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# Perspectives of Learning and Training Practitioners on Gamification

## Abstract

*United States' information technology (IT) training professionals provided perspectives regarding the gamification of employee training to address turnover and reskilling needs. Participants (N = 9) aged 23 or above, with 5 years of training experience, provided their perceptions about gamified training during semi-structured interviews. A generic qualitative inquiry data analysis technique led to five themes: gamification is for onboarding and skills development and meets a variety of training needs; going beyond characteristics and elements of the game motivates employees; keeping the training end goal in mind is vital; gamification reduces time and resources by creating auto-nudges which track and remind employees to complete training; and, gamification assists with team building and collaboration, career development, and employee retention. Gamification can provide varied training, including compliance, onboarding, technical, and career training. Gamification training costs could be offset by reduced employee travel or location costs of live training.*

*Keywords:* Career development, gamification, training, asynchronous learning

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## Introduction

The United States' (U.S.) information technology (IT) industry has changed postpandemic: The *great resignation*, combined with the silver tsunami (retiring boomers) have resulted in organizations scrambling for talent (Maurer & Miza, 2021). Skills gaps need filling as technology changes require updated knowledge to keep employees able to complete tasks. As employees become more technically savvy, they reject traditional types of training strategies, leading to frustrated managers with employees needing reskilled (Bujang et al., 2021; Nair & Sadasivan, 2019).

Gaming has become an addiction for all generations, but especially for millennials and Generation Z, who clearly prefer to learn while playing games (Nair & Sadasivan, 2019). Fortunately, the Fourth Industrial Revolution is offering enterprises digital tools for training. Kar (2018) recommended that IT managers should harness the creativity of their entire workforce by welcoming and valuing their familiarity with information technology by using gamification for training. Whether and how this is happening in the workforce remained unknown.

In order to learn more regarding how the IT training industry perceives gamification's role in training, this study interviewed industry experts to answer one project question: *What are the perspectives of experienced learning and training professionals in the U.S. IT industry regarding gamification for the training of employees?* This article

provides the background of the study, the project question, the business problem and gap in practice, a literature review, the process used to collect and analyze data, and the findings, discussion, and implications of the study.

## Background

The IT industry has been inundated with workers from the millennial demographic (Hollman & Luthans, 2020). Although changing jobs is commonplace among IT employees (Hollman & Luthans, 2020), Nivedhan and Priyadarshini (2018) claimed that attrition in the IT industry is partly due to the lack of professional growth opportunities and inadequate training. According to Murray et al. (2017), engaging training programs help employees develop an attachment to the organization, which can reduce turnover intention and improving the general problem of employee and skills shortages.

The IT industry provides solutions to improve internal and external processes (Gilbert, 2021). Often the jobs are tailored to the client's needs, including supporting the online shopping trend by adapting IT solutions like voice assistance and mobile apps (Gilbert, 2021). With a global budget of $3.92 trillion, Gilbert (2021) asserted the projected global value of the IT market in 2021 would be $5.2 trillion; instead, spending for 2021 ended up being significantly less than that due to the pandemic, but 2022 predictions at $4.45 trillion would be a 5% increase from 2021 (Sava, 2022).

The key drivers of IT industry growth until 2026 are the vast amount of worldwide data, the increasing number of mobile internet connections, and the increased threat to security, vis-à-vis data breaches (Moses, 2021). Talent retention continues to be a struggle for many enterprises and is key in maintaining competitive advantage.

## Business Problem and Gap in Practice

The specific business problem facing the IT industry is that a significant number of employees have rejected traditional types of training strategies, leading to unmet needs and a pool of employees with limited experience (Bujang et al., 2021; Nair & Sadasivan, 2019). Millennials and Generation Zers, comprising approximately 40% of the U.S. workforce (Desilver, 2019), have openly disclosed a disdain for traditional training methods (Bujang et al., 2021; Nair & Sadasivan, 2019). Baer (2021) noted that baby boomers are gaining proficiency in technology and also prefer gamified learning instead of traditional training methods. Employers cannot legally differentiate training strategies and methods based on employees' age or generational cohort (U.S. Equal Employment Opportunity Commission, 2009), and thus, when providing training to boomers and Gen Z alike, training leaders should consider gamification as an option. Coppens (2022), a gamification expert, predicted that 2022 will become a pivotal year for the inclusion of gamification into training and organizational learning due to the increased interest in and use of the metaverse, virtual, and augmented reality tools.

## Literature Review, Theory, and Framework

This study relied on a review of both scholarly and practitioner literature related to gamification of training and learning. An applied framework guided the study.

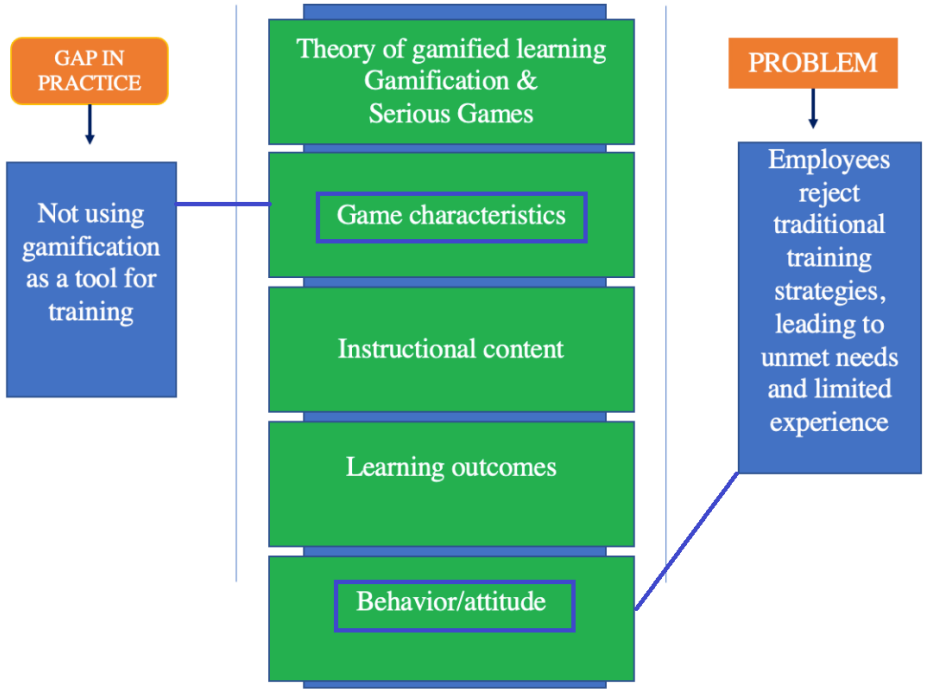
### Gamification Learning Theory and Framework

