

ROLLING DICE AND LEARNING - USING ROLE-PLAYING GAMES AS PEDAGOGY TOOLS

Antonio Ruiz-Ezquerro, Florida State University

Playing satisfies basic human needs such as deepening social relationships (Melton et al., 2019) and experiencing an ideal self's characteristics (Przybylski et al., 2012). In addition, games foster student engagement through the use of intrinsic motivation, critical thinking skills, and the use of creative problem solving (Boghian et al., 2019; Quaye & Haper, 2015; Marinho et al., 2019; Thangmak, 2019). Thus, it is no surprise that there has been a recent increase in the exploration of gamification as a pedagogical tool (Furdu et al., 2017; Hanus & Fox, 2015; Koivisto & Hamari, 2014; Sanchez et al., 2019). This article explores role-playing games as pedagogical tools for educating student trainings, such as an R.A. conflict management workshop, a hazing prevention seminar, a teaching assistant orientation, a bystander intervention program to combat sexual assault, etc. Furthermore, it will reimagine the traditional approach to role-play activities in educational settings and suggest slight modifications to create more realistic and educative experiences.

INTRODUCTION

Gamification as a pedagogy

Games are engaging; they can be humorous, moving, entertaining, thought-provoking and fear-inducing. They allow us to explore themes and environments as familiar or unfamiliar as one can imagine. As such, they make for excellent pedagogy tools when used intentionally. Gamification as pedagogy is not a novel concept. However, according to the literature, the studies have predominantly consisted of adding game mechanics embedded into the class structure to motivate learners to explore the class's content. While these mechanics may play an incentive role in the form of points, leaderboards, and badges, the curriculum's content remains untouched by the game. This gamification style is known as structural gamification (Kapp et al., 2014). Still, the literature shows that structural gamification studies have found mixed results (Dominguez et al., 2014; Hanus & Fox, 2015; Koivisto & Hamari, 2014; Sanchez et al., 2019; Furdu et al. 2017). Among its challenges, studies have shown that students first have to be interested in playing to benefit from structural gamification (Hamari, 2013); structural gamification has a hard time motivating students who do not identify as competitive (Furdu et al., 2017); and its effectiveness tends to fade out over time due to a novelty effect (Koivisto & Hamari, 2014; Sanchez et al., 2019).

In contrast to structural gamification, there is content gamification. Content gamification uses game elements to alter the content itself and make content delivery more game-like (Kapp et al., 2014). For example, the addition of a story-driven narrative to discover the course's content or having experience challenges instead of learning objectives are examples of content gamification. This article will explore role-playing games (RPGs) as a content gamification pedagogy.

Role-Playing as a pedagogy

Role-playing, a pedagogy where participants act or improvise a role within a prepared scenario or unstructured situation (McKeachie, 1986), has been acknowledged for its ability to mold scenarios into experiential learning where students can apply what they have learned (Guthrie & Jenkins, 2018). The practice has been used in educational settings since the late 1800s (Guthrie et al., 2011). It has been associated with encouraging participation, improving

learning motivation, raising content retention, promoting teamwork, and potentially generating student interest and enthusiasm (Beidatsch & Broomhall, 2010; Bonwell & Eison, 1991). It may be used as a stand-alone activity, spanning several sessions or even throughout the entire course (Guthrie & Jenkins, 2018). How we use these tools can be best suited for different purposes. For example, in leadership education, role-playing can provide situations where learners can experience leadership manifesting and take an active role (Guthrie & Jenkins, 2018).

However, traditional role-plays in the classroom tend to develop linearly towards the intended outcome. In my experience as an instructor and a student, using role-plays as pedagogy leads to a repeating problem. Learners have no incentive to deviate from the exercise's learning outcomes and will almost always cooperate to reach the instructor's desired conclusion. These features diminish the potential role-playing has as a pedagogy by simulating an unrealistic environment where things almost always develop towards a best-case scenario and human emotions that could interfere with a real-life situation, such as frustration and anger, are entirely disregarded. Instead, we can counter this effect and increase realism and student engagement by applying basic role-playing game mechanics into the activity.

