that games have a very positive impact in the students' learning process in higher education and add a very good component of experiential teaching to students, enabling them to experience decision making in complex environments (Liberona et al, 2021)

According to Shernoff et al (2014) games contain what is needed to engage students and help them enter the state of flow (Csikszentmihalyi, I. S., 1992), where they are fully immersed, energized and focused on their learning activity, losing track of time. They can increase student engagement, which is strongly associated with student achievement (Shute et al, 2009). Games and digital games can be more engaging than other classroom activities (Malone, 1981; Rieber, 1996). When learning tasks are made increasingly challenging, games can also sustain engagement and motivation for a longer period of time (Gee, 2003; Gee, 2009; Rupp et al, 2010).

Regarding more specifically the process of designing games, Fullerton et al (2004) highlight that the primary

role of a game designer is to be the advocate of the players and therefore to keep in touch with their needs. At the beginning, the creative possibilities are broad, open and can be changed with limited financial consequences. However, as the project moves along, changes become more costly. A continuous iterative process of playtesting is therefore recommended all along the development of

the game. Game developers should provide players, as early as possible in the development process, with prototypes of the games, and ask them for feedback.

METHODOLOGY

In August 2020, a consortium of 11 European Universities received a funding from the Erasmus Plus Strategic Partnership program or the European Commission, to develop a platform for an integrated study module for universities and SMEs, dedicated to international brand management, to improve the competences of future employees in managing European brands on global markets. The platform should be based on new technologies (access to teaching materials, implementable remotely), experiential teaching and learning based on gaming concept and in the framework of intensive programs (IP) (around one week duration).

The research team is committed to designing this experiential learning instrument, taking into consideration: 1) the scientific concepts and models as described in the academic literature (see Keller, 2012 for ex.); 2) the knowledge and skills expected by the practitioners and professionals to ensure a good employability of participants; 3) the requirements of the marketing educators both in terms of contents and usability of the teaching instruments and 4) the already existing experiential instruments available for marketing educators to avoid overlaps.

Based on a preliminary survey[10] performed by the research team, from an educators' point of view, the instrument will also include the following features: 1) a ready-to-use instrument for teachers and students; 2) a possible real-time feedback from different stakeholders; 3) an engaging scenario and contents and 4) a good link with the related academic theories and models.

The project started in September 2020 and will last until august 2023. In-line with the recommendations in terms of game development, 4 IP sessions are planned for testing and assessing the game-based teaching instrument along its development stages, the first one as early as March 2021. Each IP should take place in one of 4 different European locations: Bruges (Belgium) in March 2021, then Katowice (Poland) in Spring 2022, Annecy (France) in Spring 2023 and lastly Valencia (Spain) in Summer 2023.

In March of 2021, all participating countries were in complete lockdown and remote teaching, in the middle of their third wave of the Covid pandemic, with no end in sight. Travelling for any reason, let alone for IPs was impossible for the foreseeable future. Yet, postponing the March 21 IP would have delayed the needed early testing, so key to identifying early necessary changes at the concept stage,

---

[10] https://sphinxdeclic.com/surveyserver/s/yupi61

where major changes are still possible with limited financial consequences. Further developing the platform without testing would have implied either the development of an inadequate game, or potential important costs at a further stage. Freezing the project until the return to normal teaching forms would have shifted the project to an unforeseeable end date, which was not an option.

Ultimately, it was decided to split the IP in 2 parts: a shorter pre-IP, based on paper prototyping methods (Snyder, 2003), to be held online in March 2021 and allow early identification of potential flaws in the concept of the game. A real IP was planned for later, sometime in the first half of the 2021-2022 academic year.

