

THE GAMIFICATION PYRAMID: A CONCEPTUAL FRAMEWORK FOR ADULT LEARNING AND ORGANIZATIONAL READINESS

Dimitar Jovevski

Faculty of Economics – Skopje, University Ss. Cyril & Methodius, North Macedonia,
dimitar.jovevski@eccf.ukim.edu.mk

Marina Mijoska

Faculty of Economics – Skopje, University Ss. Cyril & Methodius, North Macedonia,
marina.mijoska@eccf.ukim.edu.mk

Tea Josimovska

Institute of Economics – Skopje, University Ss. Cyril & Methodius, North Macedonia,
tea.josimovska@ek-inst.ukim.edu.mk

Abstract: One of the most talked-about tactics in corporate training, education, and organizational development is gamification. Gamification aims to promote desirable behaviors, maintain engagement, and encourage participation by incorporating game design elements—such as quests, challenges, leaderboards, badges, and points—into non-gaming contexts. Organizations are looking for scalable ways to improve readiness and learning outcomes, and learners and employees are already used to interactive and reward-driven systems in their everyday digital lives, which explains why gamification is being adopted quickly across sectors. However, despite its increasing popularity, gamification research is still dispersed. Current models frequently offer descriptive taxonomies of user types or motivational drivers, but they are unable to explain how gamification systems transform from superficial rewards into long-lasting frameworks that encourage sustained engagement and significant results. The literature is dominated by a few key frameworks. Eight fundamental human motivational factors are identified by Yu-kai Chou's Octalysis Framework, which also makes a distinction between positive and negative motivators and intrinsic and extrinsic drivers. A systematic viewpoint that describes how gamification components work together over time to create scalable, sustainable engagement is what's lacking; this gap is especially noticeable in programs for organizational readiness and adult learning. By presenting the Gamification Pyramid as a helpful interpretive tool that enhances rather than replaces current models, this paper fills that gap. The Pyramid divides gamification into three levels: dynamics, which stand for the emergent psychological states of mastery, trust, collaboration, and purpose that maintain motivation over time; mechanics, which arrange and link those components into meaningful pathways; and components, which offer the obvious building blocks of engagement. The benefits of this progression are particularly noticeable in organizational and adult learning settings. Adult learners who are juggling many obligations rarely pay attention to badges and points, even though they can produce temporary compliance. To show progress and relevance, strategies like feedback systems, staged challenges, and group projects are crucial. But in the end, only dynamics—the higher-order results of mastery, trust, and cooperation—can generate long-lasting motivation that complements corporate strategy and career advancement. The paper places the Pyramid in the larger context of models like Octalysis, Hexad, Werbach and Hunter's taxonomy, and Nicholson's meaningful gamification through an organized review of gamification research. This positioning is summarized in two comparative tables. The first explains the special value of a hierarchical progression lens by contrasting major frameworks based on their focus, advantages, and disadvantages. With applications ranging from compliance training and onboarding to upskilling, leadership development, and organizational transformation, the second converts these insights into useful suggestions for creating gamification in adult learning and organizational contexts.

Keywords: Adult Learning, Gamification, Motivation, Framework, Gamification Pyramid

1. INTRODUCTION

In order to encourage participation, boost engagement, and shape desired behaviors, gamification has become a popular strategy in government, business, and education. Gamification, which Deterding, Dixon, Khaled, and Nacke (2011) define as the use of game design elements in non-gaming contexts, has been used in a variety of fields, from employee training and consumer loyalty programs to public sector transparency initiatives. Its capacity to blend intrinsic motivators associated with mastery, autonomy, and social connection with extrinsic motivators like points and rewards is a major factor in its popularity (Ryan & Deci, 2000). Even though gamification has shown encouraging results, it is frequently applied in disjointed ways. According to Hamari, Koivisto, and Sarsa (2014), many initiatives are still restricted to superficial components like leaderboards, badges, and points, which may result

in short-term compliance but fall short of producing long-term behavioral change. This challenge is particularly visible in adult learning, where learners bring prior knowledge, face time constraints, and need strong connections to real-world objectives. Gamification's ability to spark initial motivation is well established, but the key challenge is how to scale engagement into sustained learning, skill development, and organizational readiness. Recent research confirms that for adults, the effectiveness of gamification depends not only on external triggers but also on its ability to connect to deeper andragogical principles and professional goals (Lagopati, Koutromanos, & Lagopati, 2025; Rott et al., 2024).