Gamification learning theory (Landers, 2014) constructs combined with the business problem and practice gap made up the study's applied framework (see Figure 1). This framework formed the basis of the interview protocol which aligned data collection with the purpose and goals of the study.

Landers (2014) outlined a theory of gamification learning as separated from *serious* gaming theories. Relying on Bedwell et al.'s (2012) previous work, Landers aligned selected gaming constructs with learning. Landers proposed a gamification learning model where a game player's behavior and attitude influenced the instructional content and the learning outcomes of the game and the game's characteristics mediate the gamer's behavior and the learning outcomes. His model portrayed a causal and systemic effect where all of the attributes work in a cyclic fashion to lead to the desired learning. Figure 1 shows this study's application of his model: the rejection of training by employees (behavior and attitude) and the failure to use games (gap in practice). The study assumptions included that instructional content and learning outcomes would remain the same regardless of training modality.

**Figure 1.** *Applied Framework*




*Note.* Center boxes identify the constructs of the theory of gamified learning. Diagram adapted from "Developing a theory of gamified learning: Linking serious games and gamification of learning" by R. N. Landers (2014), *Simulation & Gaming*, 45(6), 752-768. https://doi.org/10.1177/1046878114563660

**Workplace Learning**

Most adult learning theories and processes rely on Knowles' model of andragogy from 1970. Knowles explained that adult learners rely on life experiences and can direct their own learning. However, a gap in the literature exists where andragogy leaves the classroom and enters the workplace (Yang, 2004). Woodard's (2007) research showed that employees who could self-direct their new hire training had nearly 20% higher engagement and satisfaction scores with training than those who could not. While self-determination theory (SDT) as proposed by Deci et al. (2017) and experiential learning theory could explain how gamified learning could better appeal to employees, the role of an organization's learning climate (OLC) was also found to be crucial to whether people accept and transfer training to the workplace (Potnuru et al., 2021). Social cognitive theory (SCT) also plays a critical role, especially for older adults and using smart devices or gamification (Choudrie et al., 2021). SCT includes a "confidence in task performance" element which will dictate whether a person might continue to use a game to learn even if the skills required in the game are difficult to perform. What types of feedback lead to that level of confidence is part of the equation as well (Ozyilmaz et al., 2018).

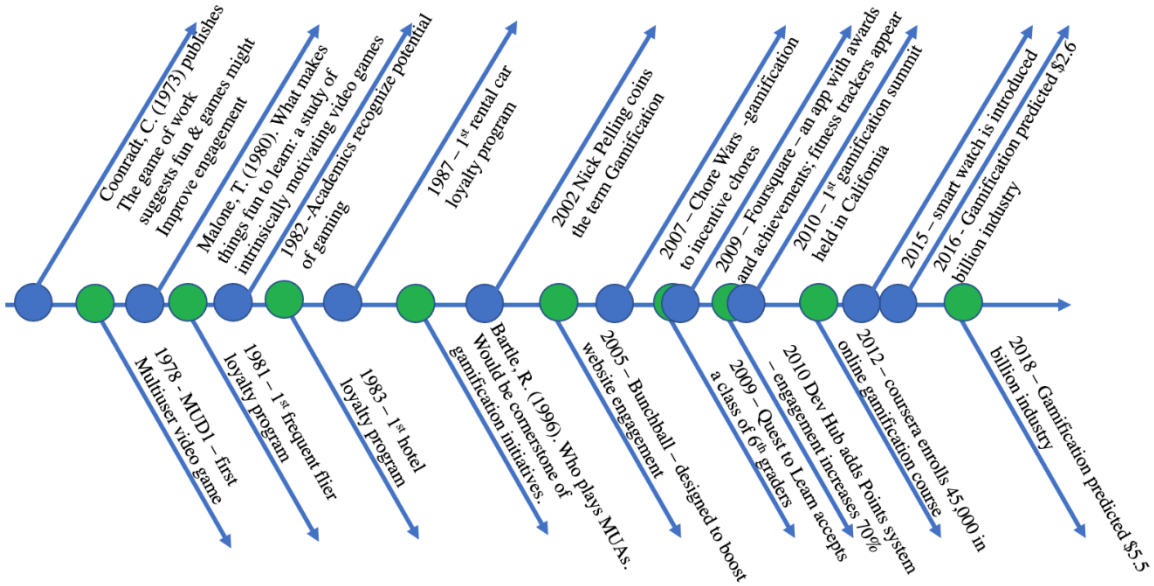
Practitioners have explained that the millennial employees reject traditional training, and thus have skills gaps that impact workplace outcomes (Bujang et al., 2021). Companies rank IT talent, skills shortage, and retention as their top three concerns to remaining competitive (Kappelman et al., 2019). Employees are requesting professional development training (Lee et al., 2016) and linkages from training to retention and job satisfaction have been empirically made (Kappelman et al., 2019; Miller et al., 2018).