The pre-IP was held online on Microsoft Teams over 2 days, on March 29 and 30, 2021. Participants included 28 students from 4 countries (Belgium, Poland, Russia and Switzerland), and 17 teaching staff from 7 countries: (Belgium, Poland, Russia, Switzerland, Romania, Germany, and France). Students were split in 5 multinational groups and in addition to, social and teambuilding activities, they were required to test and evaluate 4 activities:

1) development of a buyer persona,
   a. develop a buyer persona for the target audience
2) development of an Instagram advertisement
   a. view provided videos and ads on the health market and health customer segment,
   b. design a mood board and word cloud describing this culture,
   c. develop and Instagram ad for this target group,
3) testing of fashion design apps
   a. a list of 7 fashion design aps was provided , from which each group was requested to test 6 different apps and to look for further possible solutions to develop the sample garments of the brand they were creating
4) an additional activity required students to read and evaluate 6 teaching support book chapters: 3 on positioning and 3 on communication. Students were asked to provide feedback on 4 dimensions:
   a. Which parts of the chapter did they find the most helpful in understanding the issues described and why?
   b. Which parts of the chapter did they find incomprehensive or complicated, why?
   c. What would they change in the chapter?
   d. What would they add to the chapter?

e. In addition, some chapters were provided with a powerpoint attachment, in which case, students were asked to comment on the quality and content of the powerpoint provided

Each of these 4 activities was preceded by an introductory lecture presenting, if applicable, the concept they were asked to work on and explaining the tasks they were asked to perform. At the end of each activity, students were asked to present the result of their work. Students' interactions, while performing the activities, were "observed", the output of their work was assessed and students filled an evaluation survey at the end of the pre-IP, asking them to provide feedback on each of the activities.

At this point, the aim of this preliminary test was mainly, in line with Fullerton et al (2004) recommendations in game development testing, to test the concept of the game: identify if it was fun to play, if students were able to understand the instructions clearly and if the tools provided to the students worked. It was not meant at measuring the skill development, as what was tested were only parts of the whole concept. Therefore, it was decided that self-report and observation, together with teachers' assessment of students' output, were sufficient measurement tools.

RESULTS*:*

Students feedback on the development of a buyer persona activity:

Overall, the grade of 3.9 / 5 (3.9 on 5) was given by the students to this activity. More specifically, they graded the workshop's usefulness at 4.3 / 5, its clarity at 4.6 / 5, the helpfulness of the material provided at 4.5 / 5, the balance between general activity, groupwork and presentation at 4.1 / 5, the clarity of the provided examples and templates at 4.2 / 5 and the time provided to complete the activity at 3.3 / 5.

Although some participants mentioned that given the time pressure "*an empathy map activity would be more appropriate as it is easier to understand and faster to do*", qualitative feedback provided showed that overall students really appreciated this activity stating that they "*learned how to make a good buyer persona and what it should include*" they were happy that they "*got a good template*" to develop it. One group suggested improvements to the provided buyer persona by adding sections on "*the persona's social activity*", as well as on "*what engages the persona and motivates them to remain loyal*"

Students' feedback on the development of an instagram advertisement activity:

Overall, the grade of 3.9 / 5 was given to this activity. More specifically, they graded the fun of this workshop at 4.5 / 5, it's ease at 3.1 / 5, the time allocate to complete it at 4.5 / 5, the ease of cooperating

with other team members at 3.4 / 5, the fact that it enabled them to learn new skills at 3.8 / 5, the fact that it enabled them to better understand the concept of brand communication at 3.9 / 5. In addition, students were asked to rate on a scale from 1 (totally disagree) to 5 (totally agree) 3 improvement suggestions. They rated on average at 4.3 the suggestion that it would be fun to see how many likes their ad would get, at 4.5 the suggestion that it would be more interesting if they could see what other teams came up with, and at 3.3 the suggestion that it would be more interesting if they could compete with other teams based on the number of likes each post got.

Qualitative feedback provided showed that overall, although they found that "*the time allocated was too limited*", students really liked this workshop, describing it as "*fun and creative*", "*a great workshop*" where they could "*use their creativity*". For some students, it was "*the first time they did mood boards and word clouds*". They described the mood board activity as "*one of their favorite*", "*a very nice task*" which they "*loved*", they "*liked using pictures*" and it "*helped them develop their ad at the end*". Some explained that it enabled them to "*learn a lot about cultural marketing and about ad creation*" and gave them "*a different vision on branding*"

Students' feedback on the testing of fashion design apps activity:

Since each student group was asked to test different apps, they were not asked to grade this activity but to provide qualitative feedback on the various suggested app. Overall, they did not find any "*perfect*" app. Each one they tested had pros and cons. What groups generally disliked in the tested apps were "*the limited options*", "*the need to pay*", the fact that the app provided "*no coloring possibility*" as well as when apps were "*slow*". On the other hand, what they particularly liked was when the apps were "*intuitive*", "*easy to use*", provided "*choices*", were "*available for both iOS and Android*" for mobile devices or for both "*iOS and "windows*" for computers. One group commented that they "*did not perceive this activity as a teaching experience*". Upon hearing the response that it was not foreseen as a teaching experience, but as a way to add fun to the process, they responded that in this case it was indeed "*fun and relaxing*" and that it was "*great as it motivated people to be creative*".