Current gamification models only offer a portion of the solutions. The Octalysis Framework (Chou, 2015) provides a comprehensive taxonomy of gamified behaviors by identifying eight fundamental motivational drives, while the Hexad framework (Tondello et al., 2016) emphasizes diversity among gamification user types. Motivation theories such as Expectancy Theory (Vroom, 1964), Flow Theory (Csikszentmihalyi, 1990), and Self-Determination Theory (Deci & Ryan, 1985) are frequently used to interpret gamification outcomes. However, these models often lack a hierarchical structure that explains how basic game elements scale into complex psychological dynamics. Meta-analyses conducted in recent years highlight this limitation, showing that gamification produces significant positive effects on engagement and achievement but that outcomes are highly contingent on design factors such as duration, user type, and context (Li, Ma, & Shi, 2023; Triantafyllou, Georgiadis, & Sapounidis, 2025).

To address these shortcomings, the Gamification Pyramid is proposed as a conceptual framework that highlights progression and hierarchy. The Pyramid divides gamification into three levels: (1) components, such as points, badges, and leaderboards; (2) mechanics, which are the rules, feedback systems, and progression structures that shape interaction; and (3) dynamics, which represent higher-order psychological states such as trust, mastery, teamwork, and motivation that emerge from consistent engagement. This approach reflects findings from both education and organizational research, where gamification has been shown to be most effective when it supports not just extrinsic compliance but also intrinsic mastery, collaboration, and long-term learning outcomes (Zainuddin, Chu, & Othman, 2024; Slamet & Chen, 2025). The framework therefore builds on existing models while emphasizing scalability and sustainability. It contributes theoretically by situating gamification within a hierarchical progression model and practically by offering educators, trainers, and policymakers a structured roadmap for creating systems that go beyond fleeting incentives to achieve long-term adult learning and organizational objectives.

2. METHODOLOGY

This paper's foundation is a methodical analysis of the body of research on adult learning, motivation theories, and gamification. In order to analyze how gamification frameworks are used in organizational and educational contexts and to look at how the Gamification Pyramid can be positioned within this larger body of work, the objective was to gather and synthesize knowledge from previous studies. Using academic databases and conference proceedings, the process started by finding pertinent sources. It concentrated on research that addressed gamification design elements, user motivation, and applications in workforce readiness or adult learning. Since conceptual models, taxonomies, or theoretical lenses are the most pertinent for comprehending how gamification can be organized and scaled, they were given precedence over other works. After the sources were gathered, a thematic review of the literature was conducted. Three topics received particular attention: (1) how game mechanics and elements influence user engagement; (2) the psychological foundations of gamification in light of motivation theories; and (3) the difficulties of implementing gamification in organizational and adult learning settings. It was possible to determine the advantages and disadvantages of the current methods thanks to this process. In order to position the Gamification Pyramid as a helpful method of comprehending how gamification can be used in practice, insights from the literature were finally synthesized. The methodology treats the Pyramid as a lens that can be discussed in light of previous research rather than as a recently created framework. This enables a well-rounded contribution that emphasizes the Pyramid's applicability while placing it within accepted arguments and conclusions in the gamification literature.

3. LITERATURE REVIEW

Using theories of learning, motivation, and human-computer interaction, gamification research has grown dramatically over the past 20 years. Although gamification is widely acknowledged to boost participation and engagement, designing successful systems necessitates a thorough comprehension of the underlying models and frameworks. With an emphasis on the Octalysis framework, the Gamification User Types Hexad, and their links to more general theories of motivation, this section examines the most significant theoretical viewpoints and gamification models.

Motivational psychology forms the basis of gamification. The self-determination theory (Deci & Ryan, 1985; Ryan & Deci, 2000) makes a distinction between extrinsic motivation, which is motivated by rewards from outside sources, and intrinsic motivation, which is motivated by curiosity, autonomy, and mastery. Many gamification systems run the risk of depending too much on extrinsic rewards, like badges and points, which can increase compliance temporarily but not maintain engagement after rewards are taken away (Deci, Koestner, & Ryan, 1999). Therefore, the goal of successful gamification designs is to reinforce intrinsic motivators that are consistent with relatedness, competence, and autonomy.

