

## Gamification in the Military

*Matthew N. O. Sadiku*

Department of Electrical & Computer Engineering, Prairie View A&M University, Prairie View, TX USA

*Uwakwe C. Chukwu*

Department of Engineering Technology, South Carolina State University, Orangeburg, SC, USA

*Janet O. Sadiku*

Juliana King University, Houston, TX, USA

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**Abstract:** In gamification, elements of game design are used to make an experience more engaging in a non-game context such as business and the military. The role of gamification in military training is transforming the way our armed forces prepare for the modern battlefield. Gamification in the military training programs is becoming more engaging, effective, and efficient. The marriage of gamification and military training is a win-win situation. We can use gamification to boost training and take individual differences into account. This paper provides an overview on gamification in the military with examples.

**Keywords:** games, gamification, military, gamification in the military.

### INTRODUCTION

Game has become a significant part of human's culture. Today, gaming has become far more mainstream than ever before. Games have incredible power. They have proven that they can challenge society's preconceptions, change lives, and even revolutionize our society. Games tend to create intense motivation and authentic engagement for participants. They have evolved in graphic integrity, sophistication, and technological design [1]. Most games are now accessible on all sorts of devices. The US military uses video games such as America's Army and Full Spectrum Warrior as training tools. The reasons for this use include cost-effectiveness, safety and security, customization and flexibility, realism, efficiency, repeatability, and accessibility. The military continues to experiment the use of video games for training purposes [2].

Gamification is applying game mechanics and game design techniques to engage and motivate people to achieve their goals. It taps into the basic human desires and needs of the users' impulse which revolves around the concept of status, achievement, competition, and reward. Game elements are the building blocks of gamification. Although Gamification does not equal "playing games," everyone should play games a few times a month. Personal digital devices has made educational games accessible to everyone. The uses of gamification are universal and can be applied in any situation. Gamification has become a new trend in the game industry [3]. This phenomenon is taking the world by storm and the American Armed Forces are no exception. Figure 1 shows different uses of games.

The gaming companies have invested millions to develop user-friendly videos games. To succeed, the video game industry must offer highly advanced technologies at affordable prices. This is partly why they are so attractive to the military. The military has long been an object of the video game industry's fascination [4].

## WHAT IS GAMIFICATION?

The word "gamification" was coined in 2002 by Nick Pelling, a British inventor, but it did not gain popularity until 2010. The idea of gamification came from the fact that the gaming industry was the first to master human-focused design and we are now learning from games. Gamification is not a new concept, but it is deeply rooted in marketing endeavors, such as points cards, grades, and degrees, and workplace productivity [5]. Researchers became interested in gamification because the concept could be implemented in different ways to motivate people. Gamification has become hugely popular in all walks of life, including education, business, and workplace.

The gamification can be viewed in two ways: (1) adopting the act of playing a video game into everyday use, (2) the act of using game elements to make non-games more enjoyable. It is applied in education, business, sports, marketing, and finance. It is currently one of the largest trends in education. Traditional education has been found to be ineffective in motivating and engaging many students. Gamification is cutting-edge approach which is producing positive results in every region of the world.

Everyone loves games. Gamification just takes advantage of that innate desire. It can make practice fun. It can make the routine less dull. Online games have become bolder and more diverse. Gamification involves the introduction of gameplay to a traditionally non-game environment. Its goal is to encourage user engagement.

The most popular gamification features include [6,7]:

- *Points*: They represent progress and accomplishment; they are often used to obtain rewards. Learners earn points for completing tasks or achieving a certain result.
- *Leaderboards*: Learners can compete to earn the most points and rank highest out of their peers. Leaderboards can be an exciting and dynamic addition to the learning experience.
- *Badges*: They are similar representation to points, often also representing a status. Reward completion, good results, and exemplary behavior with virtual badges that learners can accumulate on their profile.
- *Rewards*: Beyond badges and points, real-life rewards like vouchers and discounts can further incentivize participation.

These elements can be used to gamify your app.

## GAMIFICATION MILITARY

War is a nightmare. It is a violent means of achieving a political objective, which is mostly self-centered. The defense industry is asking for reduction in the number of humans needed in combat. For example, DARPA shared that they want more artificial intelligence, consisting of ground robots operating alongside warfighters. The robot can do this all without suffering or death. They are taking soldiers out of harm's way and increasingly replacing them with more unmanned combat vehicles [8]

Military institutions worldwide have been bringing innovations for many years. As illustrated in Figure 2, the military career is surrounded by gamification all the way [9]. Few workplaces can boast a culture as the military. Solders go through ranks: Captain, Colonel, Major, Commander, Brigadier General.