Role-Playing Games

Given the wide range of role-playing games that exist, it is hard to come up with an all-inclusive definition. Davis (2016) defines role-playing games as a "structured cooperative activity with predictable rules and an unpredictable outcome... where players are playing as characters they create in an open, interactive, responsive world facilitated by a game master" (para. 11). In other words, every RPG utilizes a unique system that brings order and consistency to the role-play at hand. A game facilitator, often referred to as a game master (GM), provides the game's setting, describes the consequences of the actions players take, and gives the game structure by ensuring the rules are followed (Sargeantson, 2020). While it is possible to use images and maps, and even miniatures to describe the environment, in my experience, a G.M. that is also a good storyteller can easily paint the setting into players' minds without the need for props.

Players interact with their environment through speech. These actions fail or succeed depending on the system the game uses. In most cases, the result is determined by rolling a 20-sided dice and beating a predetermined number set by the facilitator. The more challenging the task at hand, the higher the number that players have to beat. Whether players successfully roll the sought number, the narrative will continue in different directions. This feature pushes students to engage in dialogue, critical thinking, and concept co-exploration while encouraging them to adapt and practice democratic citizenship in the classroom.

Unlike traditional role-plays, RPGs place the learner in hypothetical situations where their actions have meaningful consequences that carry on, and thus they can reflect and learn from them. Role-playing games achieve this effect by utilizing storytelling and narration as tools to co-create a story, which have shown the potential to rearrange how learners conceptualize information and promote deeper understanding (Gressick & Langston, 2017).

Student Trainings

Role-playing activities are often used in all kinds of training settings because of their ability to put participants in the action (Agboola Sogunro, 2003). In my experience, I have seen role-plays used at resident adviser trainings, sexual assault prevention training programs, first-year orientation trainings, leadership education courses, among other settings. In environments like these, it is not uncommon for facilitators to use a role-playing activity where participants practice a fictional scenario and apply what they have learned. However, as already mentioned, one of the primary issues with brief, stand-alone classroom role-playing activities is that they tend to be linear and without long-term consequences. It is my experience that the majority of times, participants will arrive at the intended outcome because there is no reason not to, and there is a social incentive to cooperate. Learners' actions during the role-play tend to be inconsequential of whether they make wise choices or not. Most times, participants will soon reconcile and reach the expected scenario's solution regardless. As a result, the product is unrealistic compared to a real-life situation, where high tension moments are expected to occur

during a confrontation. This effect could potentially deprive learners of valuable learning opportunities.

However, if we combine the activity with RPG mechanics, things might not go as initially planned in most cases. Participants will have to rely on adapting and improvising to resolve a situation where the effect of their actions and other participants' reactions are, for the most part, out of their hands. RPGs may provide learners with practice experiences where they can interact with an ever-evolving, responding environment.

EXAMPLE AND DISCUSSION

RPGs as a content gamification pedagogy

The intention behind using role-playing as pedagogy is for participants to generate experiential learning from the activity by applying the concepts they are meant to learn (Agboola Sogunro, 2003). By using custom RPG mechanics instead of traditional classroom role-playing, participants experience a more uncertain, and thus realistic, scenario. This setting may lead them to take actions they usually would not explore under a traditional linear role-play, allowing them to generate deeper meaning from the experience after the role-play is over and observe more examples within the scenario's development. Consider the following example:

During a sexual assault prevention training, the facilitator creates and illustrates the setting where participants will role-play. First, they describe a house party. The music is loud, and people are drinking and dancing. The participants are currently located on the second floor of the house. The room is about 500 square feet, and the only piece of furniture around is the ping-pong table where some attendees are playing the drinking game, flip cup. Out of the corner of their eye, the participant sees their friend Wendy. She seems to be talking to a tall, muscular guy holding a red cup in one hand and has the other hand on Wendy's back. You can tell that Wendy has had a few too many drinks and is having trouble standing.

The role-play begins. From here on, the participant will be an active character within the story. Their goal will be to utilize one or more of the three Ds to intervene and make sure Wendy can make a sober decision, and if not, get her to safety. The participant will have to interact with the role-play characters and roll after every major action to determine its outcome. Unknown to the participant, the facilitator has set the requirement of a dice roll higher than 12 to convince Wendy and higher than 15 to convince the guy Wendy is talking to (Dallas).

Gamified Role-Play

Participant (P) - I do not feel comfortable being with direct confrontation, so I will text Wendy and ask her if she's okay.

Facilitator (F) - "Roll to see if she gets your message" (because the music is loud and it would be hard to notice a text at a party, the number to beat is 17). The participant rolls a 4. "With a four, you send the message, but because there is bad reception, you don't get a notification that she received it."

P - I will approach Wendy and ask her if she wants to get a drink with me.