Students' feedback on book chapters:

It was obvious from the wide range of grades given to the various chapters as well as to the various parts of the chapters, that student had really carefully read the chapters. For example a grade of 1.8 / 5 was given on the question "the overall information in the chapter is presented in a clear and easy to understand way", on the chapter on communication messages. Comparatively, a grade of 3.8 / 5 on the same question was provided for the chapter on brand positioning. On the other hand, for the

chapter on communication messages, the question "the knowledge presented will help students carry out the exercises and tasks" only got a grade of 3.3 / 5.

The quality of the qualitative feedback provided by the students also indicated that they had really spent time reading the chapters to provide constructive feedback on the opportunities for improvement.

Some comments were related to the layout of the chapters: "*some parts like page 5 or 9 have weird text placement, not two columns but side by side placement, and it was at first complicated for me to move on to the right sentence after I finished the previous one*" or "*more pauses between text, bigger font size*" or "*to make it easier to read and to highlight the most important information, I would add the definitions or the most important information on the side of the whole text*."

Other comments were related to the content of the chapters: "*maybe less text information, and more notes and concrete info*" or "*Everything was nicely written in a understandable way*" or "*The most helpful are real-life examples of the ads, like oreo or mcdonald ads, when I see the picture I understand what the author had in mind, which for an average student is important*",

In addition, very specific opportunities for improvement were given: "*add more tables that summarize and synthesize everything*" or "*I would add a small recap to targeting and more infographics*" or "*add more pictures*" or "*More direct descriptions and broader examples, that may help even better understand the presented issues*".

It also appears that students really spent time completing the exercises suggested in the chapter as they provided specific comments such as "*I would change one of the last exercises about taglines. It is just too long.*"

Student engagement in the tasks and activities:

Some groups went way beyond the given activity descriptions. For example, regarding the design app activity, students were asked to test 6 apps and to look for a couple additional ones. One group tested between 10 and 12 apps before setting their choice on 2 that they presented in class.

Beyond the tasks, students really gave thoughts on how these could be improved. They suggested alternative activities (empathy maps instead of buyer persona) or different ways of presenting the activities (organize the videos provided for the mood board and the wordclouds by theme) or improved templates for the activities (adding social activity and engagement to the buyer persona). They also suggested tools that would help future students, better perform the activities at hand, such as for example Adparlor as an instagram ad mockup generator.

Student feedback on intercultural interaction in a remote learning setting

28 students from 4 different countries, who had never met, were put together to work in groups in a remote learning context. Most of them would have of course "*preferred to meet their colleagues physically, obviously*", however, overall, they found that the experience went "*much better than anticipated*" and that they were able to "*cooperate very nicely*" and to "*work as a team*".

They were able to divide the work amongst team members and stated that in their opinion, the remote situation possibly enabled them to be "*more focused*" on their work as once each of them knew what they had to do, they were better able to "*focus on their task*" without being distracted by the presence of their colleagues. Ultimately, they were also amazed to see that despite their cultural differences, the way brands were perceived across the various cultures were relatively homogenous.

Student overall feedback on the IP

Students really appreciated the 2 days. They enjoyed "meeting" new people, and meeting people from different cultures. One group mentioned that it was important to "*centralize the information*" as they sometimes had to struggle to find and operate the different templates and tools. Overall, students really "*liked the idea of learning by doing*" and of "*using in practice the skills that they have*". Given the way the activities were organized, students could not always see the way each activity "*connected to the previous one*", yet they appreciated being involved in helping their teachers develop the future of marketing teaching. They "*really felt on a mission to collaborate to develop something for future students*".