Gamification and 3D training significantly increase combat effectiveness by increasing the level of training provided to military personnel who operate the equipment. They are being used by the Army to address training challenges including providing immersive training for the tanks. The best part of gamification in the military is how much of it can now be done remotely. In 2008, the US Army invested \$50 million over five years on games and gaming systems designed to prepare soldiers for combat.

## APPLICATIONS OF MILITARY GAMIFICATION

Gamification involves taking some of the things that make gaming attractive, addictive, interesting and challenging, and applying them to those non-gaming areas such as business, education, etc. The military has been utilizing gamification solutions for its recruits to digest and assimilate information more quickly and efficiently. A lot of this upskilling in the military comes down to physical training. The following are just typical applications of gamification in the military.

- *Training:* When it comes to military training, gamification is a great match made in heaven. The use of serious games in military training has become a force to be reckoned with. Video games can be used to gamify all areas of training, such as language and cultural training, making it more engaging and effective. Serious games offer a risk-free space for trainees to experiment, make mistakes, and learn without real-world consequences. They can be used to teach a wide range of skills, from language and cultural understanding to logistics and strategy. Gamification can boost soldier training, while taking individual differences into account. Figure 3 displays some soldiers in training [10]. The following factors make gamification such a powerful tool for military training [11]:
- *Enhanced motivation:* Gamification taps into our innate love for competition, making learning more engaging and enjoyable.
- *Accelerated learning:* By breaking down complex concepts into digestible, game-like experiences, trainees can grasp new skills more quickly.
- *Immediate feedback:* Gamified environments offer real-time feedback, allowing trainees to learn from their mistakes and make adjustments on the fly.
- *Recruitment:* Gamification in recruiting is buzzing in the human resource department. We could gamify certain elements of the recruitment process. Gamification is not new to recruitment. For example, the French Post Office had problems retaining people. So it gamified what it is like to be a post office worker. The result was that it allowed people to self-filter; those that actually got in did stay. The military aimed to replicate success of the French Post Office. Gamification Nation designed a gamified application to simulate the necessary skills and tasks to make the person more informed about the demands of the role. This ultimately motivated the right people to go in to the Royal Navy [12]. The America's Army video game has long been used as a recruitment and training tool. The US military came up with an ingenious idea to recruit the most talented prospects. In hiring, gamified assessments are used to discern a candidate's personality traits. With customized recruitment gamification tools, employers can attract a broad range of candidates, as shown in Figure 4 [13]. Using gamification in human resources is a win-win solution for both employers and the candidates.
- *Learning and Development:* The military has always been an advocate of using games in learning. So they use all kinds of game-based techniques for learning, and development, thereby upskilling in the military. The military has been utilizing gamification solution for its recruits to digest and assimilate information more quickly and efficiently. Gamification mixed with remote learning is extremely helpful for medics and military engineers. Gamified learning ensures realism in virtual training and ensures more knowledge sharing. It can be applied to any training needed to include learning how to operate a vehicle. Instead of instructors teaching students all day, they are moving from passive to active learning experiences in the classroom. Figure 5 show the learning gamification options [14].
- *Simulations:* The use of simulations could be regarded as the "original" and oldest form of gamification in the military. Simulation is an approach the military uses to test people's ability to handle high-end

equipment like fighter planes. Simulation game training is heavily integrated because it allows for soldiers to experience a virtual reality with realistic combat situations without any of the dangers. The same simulation technology has been used to remove soldiers from danger entirely. In the past, the military focused mostly on more physical simulations. However, modern-day simulations can also be accessed via mobile devices. The US military is using a wide variety of video games and simulations, including virtual reality, augmented reality, and other advanced technologies, to train soldiers. Military officers can use remote gamification to practice simulations where they handle managing resources.

- *Combat Readiness:* For the military, readiness for combat is the number one priority. Defense Agencies worldwide rely on well-trained teams to maintain their strategic advantage on the battlefield through combat readiness. The Ukraine war has shown how critical training is to combat readiness. The gamification of training is a new tool used to support readiness for combat [15]. Figure 6 shows some soldiers in combat [9].