F - "Roll to see if she is persuaded to come with you." *The participant rolls an 11.* "Unfortunately, she refuses to come with you. However, being this close to her, you realize she is not sober. She is slurring her words and making little sense with her response.

P - I will try one last thing before being direct. I am going to introduce myself to the guy she is talking to. *The participant then acts their introduction.*

F - The guy says his name is Dallas; he then goes back to talking and tells Wendy they should go back to his place and check out his trophy collection.

P - I will approach Wendy and ask for some privacy to talk with her about something important.

F - Wendy steps a few feet away from Dallas and asks you what is going on.

P - Hey, this guy is clearly trying to take you home, and you don't seem to be sober. Is this something you want

to do? I am just watching out for you. Why don't we step outside and get some fresh air and water instead?

F - "Roll for persuasion, but since you are showing her you are only looking out for her, roll with advantage, meaning you roll twice and choose the higher number." *The participant rolls for persuasion and gets a 17 and a 4, so they choose 17.* "With a 17, Wendy agrees to come with you, and you have successfully removed her from the situation.

Because of RPG mechanics, the role-play took unexpected twists and turns for the facilitator and the participant, bringing a higher challenge to the participant who had to engage in critical thinking and apply the things they learned from the training under a more realistic scenario. Furthermore, unlike a simulation which often has to have predetermined outcomes and may require several actors, the results given by dice-mechanics will always be different. It also allows the facilitator to singlehandedly bring several characters to life simultaneously or give response guidance to reacting role-players. These advantages, topped with a customizable difficulty level, ensure that the facilitator can adjust the experience as needed for participants to meet the learning objectives.

Moreover, because of the random aspect of the dice rolls, whoever role-plays the reactive character will have a natural incentive to act a certain way depending on the rolled result. This aspect saves everyone involved from the awkwardness of facilitators having to intentionally disagree with whatever approach the participant takes first for the sake of forcefully pushing participants to deeper levels of thinking. Instead, randomness will determine how characters react, making a more realistic environment for participants to explore, adapt, and learn.

Lastly, RPG mechanics have the flexibility to be implemented anywhere where a role-play activity might be used. These situations include but are not limited to leadership education courses, hazing prevention programs, first-year orientation, student organization advising, teaching assistant training, etc.

IMPLICATIONS

While the world of RPGs is vast and complex, filled with characters, monsters, riddles, quests, and challenges, one does not have to be well-versed in it to adopt some of its mechanics into a learning setting. There are hundreds of RPGs out there, each using a different system to bring rules and consistency into its game. Adopting one fully would require hours of unnecessary and overly complex work. After all, RPGs are first and foremost games. Instead, this is a call to implement RPG mechanics into a traditional role-play activity to increase its student immersion and the critical thinking skills needed to succeed. Therefore, to simplify the complexity of RPGs, I propose the following system:

- 1) **Develop well-written learning objectives** - As an educational activity, it should include clear and specific goals that students are pursuing. Is the use of a role-play justified? If so, how would succeeding at the role-play accomplish these objectives?
- 2) **Develop the parameters that will govern your role-play** - There are a few things you should always consider when gamifying a role-play activity:
 - a) How long do you want this role-play to be? It could be something short like the sexual assault prevention training example provided, or it could be something much longer, taking hours or whole sessions to accomplish. However, make sure the learning objectives justify the role-play's length.
 - b) How big is the world for learners to explore? This factor will vastly depend on your objectives. The role-play could be contained in a small room or a whole fantasy world filled with mysteries and creatures. Nevertheless, it is essential to consider that the bigger the world, the more preparation time the role-play will need.
 - c) What are the Non-playable characters (NPCs) that will inhabit the role-play? NPCs, like Wendy and Dallas, are characters controlled by the facilitator that live inside the role-play. In my experience, the best NPCs are those that facilitators create with an intended purpose that adds richness to the RPG experience. I also recommend fleshing out voices and personalities for these NPCs to bring them to life during the role-play.