Simulations and web-based training have been part of the IT training process for at least two decades (Harvey & Mejias, 2002; Roberts, 1998). Simulations allow for mistakes to be made without affecting the organization's outputs or data (Harvey & Mejias, 2002). Other older training methods included mentoring, apprenticeships, and certification processes, which can be time consuming, expensive, and reliant on external access for the potential learners. Nondigital gamification has been available for decades in nonemployee settings where behaviors by customers or members derive feedback in the way of rewards (e.g., collecting Green Stamps); the move to

industrialized gamification in the past decade has grown it into a multi-billion-dollar business (Shannon, 2019). Figure 2 shows a timeline of the move towards gamification since 1973's book by Coonradt. In "The Game of Work", Coonradt suggested that leaders embrace the "motivation of recreation" in order to improve motivation, engagement and enthusiasm across all generations of employees (Coonradt, 1973).

**Figure 2.** *Timeline of Gamification Movement*




## Gamification

Despite its lengthy history, researchers disagree about the definition and use of the term "game" (Landers, 2014). Table 1 provides gamification terms. In education and employee training, typical game elements, such as points, badges, levels, challenges, rewards, leader boards, time and feedback must be present, along with rules disallowing freeform play (Armstrong & Landers, 2018; Deterding et al., 2011; Kapp, 2012; Werbach & Hunter, 2012); Woźniak, 2020). Game elements such as chance (luck) should not be part of training games (Deterding et al., 2011).

*Serious* games are built for educational purposes and not entertainment (Landers, 2014; Michael & Chen, 2005; Susi et al., 2007). Serious games have several elements in common with normal games, such as assessment, conflict/challenge, control, immersion, and rules/goals (de Freitas & Jarvis, 2007; Kapp, 2012; Landers, 2014).

Skill development should be part of workplace gamification. Kapp (2012) provided ideas regarding guidelines for gamifying training, such as including collaboration, conflict, and goals; ensuring rules exist with motivational rewards; stories and appealing visuals help retention of learning and feedback will provide the ability to gain skills and advance through levels.

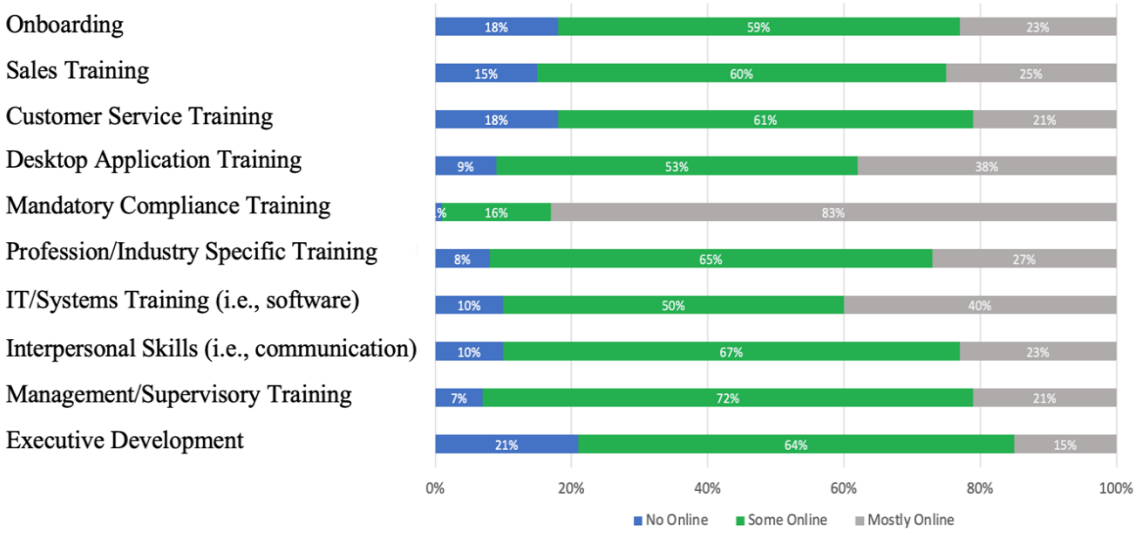
 

**Table 1.** *Gamification Common Terms Defined*

| Term | Definition | Source |
|---|---|---|
| Game | A system in which players engage in an artificial conflict, defined by rules, that results in a quantifiable outcome is a game. | (Kapp, 2012) |
| Serious Games | Games in which various forms of education, rather than entertainment, are the primary goal are serious games. | (Michael & Chen, 2005) |
| Gamification | Gamification is using game-like elements in a nonentertainment setting with the goal of changing the user's behavior. | Schöbel et al., 2020) |
| Points, badges, leaderboard | Points and badges are rewards for completing tasks. The leaderboard tracks and displays the players' scores. | (Kapp, 2012; Werbach & Hunter, 2012) |
| Elements | The 12 common learning elements were designed to keep learners on task and engaged. They are conflict, collaboration, competition, strategy, chance, aesthetics, theme, story, resources, time, rewards/scoring, and levels. | (Boller, 2013) |

Miller et al.'s (2018) 2-year study found gamified training positively affected employee motivation and engagement and increased customer satisfaction. A training industry report by Freifeld (2020) showed that the most often used online or "gamified" type of employee training is for mandatory or compliance training. Figure 3 shows percentages from the report.

**Figure 3.** *Percentages of Types of Workplace Training*




*Note.* Adapted from "Training industry report" by L. Freifeld (2020), (https://pubs.royle.com/publication/?m=20617&i=678873&p=28&ver=html5).

### IT Skills Gaps and Gamification

Learning and development departments faced increased challenges during the pandemic with work-from-home environments leading to a need for online training (Taylor & Eggleston Schwartz, 2020). Leopold (2020) reported an increase in interactive training platform use by organizations. Daniel (2020) predicted that over half the workforce will need reskilled by 2025.

### Instructional Content

For gamification to work for training, the content must relate to the outcomes desired. This requires a subject matter expert in the content be part of the creation process (Garris et al., 2002; Landers, 2014). The use of personal avatars has been linked to motivation and engagement (Rapp, 2017). The ideas regarding instructional content within gamification have not been well-developed in the literature.