CONCLUSION

The testing phase of this project took place in very difficult circumstances amid an endless global pandemic. As a research team, we were initially perplexed as to how this testing could be conducted while working from home. Yet, we were very happy to have made the decision to go ahead with some form of testing. It enabled us to validate some of the activities we had foreseen as part of our teaching game and to continue working on the project while knowing what worked well, what needed to be improved and in some instances, how precisely this could be improved. While observing the students long these 2 days, we could see how engaged they were in working on the assignments they were given, and this comforts us that this platform aiming at teaching branding in a gamified playful applied way is on the right track.

REFERENCES

Bridgeland, J. M., DiIulio Jr, J. J., & Morison, K. B. (2006). The silent epidemic: Perspectives of high school dropouts. Civic Enterprises.

Clawson, J. G. (2008) Experiential Methods.

Csikszentmihalyi, I. S. (Ed.). (1992). Optimal experience: Psychological studies of flow in consciousness. Cambridge University Press

Di Gregorio, A., Maggioni, I., Mauri, C., & Mazzucchelli, A. (2019). Employability skills for future marketing professionals. European management journal, 37(3), 251-258.

Donthu, N., Kumar, S., Mills, A., & Pattnaik, D. (2021). Journal of Marketing Education: A Retrospective Overview Between 1979 and 2019. Journal of Marketing Education, 43(2), 139-158.

Farashahi, M., & Tajeddin, M. (2018). Effectiveness of teaching methods in business education: A comparison study on the learning outcomes of lectures, case studies and simulations. The international journal of Management Education, 16(1), 131-142.

Finch, D. J., & McIntyre, S. (2019). Bridging the Gap Between Marketing Education and the Marketing Profession: Applying an Integrated Dynamics Capabilities View of New Graduate Employability. In Evaluating the Gaps and Intersections Between Marketing Education and the Marketing Profession (pp. 18-33). IGI Global.

Finch, D., Nadeau, J., & O'Reilly, N. (2013). The future of marketing education: A practitioner's perspective. Journal of Marketing Education, 35(1), 54-67.

Fullerton, T., Swain, C., & Hoffman, S. (2004). Game design workshop: Designing, prototyping, & playtesting games. CRC Press

Gawrycka, M., Kujawska, J., & T Tomczak, M. (2020). Competencies of graduates as future labour market participants–preliminary study. Economic research-Ekonomska istraživanja, 33(1), 1095-1107.

Gee, J. P. (2003). What video games have to teach us about learning and literacy. ACM Computers in Entertainment, 1(1), 1–4.

Gee, J. P. (2009). Deep learning properties of good digital games: How far can they go? In U. Ritterfeld, M. Cody, & P. Vorderer (Eds.) Serious games: Mechanisms and effects. (pp. 67–82). New York, NY: Routledge.

Gerber, H. P. (2009). From the FPS to the RPG: Using video games to encourage reading YAL.

Gerber, H., & Price, D. (2013, January). Virtual worlds, videogames and writing instruction: exploring gamesbased writing practices across content areas. In Preparing Teachers to Teach Writing Using Technology (pp. 83-96). ETC Press.

Green, C. S., & Bavelier, D. (2003). Action video game modifies visual selective attention. Nature, 423(6939), 534-537.

Kafai, Y. B. (1995). Minds in Play: Computer Game Design as a Context for Learning. HilLSTDale, NJ: Lawrence Erlbaum Associates

Kafai, Y. B. (1996). Learning design by making games. Constructionism in practice: Designing, thinking and learning in a digital world, 71-96.

Keller, K. L. (2012). Brand strategy. In Handbook of marketing strategy. Edward Elgar Publishing.

Liberona, D., Ahn, S., Lohiniva, M., Garate, P., & Rojas, C. (2021, July). Serious Games Usage in Higher Education, Experiences and Guidelines. In International Workshop on Learning Technology for Education Challenges (pp. 138-150). Springer, Cham.

Malone, T.W, 1980, What makes things fun to learn? Heuristics for designing instructional computer games. In: Proceedings of the Third ACM SIGSMALL Symposium and the First SIGPC Symposium on Small Systems (Palo Alto, CA, Sept. 18–19). ACM Press, New York, 1980, 162–169.