Another dimension is added by Flow Theory (Csikszentmihalyi, 1990), which emphasizes the harmony between skill and challenge. Learners can stay in a state of flow where tasks are neither too easy nor too difficult when they are in gamified environments that dynamically change the level of difficulty. Serious games and adaptive learning systems have both embraced this idea. Another helpful viewpoint is offered by Expectancy Theory (Vroom, 1964), which contends that people are motivated when they think that performance results from effort, effort results in results, and results are valuable. These expectations are directly addressed by gamification features like progress bars and instant feedback, which strengthen the connection between action and reward. The majority of contemporary gamification frameworks, which aim to convert psychological insights into useful design structures, are based on these motivational theories.

Other frameworks

Yu-kai Chou's Octalysis Framework is one of the most well-known and frequently referenced gamification models (Chou, 2015). Eight "core drives" of human motivation are identified by Octalysis: (1) Epic Meaning & Calling, (2) Development & Accomplishment, (3) Empowerment of Creativity & Feedback, (4) Possession & Ownership, (5) Relatedness & Social Influence, (6) Scarcity & Impatience, (7) Unpredictability & Curiosity, and (8) Loss & Avoidance. Octalysis's strength is its comprehensive viewpoint. It stresses both positive and negative motivators, as well as intrinsic and extrinsic drives, and goes beyond basic reward systems. For instance, "scarcity" and "loss avoidance" are extrinsic levers, whereas the "epic meaning" core drive is closely aligned with intrinsic purpose. Octalysis provides a sophisticated framework for balancing various motivational levers by distinguishing between "white hat" drives (positive, long-term) and "black hat" drives (pressuring, short-term).

Octalysis has been criticized for being too general and lacking empirical support, despite its widespread use. Despite their intuitive appeal, the eight drives are not always operationalized in quantifiable ways, according to scholars (Xu, 2011; Hamari, Koivisto, & Sarsa, 2014). Additionally, the framework is more of a checklist than a hierarchy, which makes it challenging to evaluate how various components work together to produce sustained engagement.

In addition to Octalysis, Marczewski (2015) developed the Gamification User Types Hexad, which Tondello et al. (2016) operationalized. Achievers, Socializers, Free Spirits, Philanthropists, Players, and Disruptors are the six archetypes of gamification users identified by the Hexad. Since different people react differently to the same gamified elements, the Hexad framework places more emphasis on user diversity than Octalysis, which is more concerned with design levers. For instance, whereas Socializers are driven by recognition and community, Achievers thrive on challenges and advancement.

Since the Hexad framework addresses relatedness (Socializers, Philanthropists), competence (Achievers), and autonomy (Free Spirits), it is highly compatible with Self-Determination Theory. Additionally, it records counter-motivations (Disruptors) and extrinsic motivation (Players). According to empirical studies, gamification components can be more effective when they are customized for different user types (Codish & Ravid, 2017). But like Octalysis, the Hexad leaves open the issue of scalability in organizational and adult learning contexts by failing to offer a clear framework for how gamification components build upon one another over time.

Werbach and Hunter (2012) put forth a useful taxonomy that makes a distinction between mechanics (rules, competition, feedback), dynamics (emergent behaviors, emotions, relationships), and components (points, badges). Although this three-level taxonomy is frequently used descriptively rather than analytically, it clearly highlights hierarchy. According to Nicholson (2015), meaningful gamification emphasizes how crucial it is to match gamification with user values, autonomy, and long-term goals. While Zichermann and Cunningham (2011) concentrated on gamification for customer engagement and business loyalty, Kapp (2012) emphasized the importance of storytelling and narrative in capturing learners' attention. Although the scope of these models varies, they all acknowledge that gamification involves creating experiences that appeal to human motivation rather than merely offering superficial rewards. A common drawback is that most models only adequately describe how various layers interact systematically at the level of individual elements (components) or motivational categories.