### Summary of Literature

The pandemic and growth of the millennial and Generation Z workforce have contributed to a need to update, innovate, and modernize training processes. Research on gamification showed that simulations are currently one of the more developed ways of providing training; however, true gamification requires more than simply simulating reality and the other elements of rules, feedback, etc. must be present. Training budgets, too, are a constantly moving target; the use of gamification is expensive and therefore, proper utilization is needed to avoid wasting resources (Bujang et al., 2021). Reduction in travel costs can offset the technology and gamification costs, however (Freifeld, 2020). Overall, the literature shows a dearth in practitioner-related ideas, findings, or proven methods for gamifying training.

## Research Technique

A qualitative methodology using the generic qualitative inquiry technique allowed for exploring the perspectives of learning and training professionals regarding gamification as a tool for training in the IT industry.

### Sampling Strategy

This study used purposive sampling. Selection bias, which can impact transferability (Rivera, 2019) was mitigated through the use of participant panel vendors.

### Participant Selection

The Capella University IRB approved all recruitment documents and the use of UserInterviews, Respondent.io, and LinkedIn to find them. Selection criteria included:

- Being aged 23 or older;
- Having knowledge and experience in gamification;
- Having experience working in the IT industry;
- Having at least 5 years of experience in HR, L&D, or training.

Exclusion criteria included:

- Being a non-U.S. resident or
- Speaking English as a nonprimary language.

Participants who responded to the recruitment outreach were vetted using LinkedIn to validate their stated backgrounds.

## Date Collection and Analysis

Appendix A includes the semi-structured interview questions, allowing for open-ended and follow-up questions, used with each participant interview. The protocol was vetted by two expert reviewers prior to use. Zoom was used to conduct the interviews, using the embedded recording and transcription features. Data were analyzed using Clarke and Braun's (2016) six-step thematic analysis process, including (a) familiarization of the data, (b) generation of codes, (c) searching for themes, (d) reviewing themes, (e) defining and naming themes, and (f) concluding data findings and results.

**Participants**

Nine participants were vetted and interviewed. Table 2 provides participant information. Interview time averaged 47.5 minutes for the participants, leading to over 94 pages of transcribed data.

**Table 2.** *Demographics of Participants*

| Participant code | Experience in years | Title | Industry | Validated |
|---|---|---|---|---|
| P1 | 14 | VP of HR | IT/healthcare | N |
| P2 | 3 | L&D Specialist | IT/software SAAS | Y |
| P3 | 3 | UX Researcher | IT/software SAAS | N |
| P4 | 8 | Trainer | IT/ERP/software SAAS | Y |
| P5 | 7 | Dir. of Training | IT/automotive/SAAS | Y |
| P6 | 2 | People Ops. Generalist | IT/cyber security | Y |
| P7 | 8 | HR manager | IT/content moderation | Y |
| P8 | 4 | VP of HR | IT/software SAAS | Y |
| P9 | 4 | Dir. of HR | IT/software engineering | Y |

*Note*. All participants met inclusion criteria and represented a diverse pool of learning and training professionals in the IT industry. The validated column represents the member-checking results (Y = transcript accuracy was confirmed by participant; N = it was not confirmed [no response received]).

**Coding**

A preliminary codebook (Table 3) allowed for manually coding the data. After reviewing the transcripts for these ideas and codes, the data were imported into Atlas.ti for technological analysis.

**Table 3.** *Preliminary Codebook*

| Attitudes/Behaviors | Characteristics | Content | Outcomes | Perspectives |
|---|---|---|---|---|
| complaints | points | content games | training | generations |
| compliments | badges | input to change | metrics | IT training |
| attitudes | leaderboard | | | retention |
| behaviors | elements | | | |

After word count and multiple manual reviews, a final codebook was created (Table 4).

**Table 4.** *Final Codes with Word Counts*

| Final codes | Reoccurrence word count | Final codes | Reoccurrence word count |
|---|---|---|---|
| Complaint | 29 | Instructional content | 145 |
| Compliment | 21 | Input to change | 14 |
| Engagement | 137 | Game | 236 |
| Motivation | 70 | Elements | 40 |
| Competition | 46 | Learning | 257 |
| Collaboration | 13 | Training | 373 |
| Behavior | 27 | Metrics | 36 |
| Attitude | 13 | Tool | 57 |
| Reward | 74 | Completion | 157 |
| Points | 205 | Generations | 39 |
| Badges | 90 | Perspectives | 28 |
| Leaderboard | 69 | Retention | 20 |
| Fun | 124 | Careers | 19 |
| Certification | 20 | Team Building | 8 |
| Characteristics | 29 | | |

Manual coding helped overcome issues such as taking the term “gift cards” and relating that to “rewards”. This increased the number of “reward” terms in the manual process, although not in the word count from the automated counting process. A final winnowing occurred by ensuring that each of the codes were mentioned or used by at least one of the participants.

While only 7 of the 9 participants mentioned *generations,* following an interview, P6 said:

> I feel like you wanted me to be specific with the generations, boomers, millennials, etc, but I can’t. We have been trained by our DEI department to not target them by name, all I can tell you is they are the older or younger demographic.

Future researchers may want to rephrase their discussions and interviews to avoid generational specific terms such as “boomers” etc.

Table 5 shows the final codes with representative participant quotes.