- 3) **Develop a few prompts to get started, but be flexible.** RPGs are immersive in part because of the story that participants get to co-create. While it is necessary to have a starting point and a general idea of what you want your students to experience, you don't have to plan for absolutely everything. That flexibility allows learners to implement critical thinking into their situation and generate creative solutions to their problems.
- 4) **Set up a difficulty level for the goals learners must accomplish** - Using a scale from 1-20, with 1 being an outright miss and 20 being an absolute success, set a difficulty number needed to succeed at each objective. Make players roll a 20-sided die after every action that requires a success/fail result (e.g., convincing someone with an argument). The number they roll will determine the consequences of their actions. If they meet the difficulty number or surpass it, it is considered a success. Otherwise, their efforts have failed to reach their intended outcome (Google allows rolling virtual dice if you search for "roll d20"). The facilitator will make NPCs react positively or negatively to the player's actions and forward the role-play's narrative. In addition, there are two things the facilitator can implement to ease the scenario's difficulty or to reward/penalize players for good or bad decisions.
 - a) **Advantage and disadvantage rolls** - If a player has made a series of good or bad decisions, the facilitator can aid or harm their roll result by allowing players to roll twice and choose the best number (roll with advantage) or the worst one (roll with disadvantage). Another benefit of this mechanic is that it makes learner actions consequential, solving one of the main problems of traditional role-plays.
 - b) **Partial success** - The facilitator can help the story move forward by granting a partial success when the participant rolls a number close to the goal but not enough. In this scenario, participants achieve what they want, but at the cost of certain complications, e.g., the set difficulty is 12, and the player rolls an 11 while trying to convince Wendy to go for a drink with them. The facilitator allows for partial success, but at the cost of the player rolling with a disadvantage during their subsequent interaction because Wendy is now annoyed. Both partial success and advantage/disadvantage rolls can help facilitators gain more control over the role-play's reigns and help its progression while adding realism to the narrative.
- 5) **Anticipate questions from learners and have fun** - Facilitators should be prepared to answer details regarding the characters, the world, and the situation where the role-play takes place. Therefore, facilitators should plan in advance what some of these questions may look like and be ready. Part of the facilitator's job is to bring life to the role-play's world and aid student immersion in the activity.
- 6) **Allow time for reflection** - Given the luck factor that rolling dice brings, it may be that players do not always succeed in the scenario. However, this will also happen in real life and is, therefore, a valuable learning opportunity. Regardless of the scenario's outcome, using reflection will engage learners in cognitive processes that enhance experiential learning (Volpe White & Guthrie, 2016). After each role-play is over, facilitate a brief period for reflection to occur. Learners can gain valuable insight into their actions and discuss how things could develop during a real-life scenario. This moment also gives students who were observing the role-play a chance to participate in the activity.

CONCLUSION

Using RPG mechanics to improve role-playing pedagogy can increase engagement and transform the intended lesson into a more realistic experiential learning experience. This technique can also ease the tension of difficult topics through a more playful pedagogy that still carries the planned message. Nevertheless, by adding dice mechanics to determine the role-played decision outcomes, participants and facilitators do not know the role-play result before engaging in it. Instead, they get a more involved scenario where certain things are left to chance. This effect pushes the participant to be intentional about choices and employ critical thinking skills to adapt to an evolving situation.

In addition, the RPG mechanics give the participant intrinsic motivation to try out different approaches they may not have considered initially and provides an opportunity to emphasize the ability to adapt to an evolving

environment. Finally, role-playing scenarios can be highly customizable for different educational purposes. A creative facilitator can design a world as fictional or realistic as their imagination allows them, creating environments with different characters, problems, and objectives that enable learners to face countless situations, like practicing conflict management skills or experiencing social justice issues. Nevertheless, the experiences learners have by interacting with those worlds are real and capable of generating experiential learning along the way.