## BENEFITS

When it comes to the benefits of gamification, the sky is the limit. Gamification can incorporate many forms of recognition like military awards such as increased pay, ribbons, awards, badges of honor, and medals. It is the best way to hammer in the essential military skills. It increases motivation when workers are given rewards and receive validation for their efforts. Gamified learning makes training realistic, accurate, dynamic, visual, and available in real-time, which is critical for today's mission readiness goals. We can use gamification to boost training, while taking individual differences into account. Also, gamification in human resources can project an innovative image of an employer, reveal people's interest in job openings, and predict future job performance of the applicants,

Other benefits of gamification in the military include [16]:

- ✓ Gamification provides an engaging learner experience, leading to behavior change that motivates learners
- ✓ It offers an immersive learning experience which does wonders for motivating people to aim for peak performance and positive behavioral change
- ✓ It has been a driving force to help enlist recruits
- ✓ It is widely used for learning and development in the armed forces
- ✓ It can give people the validation they need to maintain high-level sharpness and success
- ✓ It is being used to attract, select, on-board , and develop employees
- ✓ It keeps up the team spirit
- ✓ 24/7 access to individual training for personnel to practice in a realistic, virtual environment
- ✓ Immediate remote support by experts around the globe who are also online and using gamification and 3D training software

## CHALLENGES

Video games have been blamed for many reasons in our society. They have contributed to violence in American society. Games can get their hooks into people. A criticism of massive-multiplayer games is that it encourages players to remain inside playing rather than outside exercising. The same applies to the simulations the military has relied on.

Gamification does not reliably lead to better training outcomes. Some organizations have not embraced gamification due to a lack of clarity about what it can do for them, how to implement it, and how it benefits them. A lot of HR professionals and their organizations are skeptical about embracing gamification recruitment tools.

## CONCLUSION

Gamification is all around us. It is the art of incorporating game-like elements into non-game contexts such as education, business, and warfare. As technology continues to evolve, one can expect gamification to play a more prominent role in the future of military training. Gamified training will make soldiers better equipped to handle the rigors of real-world combat scenarios. Gamification will always be relevant and effective. In the future, warfare will be increasingly fought by engineers, scientists, accountants, and politicians. Accountants and politicians will decide if they can afford more unmanned vehicles. For more information about military gamification, one should consult the books in [17,18] and the following related journals: *Journal of Games*, *Games Art*, and *Gamification* and *National Defense Magazine*.

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Figure 1. Different uses of games.



Figure 2. The military career is surrounded by gamification all the way [9].



**Figure 3. Some soldiers in training [10].**



**Figure 4. A broad range of candidates that employers can attract using gamification [13].**



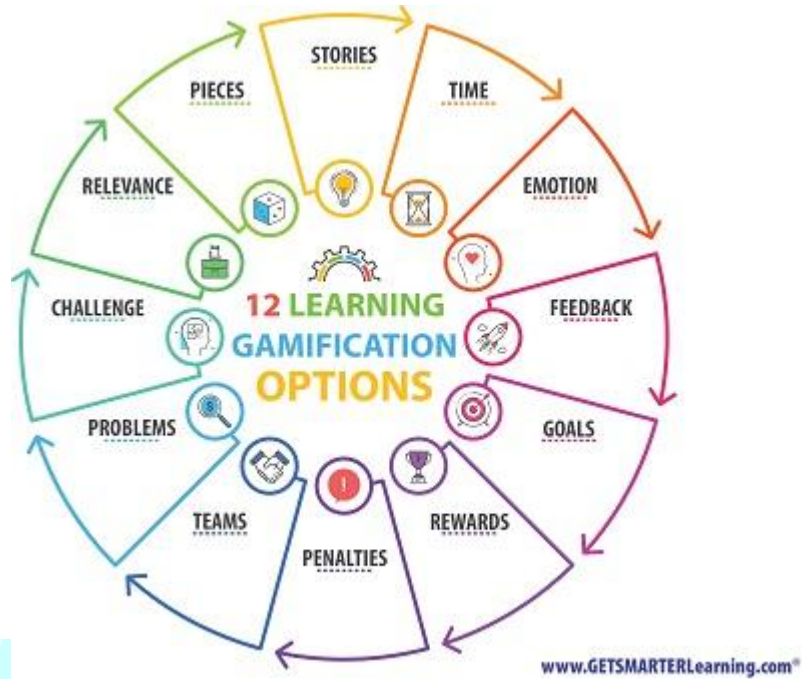


Figure 5. The learning gamification options [14].



Figure 6. Some soldiers in combat [9].