**Table 5.** *Final Codes and Supporting Representative Quotes*

| Final code | Supporting examples from participants | Participant count |
|---|---|---|
| Complaint | P1: "Someone else had a better team." | 9 |
| Compliment | P2: "This is so great!" | 9 |
| Engagement | P4: "Participants were more engaged." | 9 |
| Motivation | P2: "Seeing progress is what really helps motivate people." | 9 |
| Competition | P9: "I think the gamification creates inherently this competition or this skill battle that now pulls people in . . ." | 8 |
| Collaboration | P1: ". . . and then leader boarding is going to be, you are building your network and you're collaborating." | 1 |
| Behavior | P8: "I would say we have so far since we launched this, it's only been three months, we've had 100% participation, people are eager, the behavior we're trying to drive about learning more about the company before you get here getting through your checklist so that you're to productivity faster." | 9 |
| Attitude | P7: "Some of them were always moaning and groaning about having to take required trainings." | 5 |
| Points | P9: "There are points awarded to participants and employees for completing certain content items there." | 9 |
| Badges | P8: "The badges became a source of pride." | 9 |
| Leaderboard | P8: "Yeah, so the leaderboards definitely had a competitive effect in a nice way." | 7 |
| Fun | P3: "Without making it fun, we're not going to keep people, so I think it's everything." | 9 |
| Certification | P1: "You don't have to participate and you certainly don't have to go after one of the hot skills certifications." | 2 |
| Characteristics | P3: "The storytelling still has to be good." | 9 |
| Elements | P9: "The element of fun is important." | 8 |
| Reward | P1: "Make sure you're giving people what they've earned." | 9 |
| Instructional content | P2: "Gamification always needs to be a supplement to the learning content." | 9 |
| Input to change | P4: "When you make it a little more difficult to achieve points, then it really starts to get competitive and people are talking." | 8 |
| Game | P7: ". . . the Jeopardy style and the Wheel of Fortune . . ." | 9 |
| Learning | P3: ". . . the stickiness, like helping it stay in my mind . . ." | 9 |
| Training | P7: ". . . sexual harassment, prevention, security, social media policy ethics, training. . ." | 9 |
| Metrics | P5: ". . . what percentage of the population actually attended or completed a gamified training." | 9 |
| Tool | P8: "I think it's a fantastic tool to get engagement." | 4 |
| Completion | P4: "From my own viewing, the completion time went from maybe a week to two or three days." | 8 |
| Generations | P5: ". . . and then like 50 to maybe 65 ish or 68 ish 52 retirement age, they actually see that this, the value that we're bringing the organization in this in this endeavor." | 7 |
| Perspectives | P3: "I think having some gamification is necessary to get the harder to grasp terminology and other things across." | 9 |
| Retention | P2: "It can certainly be used as a retention tool." | 4 |
| Careers | P6: "We've created career development plans that employees can launch." | 2 |
| Team building | P8: "Values and team building was more the key of it." | 5 |

**Categories and Themes**

The final codes were collapsed into eight categories (Table 6).