Implications for Adult Learning and Organizational Readiness

There are particular difficulties when gamification is used in adult learning environments. Adults frequently approach learning with extrinsic objectives like compliance or career advancement, but sustained engagement

necessitates alignment with intrinsic motivators like autonomy, relevance, and mastery (Knowles, 1980). Gamification in organizational readiness programs, like digital transformation projects, must strike a balance between short-term rewards and long-term behavioral shifts. Although frameworks like Octalysis and the Hexad offer insightful information, it can be challenging to create scalable interventions that go beyond temporary involvement due to their lack of structural hierarchy.

The potential of hierarchical viewpoints that explicitly connect components, mechanics, and dynamics—like Werbach and Hunter's taxonomy and the Gamification Pyramid lens—is highlighted by this gap in the literature. These methods are especially applicable to adult education, where organizations need to create gamification systems that advance from simple engagement tools to more profound motivational dynamics, and where surface-level rewards are insufficient.

4. DISCUSSION

Although the reviewed literature emphasizes the diversity of current gamification frameworks, it also identifies significant drawbacks when used in organizational and adult learning settings. The psychological underpinnings of engagement are explained by theories like Self-Determination Theory, Flow, and Expectancy, while models like Octalysis and the Hexad have offered insightful information about user diversity and motivational drivers. These methods, however, usually stay descriptive rather than structural. They pinpoint what drives people or what inspires them, but they don't offer as much insight into how gamification systems progress from basic design components to long-term tactics that can foster engagement. This restriction has real-world applications, especially in adult education settings where students frequently have conflicting priorities, time restraints, and realistic objectives, as well as in corporate settings where involvement needs to be converted into quantifiable readiness or transformation results. To bridge this gap, the Gamification Pyramid offers a helpful interpretive framework. By making clear the path from components to mechanics and finally to dynamics, it enhances current frameworks rather than posing as a rival model. At the most fundamental level, gamification's most obvious elements—points, badges, and leaderboards—dominate many early implementations. When used alone, they run the risk of producing only surface-level or transient motivation, despite their demonstrated effectiveness in fostering initial engagement and brief spurts of participation. In adult learning, where extrinsic tokens seldom sustain effort without deeper relevance, this issue—referred to in the literature as "pointification"—becomes particularly acute.

The significance of mechanics—the laws and feedback systems that turn disparate elements into meaningful experiences—is emphasized at the next level of the pyramid. While mechanics give organizations structure for compliance, skill development, or transformation initiatives, they also show adult learners that participation results in progress and outcomes. The higher-order psychological states of mastery, trust, cooperation, and purpose that result from consistent engagement are called dynamics, and they are at the top of the pyramid. For adults, who are more likely to stay involved when learning fosters confidence, relevance, and growth, dynamics are the most important results and are consistent with intrinsic motivation.

The Pyramid's function becomes more evident when compared to other frameworks. Although Octalysis identifies a large number of motivational drives, it provides minimal sequencing guidance. Although it lacks structural design logic, the Hexad emphasizes user diversity. Although Werbach and Hunter's taxonomy presents a hierarchy, it is typically used in a descriptive manner. In his meaningful gamification, Nicholson downplays structural elements while highlighting autonomy and purpose. These viewpoints are combined in The Pyramid to create a hierarchical progression that links design components to emergent results. In organizational readiness and adult learning, where sustainability is more significant than novelty, this progression is especially beneficial.

To illustrate these relationships, Table 1 compares key gamification frameworks, outlining their scope, strengths, limitations, and relevance for adult learning.

Table 1. Comparison of Major Gamification Frameworks

Framework	Focus/Scope	Strengths	Limitations	Relevance
Octalysis (Chou, 2015)	Eight “core drives” of motivation	Holistic, covers intrinsic & extrinsic motivators; intuitive	Broad taxonomy, lacks hierarchy; limited empirical testing	Identifies motivational levers but less guidance on progression
Hexad (Marczewski; Tondello et al., 2016)	Six user types, personalization	Recognizes user diversity; aligns with SDT (autonomy, competence, relatedness)	Focuses on <i>who</i> is motivated, less on <i>how</i> systems scale	Tailors gamification to learner profiles but limited for systemic design
Werbach &	Components–	Introduces hierarchy;	Often descriptive;	Highlights progression