Malone, T. W. (1981). Toward a theory of intrinsically motivating instruction. Cognitive Science, 5(4), 333-369.

Manzano-León, A., Camacho-Lazarraga, P., Guerrero, M. A., Guerrero-Puerta, L., Aguilar-Parra, J. M., Trigueros, R., & Alias, A. (2021). Between level up and game over: A systematic literature review of gamification in education. Sustainability, 13(4), 2247.

McGonigal, J., 2011, Reality is broken: Why games make us better and how they can change the world. Penguin.

Miklosik, A., Kuchta, M., Evans, N., & Zak, S. (2019). Towards the adoption of machine learning-based analytical tools in digital marketing. Ieee Access, 7, 85705-85718.

Randolph, W. A., & Miles, R. H. (1979). The organization game: A behaviorally played simulation. Exchange: The Organizational Behavior Teaching Journal, 4(2), 31-35

Rieber, L. P. (1996). Seriously considering play: Designing interactive learning environments based on the blending of microworlds, simulations, and games.Educational technology research and development, 44(2), 43-58.

Rohm, A. J., Stefl, M., & Saint Clair, J. (2019). Time for a marketing curriculum overhaul: Developing a digital-first approach. Journal of Marketing Education, 41(1), 47-59.

Rosser, J. C., Lynch, P. J., Cuddihy, L., Gentile, D. A., Klonsky, J., & Merrell, R. (2007). The impact of video games on training surgeons in the 21st century.Archives of Surgery, 142(2), 181-186.

Rundle-Thiele, S., Bennett, R., & Dann, S. (2005). The successful preparation and development of future marketing professionals: A recommended methodological framework. Journal for Advancement of Marketing Education, 7(2), 27-36.

Rupp, A. A., Gushta, M., Mislevy, R. J., & Shaffer, D. W. (2010). Evidence-centered design of epistemic games: Measurement principles for complex learning environments. Journal of Technology, Learning, and Assessment, 8(4).

Shernoff, D. J., Csikszentmihalyi, M., Schneider, B., & Shernoff, E. S. (2014). Student engagement in high school classrooms from the perspective of flow theory. In Applications of flow in human development and education (pp. 475-494). Springer, Dordrecht.

Shute, V. J., Ventura, M., Bauer, M. I., & Zapata-Rivera, D. (2009). Melding the power of serious games and embedded assessment to monitor and foster learning: Flow and grow. In U. Ritterfeld, M. Cody, & P. Vorderer (Eds.), Serious games: Mechanisms and effects

Snyder, C. (2003). Paper prototyping: The fast and easy way to design and refine user interfaces. Morgan Kaufmann.

Squire, K. (2005). Changing the game: What happens when video games enter the classroom. Innovate: Journal of online education, 1(6).

Subhash, S., & Cudney, E. A. (2018). Gamified learning in higher education: A systematic review of the literature. Computers in human behavior, 87, 192-206.

US National Center for Educational Statistics. (2003). Computer and internet use by children and adolescences.

Walker, I., Tsarenko, Y., Wagstaff, P., Powell, I., Steel, M., & Brace-Govan, J. (2009). The development of competent marketing professionals. Journal of Marketing Education, 31(3), 253-263.

Wellman, N. (2010). The employability attributes required of new marketing graduates. Marketing Intelligence & Planning.

APPENDIX

The project is coordinated by the University of Economics, Katowice, Poland, and includes eleven partners from European higher - education institutions:

- University of Economics, Katowice (Poland),
- Université Savoie Mont Blanc (France),
- Budapest Gazdasagi Egyetem (Hungary),
- Universitatea din Bucuresti (Romania),
- Universitaria San Pablo-CEU- Universidad CEU Cardenal Herrera (Spain),
- Hogeschool West-Vlaanderen Howest (Belgium),
- Universidad de Leon (Spain),
- Università degli Studi di Trento (Italy),
- Haute École Specialisée de Suisse Occidentale (Switzerland),
- Bauhaus-Universitaet Weimar (Germany).
- Immanuel Kant Baltic Federal University (Russian Federation), (partner excluded as of March 2022)