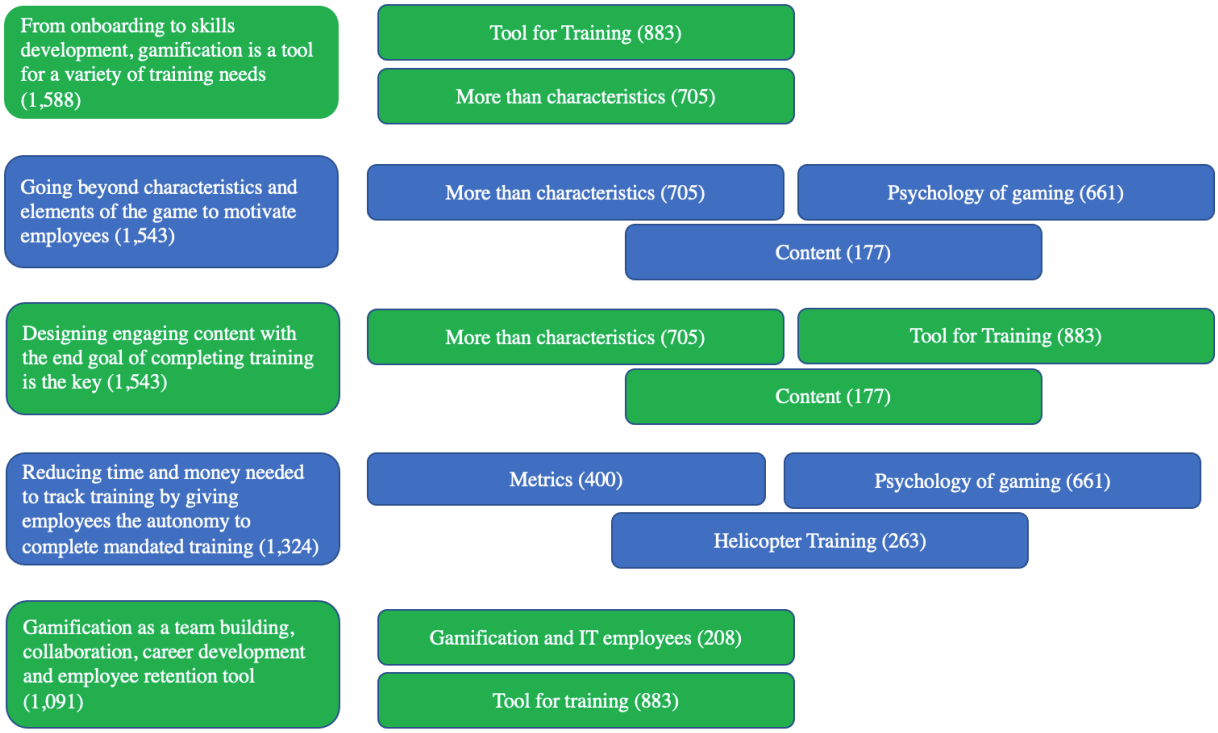
**Table 6.** *Codes into Categories*

| Codes | Category | Definition | Number of participants | Number of occurrences |
|---|---|---|---|---|
| Attitudes, behaviors, complaints, compliments, generations | Attitudes and generations | Attitudes toward the game vary across generations | 9 | 172 |
| Badges, certification, characteristics, competition, elements, fun, leaderboard, points, recognizes, reward | Beyond characteristics and elements | Effective gamification depends on more than just characteristics and elements of the game | 9 | 405 |
| Certification, characteristics, elements, input to change, meaningful, reward | Content needed for completion | Designing content with the end goal of completing training | 9 | 179 |
| Collaboration, competition, engaging, learning, tool, training | Tool for training | Using gamification as an engaging tool to decrease the time for training. | 9 | 327 |
| Careers, fails, fun, perspectives, retaining, team building | Gamification and IT employees | Using gamification for team building and collaboration, career development and employee retention. | 9 | 147 |
| Completion, engaging, motivating | Metrics | Tracking metrics such as training rates and training return on investment | 9 | 259 |
| Badges, characteristics, fun, leaderboard, motivating, motivators, points, reward | Psychology of gaming | Making games fun and engaging improves motivation | 9 | 412 |
| Training, motivating, completing, metrics | Helicopter training | Using gamification to increase autonomy in compliance training | 9 | 177 |

Categories were then built into themes (Figure 4).

**Figure 4.** *Theme Construction*




*Note.* The word count is shown in brackets, demonstrating the strength of each theme.

### Data Support for Themes

Tables 7 through 11 provide examples from participant interviews supporting the themes.

**Table 7.** *Theme 1: From Onboarding to Skills Development, Gamification is a Tool for Training*

| Participant quote |
|---|
| P1: "We also use some gamification on our annual security, training so security awareness is huge in the technology field." |
| P2: "So the first one, I keep talking about is coach training it's a particular workshop series that we offer." |
| P3: "Yeah, so, broad general HR, I.T./security, we use gamification internally, it just depends on the person who's doing some type of share out, if it's an example that Dev team who's trying to share their board game of the security journey,they decided to use gamification because they know that's going to keep people engaged." |
| P4: "Yes, mostly for training purposes, not really in a general LMS, users go through these modules. I mean there was some microlearning that we were experimenting with but didn't really take hold and that project was kind of abandoned but mostly in that new hire, onboarding orientation process, but also continuous learning whether a new product was launched or a new program was launched, then it was employed again." |

Other examples for Theme 1 included P1 stating, "On our security awareness training, you actually see a few people having to take the test fewer times in the ones that are gamified than the ones that aren't." P2 discussed a writing workshop. "The other pin that people can earn off the top of my head one is called powerful writing, it's just our business writing course that we offer." P6 talked about "employees when they first launch and onboard in there,

because we give them access to gamification just to complete their paperwork to onboarding paperwork, they love it." P1 shared "as they're learning that content, as they go through in terms of prepping them for their certification programs." P1's employees needed to know a large quantity of technical knowledge, culminating in a certification exam. P4 reinforced learning concepts with gamified microlearning. "So you'll get, on your phone, it'll be a question every so often and you'll just answer." P7 said "it's so much more fun that [employees] enjoy playing the games on it, that it makes the mandatory trainings a lot more fun, that departments are using it to compete friendly, compete amongst themselves."

And, a long-term gamer, P5 said:

> that's kind of the point of gamification right …. that creates a desire for getting better, for moving forward. And so that's really what gamification allows us to do it allows us to put boosts in our learning games in our learning platforms that encourage people to propel ahead.

Theme 2 emerged from the ideas about what motivates employees to complete and learn from the training. This theme, supported with comments shown in Table 8, cemented the idea that game elements, such as tangible rewards and fun best motivate employees.

**Table 8.** *Theme 2: Motivate Employees With Fun Training and Tangible Rewards*

| Participant quote |
|---|
| P8: "It's working and it's just simply literally throwing in a five-dollar shirt, I mean it's really kind of crazy when you think about what little it takes for people's competitive, instincts to kick in and be motivated to overachieve." |
| P2: "We see progress by every time we meet during this program, we let you know how far you are and your progress, we kind of like help you see the end of this experience. I think that's really effective for reminding people what they're working towards." |
| P3: "They were like really fun, you know much better than just like a typical here's your certificate and you got points, everybody was wanting these prizes." |
| P4: "Actually when we included the reward milestones, whether it would be gift cards or a grand prize, etc., that's when they liked it, like that's when the older age group actually liked it, because they're getting motivated" |
| P1: You have to, I think, with gamification, you've got to make it okay for people to want to participate, and so with that, you either need to make it really fun and demonstrate - oh, this is really fun, here's how we're going to do it, here's how you're going to learn from it. |
| P7: "I think it being something fun and motivational is really important." |
| P5: [Fun] is huge. Here's a good example when I was working as the training and development manager, about five years ago, I created a video training on anti-harassment and sexual discrimination and all those things, and I made it silly. I mean I had some silly elements and some comedic elements in there, and some people, especially you know, more seasoned HR professionals were not happy about that. But the comment time and time again was, that was the best sexual harassment and anti-discrimination training I've ever experienced, and people said, for the first time, I actually get it, I understand it. Yeah, I think fun is critical. |

Many participants shared that their organizations partnered with a third party to convert points to rewards. But, P6 warned "If you don't… [upload points] in a timely manner, … people get anxious, because they want their points because they want to go to Bonusly [an online rewards system] and they want to redeem their gear, they want their stuff." While participants noted that badges are nice, they must tie to a reward. Rewards can erase generational biases; P4 volunteered, "whether it would be gift cards or a grand prize, that's when the older age group actually liked it, because they're getting motivated."

Theme 3 (Table 9) emerged from the goals, content, and engagement perspectives.

**Table 9.** *Theme 3: Designing Engaging Content With the end Goal of Completing Training*

| Participant quote |
|---|
| P5: And we saw, whereas it may have taken two to five days to get all of that knowledge into an employee, they were getting all that knowledge in two to five hours." |
| P1: "If it's easy and engaging they're going to complete it faster than if it's not." |
| P2: "Gamification is encouraging more people to sign up for these workshops and encouraging more people to complete these workshops, because they see that they can get this pin that's fun and exciting." |
| P6: "It's holding each other accountable when it's in that competition as well. So, because you definitely don't want to be last, I mean it is what it is you just don't want to be the last person [to complete training]." |

Tying content to completing the training was an overarching theme. P9 shared "you do have to be clear of what's the ultimate goal is trying to achieve" and then added, "an element of skill that has to be there, … can somebody get better over time?" and said that gamified training should "encourage some self-intrinsic motivation to complete certain tasks."