Hunter (2012)	Mechanics–Dynamics taxonomy	widely used in practice	weakly tied to motivation theory	but underdeveloped for adult learning
Nicholson (2015)	Meaningful gamification	Emphasizes purpose, autonomy, long-term values	Lacks structural connection to elements/mechanics	Guards against “pointification,” supports relevance
Gamification Pyramid	Components → Mechanics → Dynamics	Clarifies progression; integrates with motivation theories; emphasizes sustainability	Conceptual, requires empirical validation	Strong fit for adult learning and readiness, emphasizes trust, mastery, collaboration

Source: Own Research

Beyond comparison, the discussion also points to practical recommendations. In adult learning and organizational programs, gamification must be tailored not only to learner types but also to objectives. Compliance training requires different emphasis than leadership development, and onboarding differs from continuous upskilling. Table 2 summarizes design recommendations across contexts.

Table 2. Gamification Design Recommendations for Adult Learning and Organizations

Context	Primary Focus	Recommended Emphasis	Example Application
Compliance Training	Accuracy & completion	Mechanics that track progress and certify mastery	Badges for completion; staged mastery checkpoints
Onboarding Programs	Engagement & retention	Components that build familiarity; simple mechanics for feedback	Points for first tasks; introductory leaderboards
Upskilling / Reskilling	Skill development	Mechanics that scaffold progression; dynamics of mastery	Skill trees; adaptive challenges; progress dashboards
Leadership Development	Long-term growth	Dynamics such as collaboration, trust, and purpose	Team quests; narrative-based simulations; peer recognition
Organizational Transformation	Culture & readiness	Balanced use of all three levels; strong focus on dynamics	Quests linked to strategic goals; collaborative challenges

Source: Own Research

Together, these tables position the Gamification Pyramid not as a stand-alone alternative but as a structural lens that helps practitioners and researchers make sense of how existing models operate in practice, and how gamification can be designed more effectively for adults and organizations.

5. CONCLUSION

The development of gamification research has been reviewed in this paper, with an emphasis on how it relates to organizational preparedness and adult learning. The literature demonstrates that many approaches remain fragmented or descriptive, even though frameworks like Octalysis and the Hexad offer insightful information about user diversity and motivational drivers, and taxonomies like Werbach and Hunter's introduce a hierarchical vocabulary. They frequently pinpoint what drives people or what motivates them, but they don't offer much advice on how gamification systems should be set up to progress from short-term rewards to long-term engagement tactics. In light of this, the Gamification Pyramid has been proposed as a helpful interpretive tool that makes the transition from components to mechanics and finally to dynamics more understandable. Its value is made evident by placing the Pyramid next to other models, which show how gamification can progress from obvious design features to more profound psychological states like trust, mastery, and teamwork—all of which are crucial in adult and organizational settings. This paper has demonstrated how the Pyramid enhances current frameworks by providing a structural viewpoint that connects elements, mechanics, and results, rather than replacing them.

There are important practical ramifications. The Pyramid emphasizes for organizations that compliance programs need to be designed with mechanisms that show advancement and dynamics that support professional confidence and a common goal, rather than depending only on badges or points. The Pyramid emphasizes the necessity of creating gamified systems for adult learning that are in line with adult learners' realities and intrinsic motivation in order to guarantee both immediate and long-lasting engagement. The Pyramid's place in the body of literature as well as the useful approaches for implementing gamification in a variety of settings, including compliance,

onboarding, upskilling, leadership development, and organizational transformation, are further demonstrated by the two comparative tables provided in this paper.

However, there are still restrictions. Like many frameworks, the Pyramid is conceptual and needs to be verified by empirical data. Future studies could examine the practical application of its hierarchy and determine whether the progression from components to dynamics is discernible in various cultural and educational contexts. To determine whether gamified interventions created with this structure maintain engagement after initial novelty, longitudinal studies would be especially helpful. Comparative studies between the fields of public administration, corporate training, and education could further hone its scope and applicability. Lastly, careful attention should be paid to ethical issues like the overuse of extrinsic rewards, data privacy in gamified analytics, and the inclusivity of various learner types. In summary, there is theoretical and practical value in discussing the Gamification Pyramid within the larger context of gamification research. It advances a more sophisticated understanding of how gamification can be developed for adults and organizations by bridging descriptive taxonomies with a hierarchical interpretation. Above all, it emphasizes that components alone cannot create long-lasting engagement; rather, structured mechanics and, eventually, dynamics that link learning to mastery, cooperation, and trust are needed.