REFERENCES

- Agboola Sogunro, O. (2004). Efficacy of role-playing pedagogy in training leaders: some reflections. *The Journal of Management Development*, 23(4), 355–371. <https://doi.org/10.1108/02621710410529802>
- Beidatsch, C., & Broomhall, S. (2010). Is this the past? The place of role-play exercises in undergraduate history teaching. *Journal of University Teaching & Learning Practice*, 7(1), 1–20.
- Bonwell, C. C., & Eison, J. A. (1991). *Active Learning: Creating Excitement in the Classroom*. ASHE-ERIC Higher Education Report, Washington DC: School of Education and Human Development, George Washington University.
- Boghian, I., Cojocariu, V.-M., Popescu, C. V., & Măță, L. (2019). Game-based learning. Using board games in adult education. *Journal of Educational Sciences & Psychology*, 9(1), 51–57.
- Davis, A. (2016). *What exactly is a tabletop role-playing game, anyway?* Wheelhouse Workshop. <http://wheelhouseworkshop.com/2016/04/27/what-exactly-is-a-tabletop-role-playing-game-anyway/>
- Dominguez, A., Saenz-de-Navarrete, J., de-Marcos, L., Fernandez-Sanz, L., Pages, C., & Martinez-Herrera, J.-J. (2013). Gamifying learning experiences: Practical implications and outcomes. *Computers and Education*, 63, 380–392. <https://doi.org/10.1016/j.compedu.2012.12.020>
- Furdu, I., Tomozei, C., & Kose, U. (2017). Pros and cons gamification and gaming in classroom. *Broad Research in Artificial Intelligence and Neuroscience*, 8(2), 2017, 56–62 <http://arxiv.org/abs/1708.09337>
- Gressick, J., & Langston, J. B. (2017). The Guided Classroom: Using Gamification to Engage and Motivate Undergraduates. *Journal of the Scholarship of Teaching & Learning*, 17(3), 109–123. <https://doi-org.proxy.lib.fsu.edu/10.14434/v17i3.22119>
- Guthrie, K. L., Phelps, K., & Downey, S. (2011). Virtual worlds. *Journal of Leadership Studies (Hoboken, N.J.)*, 5(2), 6–13. <https://doi.org/10.1002/jls.20214>
- Guthrie, K. L., & Jenkins, D. M. (2018). *The role of leadership educators: transforming learning*. IAP, Information Age Publishing, Inc.
- Hamari, J. (2013). Transforming homo economicus into homo ludens: A field experiment on gamification in a utilitarian peer-to-peer trading service. *Electronic Commerce Research and Applications*, 12(4), 236–245. <https://doi-org.proxy.lib.fsu.edu/10.1016/j.elerap.2013.01.004>
- Hanus, M., & Fox, J. (2015). Assessing the effects of gamification in the classroom: A longitudinal study on intrinsic motivation, social comparison, satisfaction, effort, and academic performance. *Computers and Education*, 80, 152–161. <https://doi.org/10.1016/j.compedu.2014.08.019>
- Quaye, S. J., & Harper, S. R. (2015). *Student engagement in higher education: theoretical perspectives and practical approaches for diverse populations* (Second edition.). Routledge.
- Kapp, K. M., Blair, L., & Mesch, R. (2014). *The Gamification of Learning and Instruction Fieldbook: Ideas Into Practice*. Pfeiffer.
- Koivisto, J., & Hamari, J. (2014). Demographic differences in perceived benefit from gamification. *Computers in Human Behavior*, 35, 179e188. <http://dx.doi.org/10.1016/j.chb.2014.03.007>

- Marinho, A., Ibert Bittencourt, I., dos Santos, W. O., & Dermeval, D. (2019). Does gamification improve flow experience in classroom? An analysis of gamer types in collaborative and competitive settings. *Revista Brasileira de Informática Na Educação*, 27(2), 40–68. <https://doi-org.proxy.lib.fsu.edu/10.5753/RBIE.2019.27.02.40>
- McKeachie, W. J. (1986). *Teaching tips: A guidebook for the beginning college teacher*. Lexington, MA: D.C. Heath & Co.
- Melton, K. K., Larson, M., & Boccia, M. L. (2019). Examining couple recreation and oxytocin via the ecology of family experiences framework. *Journal of Marriage & Family*, 81(3), 771–782. <https://doi-org.proxy.lib.fsu.edu/10.1111/jomf.12556>
- Przybylski A., K., Weinstein N., Murayama K., Lynch M. F., & Ryan R. M. (2012). The ideal self at play: The appeal of video games that let you be all you can be. *Psychological Science*, 23(1), 69–76. <https://doi-org.proxy.lib.fsu.edu/10.1177/0956797611418676>
- Sargeantson, E. (2020, May 22). *What is a dungeon master? What do the best ones do?* My Kind of Meeple. <https://mykindofmeeple.com/what-is-a-dungeon-master/>
- Sanchez, D. R., Langer, M., & Kaur, R. (2020). Gamification in the classroom: Examining the impact of gamified quizzes on student learning. *Computers & Education*, 144. <https://doi-org.proxy.lib.fsu.edu/10.1016/j.compedu.2019.103666>
- Thongmak, M. (2019). The student experience of student-centered learning methods: Comparing gamification and flipped classroom. *Education for Information*, 35(2), 99–127. <https://doi.org/10.3233/EFI-180189>
- Volpe White, J., & Guthrie, K. (2016). Creating a meaningful learning environment: Reflection in leadership education. *Journal of Leadership Education*, 15(1), 60–75. <https://doi.org/10.12806/V15/I1/R5>