P7 noted that content "needs to be very clear and I think it needs to be concise, I think it because the types of instructional content that we're using gamification for it are things like annual training that happens yearly." P7 also tied content to completion rates, saying "finish rates go up, speed rates go up; it's pretty rewarding I think as an HR person." P5's response to a question about what gamified content can do for training was:

> So, we went from new hire orientation being live and manager run, kind of, in person experience to funneling a lot of that into gamified video, and the retention rates were actually much more quantifiable. And so, we saw a much higher retention rate in that, in that environment.

P5's organization gamified the Maxwell Training Solution leadership training, after which "the retention of that knowledge increased pretty significantly."

All the best planning for content will not matter if the content does not engage or motivate. P1 mentioned, "it has to be engaging, it has to be something that I am having fun when I'm doing, it can't be really, really hard because we find that people aren't persistent." P3 shared "the content itself still has to be engaging enough for me to want to continue in the game." P9 shared that "when we did not have [gamification] the completion rates were hovering around 50%, which is a huge risk actually. I'm kind of now transitioning [to gamification], they hover around 80 to 85%." P9 explained that "the compliance portions of our work are actually federally mandated, I mean we get fined and lose our work if people don't [complete them]."

Theme 4 (Table 10) discussed how gamification reduced tracking and nudging requirements.

**Table 10.** *Theme 4: Training Tracking and Nudging Reduced with Gamification*

| Participant and Their Quote |
|---|
| P6: "We still want the employee to be able to have the autonomy to manage their own time and their own gamification." |
| P4: "For the new hires it the speed of of the completion of the modules went up, it was noticeable." |
| P5: "Prior to doing the gamified training, for a certain type of user, our completion rates were low, it was like 20 to 30%. And now our completion rates . . . are in the 70% range." |
| P7: "We've had a lot less trouble maintaining that I guess and a lot less of the having to stand over shoulders and force it." |

Some of the participants noted that less nudging reduced costs indirectly. P7 said, "we would have the supervisor stand over them and have them complete it …you know I am on salary, making X amount of money this year and

how many hours, am I spending doing this, so how many how much money per hour are we wasting?" With the gamified system, P6 added "it's less work for us on the people team to track." P5 stated:

Normally without gamification, by that 30-day mark on average, I'm lucky if I'm at 35-37% and, barely ever had half, and that's with nudges and pinging and all that stuff right. So it ends up being that the vast majority I'm chasing after the deadline. With gamification, that first, you know get it done on time, is more in the 60 to 70%, so dramatically different.

Theme 5 (Table 11) was how gamifying training leads to team building and other benefits.

**Table 11.** *Theme 5: Gamification Increases Collaboration, Career Development, and Retention*

| Participant and Their Quote |
|---|
| P3: "If we do things in a stuffy corporate way without making it fun, we're not going to keep people." |
| P2: "So any benefit or fun or interesting thing you can offer to your employees that could help retain them and keep them around and save the company money. In some ways, you could argue, is just the right thing to do." And "What helps you feel satisfied in your job, it's like your manager, and if you're learning and growing, are big factors, and so I think of the larger landscape, it can certainly be used as a retention tool." |
| P6: "Working on career development is what we call it." |
| P1: "I think it has some great opportunities from an engagement perspective, from a collaboration and team building perspective." And "We've definitely seen people from a career navigation perspective who say "Okay, I now understand what skills I can build to take me to that next level or to help me to get from a system engineer to a site reliability engineer." |
| P7: We're able to show this is the engagement that we are seeing, and this is the engagement that's given back, and this was our retention, you know this year, and this was our retention, two years later, after implementing [gamification] and, these were our engagement scores on their employee survey that one year and then here were the engagement scores, two years later, and we firmly believe that it was partially because of this, because of the verbatim that were given on those employee engagement scores, and so that's the type of ROI that we can give back to senior leadership when they ask those questions. |

### Summary of Themes and Answer to Project Question

The project question *What are the perspectives of learning and training professionals in the IT industry regarding gamification as a tool for training?* was answered with the overarching themes. Experts in the learning field perceived gamification as a benefit to training when it was fun, content-worthy, and cost-effective. They found that training completion increased and manager oversight requirements decreased when gamification existed. Tying tangible rewards to the gamified training motived employees to do training, and increased compliance-required training significantly. Theme 5 showed that gamification could be the solution to the stated business problem of getting employees to complete training. Since the gap in practice was noted as not using gamification, it is possible the results and findings could help convince other learning professionals to implement gamified training.

## Discussion and Implications

The study added to the theory of gamified learning by confirming that content, characteristics, attitudes and behaviors, and learning outcomes remain important to gamification, although learning outcomes were not a literal theme within the study. The practitioner participants did not seem to understand many of the theoretical terms or definitions. Further, comments made showed that gamification of training is in its infancy. P5 stated, "when I first started in training, this idea of gamification seven years ago, it was very young, and not as well adopted." P6 added, "since we started this two years ago . . . gamification is doing great."