REFERENCES

- Arnold, K. E., & Pistilli, M. D. (2012). Course signals at Purdue: Using learning analytics to increase student, LAK '12: Proceedings of the 2nd International Conference on Learning Analytics and Knowledge, 267 - 270
- Chou, Y. K. (2015). Actionable gamification: Beyond points, badges, and leaderboards. Octalysis Media.
- Codish, D., & Ravid, G. (2017). Predicting student learning outcomes using learning styles and gamification elements. *Journal of Educational Technology & Society*, 20(3), 134–145.
- Csikszentmihalyi, M. (1990). *Flow: The psychology of optimal experience*. Harper & Row.
- Deci, E. L., & Ryan, R. M. (1985). *Intrinsic motivation and self-determination in human behavior*. Springer.
- Deci, E. L., Koestner, R., & Ryan, R. M. (1999). A meta-analytic review of experiments examining the effects of extrinsic rewards on intrinsic motivation. *Psychological Bulletin*, 125(6), 627–668.
- Deterding, S., Dixon, D., Khaled, R., & Nacke, L. (2011). From game design elements to gamefulness: Defining “gamification.” *Proceedings of the 15th International Academic MindTrek Conference*, 9–15.
- Hamari, J., Koivisto, J., & Sarsa, H. (2014). Does gamification work? A literature review of empirical studies on gamification. *Proceedings of the 47th Hawaii International Conference on System Sciences (HICSS)*, 3025–3034.
- Kapp, K. M. (2012). *The gamification of learning and instruction: Game-based methods and strategies for training and education*. Pfeiffer.
- Knowles, M. S. (1980). *The modern practice of adult education: From pedagogy to andragogy*. Cambridge Books.
- Lagopati, K., Koutromanos, G., & Lagopati, K. (2025). Gamification in Online Adult Learning: A Systematic Literature Review. (Publication details when you confirm volume etc.)
- Li, M., Ma, S., & Shi, Y. (2023). Examining the effectiveness of gamification as a tool promoting teaching and learning in educational settings: A meta-analysis. *Frontiers in Psychology*, 14, 1253549.
- Marczewski, A. (2015). *Even ninja monkeys like to play: Gamification, game thinking & motivational design*. CreateSpace Independent Publishing.
- Nicholson, S. (2015). A RECIPE for meaningful gamification. In T. Reiners & L. C. Wood (Eds.), *Gamification in education and business* (pp. 1–20). Springer.
- Rott, J., et al. (2024). *Transforming adult learning in the digital age*. (Publication details to confirm)
- Ryan, R. M., & Deci, E. L. (2000). Self-determination theory and the facilitation of intrinsic motivation, social development, and well-being. *American Psychologist*, 55(1), 68–78. <https://doi.org/10.1037/0003-066X.55.1.68>
- Slamet, T. I., & Chen, M. (2025). Gamification in collaborative learning: synthesizing evidence through meta-analysis. *Journal of Computers in Education*.
- Tondello, G. F., Wehbe, R. R., Diamond, L., Busch, M., Marczewski, A., & Nacke, L. E. (2016). The Gamification User Types Hexad scale. *Proceedings of the 2016 Annual Symposium on Computer-Human Interaction in Play*, 229–243.
- Triantafyllou, S. A., Georgiadis, C., & Sapounidis, T. (2025). Gamification in education and training: A literature review. *International Review of Education*, 71, 483–517.
- Vroom, V. H. (1964). *Work and motivation*. Wiley.
- Werbach, K., & Hunter, D. (2012). *For the win: How game thinking can revolutionize your business*. Wharton Digital Press.

- Xu, Y. (2011). Literature review on web application gamification and analytics. University of Hawai'i Technical Report, 11–05.
- Zainuddin, Z., Chu, S. K. W., & Othman, J. (2024). The evaluation of gamification implementation for adult learners: A scale development study based on andragogical principles. *Education and Information Technologies*, 29, 18591–18620.
- Zichermann, G., & Cunningham, C. (2011). *Gamification by design: Implementing game mechanics in web and mobile apps*. O'Reilly Media.