The data demonstrated the use of gamified training for onboarding and compliance training by all participants. In addition, all participants utilized rewards as a main motivator. These data confirmed earlier findings by Landers

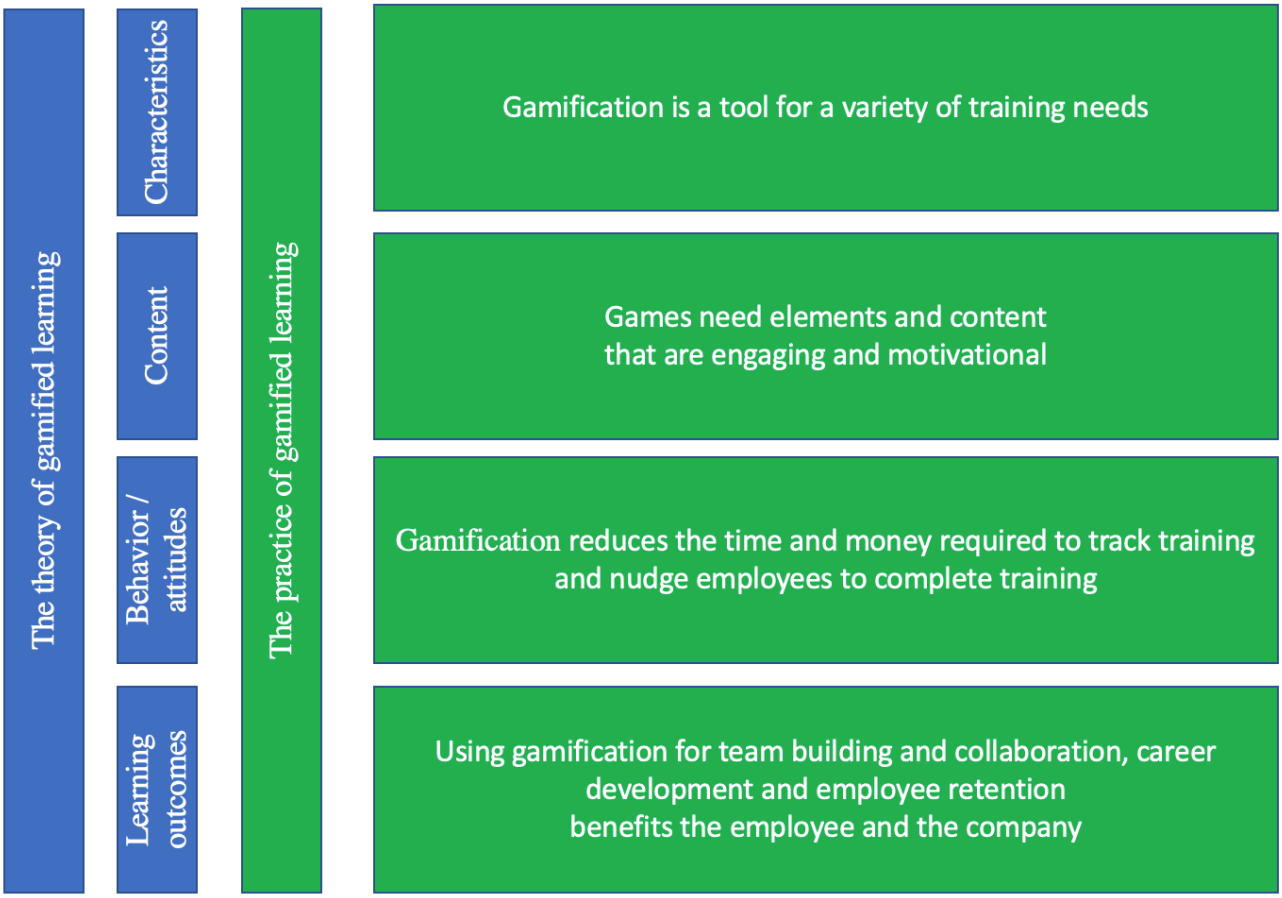
(2014) and Miller et al. (2018). Further, P2 stated, "people said it [gamification] got them excited to show up the training that day," confirming ideas that Nacke and Deterding (2017) had found in their research.

Talent retention continues to be a struggle for most enterprises. Because a significant number of employees have rejected traditional types of training strategies, the need for new training strategies is critical. From a practitioner's point of view, this study may contribute to the overall understanding of gamification as a tool for training. Nivedhan and Priyadarshini (2018) claimed that attrition in the IT industry is partly due to the lack of professional growth opportunities and inadequate training. The study's data indicated that gamification offers value in professional growth opportunities, thus improving job satisfaction. As P2 stated on the topic of job satisfaction and the benefits of gamification, "[it's] the right thing to do to make sure that you're helping people grow their skills and careers."

## A Practical Framework

Future researchers or gamification learning teams may consider the following as a practical framework to guide implementation. This framework (Figure 5) was designed based first on the original applied framework and contains relevant findings from the data and themes.

**Figure 5 -** *A Framework for Gamification as a Tool for Training*




*Note.* Small blue boxes identify the constructs of the theory of gamified learning, adapted from "Developing a theory of gamified learning: Linking serious games and gamification of learning" by R. N. Landers (2014), *Simulation & Gaming, 45*(6), 752-768. https://doi.org/10.1177/1046878114563660 The green boxes are informed from the study's data.

## Area for Additional Studies

A significant dearth of research on gamification and training exists. Researchers are encouraged to delve into the many areas that could help learning and development professionals accomplish more with less in their training departments. Examples could be asking employees what they like most or least about gamified training; further, quantitative analysis regarding return on investments, costs of gamifying training, or content ideas would be helpful for department heads. Tutorials, examples, and ideas about how to convert traditional training into gamified training are needed.

## Conclusion

Research showed that IT employees, and especially millennials and Gen Zers, have rejected traditional training strategies, leading to unmet needs and a pool of employees with limited experience (Bujang et al., 2021; Nair & Sadasivan, 2019). In 2022 and 2023, as businesses begin the *Great Renegotiation* with their employees, talent retention will be a competitive advantage (Jones, 2022). The learning and training professionals in this study perceived that gamification could help retain and reskill their employees.

Gamification satisfies a variety of training needs, from compliance and onboarding to technical training, to career development and navigation. Organizations using gamified training may see a reduction in completion time and training costs. This study's practical framework for using gamification as a tool for training should be useful for practitioners and future researchers.

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