

Jouko Loijas

HOW GAMIFICATION SHAPES LEARNING AND INTERACTION IN VIRTUAL EDUCATIONAL EVENTS

Insights from Finnish event industry professionals

Faculty of Information Technology and Communication Sciences

Master's Thesis

April 2024

ABSTRACT

Loijas, Jouko: How Gamification Shapes Learning and Interaction in Virtual Educational Events: Insights from Finnish event industry professionals

Master's Thesis

Tampere University

Faculty of Information Technology and Communication Sciences

April 2024

This thesis examines the impact of gamification on learning and interaction within virtual educational events, drawing insights from Finnish event industry professionals. As digital platforms increasingly host educational and training events, engaging participants is a significant challenge. Gamification, using game design elements in non-game contexts, offers potential solutions by enhancing user engagement and interaction, thereby improving learning outcomes.

The research employed qualitative methods, utilizing semi-structured interviews with a diverse group of event industry professionals with extensive experience organizing virtual educational events. This study explores how these professionals integrate gamification strategies into their events and the outcomes of such integrations regarding participant engagement and educational effectiveness.

Findings from the study indicate that gamification significantly boosts participant engagement and facilitates interactive learning environments. However, the effectiveness of gamification varies based on the design of the gamification elements, the target audience's characteristics, and the educational content being delivered. Notably, while gamification can enhance the educational experience by making learning more interactive and enjoyable, it also poses challenges like the risk of overshadowing educational goals with entertainment or failing to align with learning objectives.

Moreover, the study highlights the importance of a strategic approach to gamification that aligns with educational aims and caters to the diverse needs and preferences of participants. Successful gamification requires careful consideration of game mechanics, participant motivation, and the educational context. The thesis also discusses the implications of these findings for future research and practice, recommending that educators and event organizers focus on customizing gamification strategies to maximize educational value and participant satisfaction.

In conclusion, this thesis contributes to educational technology by providing a nuanced understanding of how gamification can be effectively employed in virtual educational events. It offers practical insights for educators, technologists, and event organizers, aiming to enhance virtual educational practices and participant engagement through informed gamification strategies.

Keywords: Gamification, Virtual Educational Events, Participant Engagement, Educational Technology, Interactive Learning, Event Management

The originality of this thesis has been checked using the Turnitin OriginalityCheck service.

Table of Contents

ABSTRACT	2
1 INTRODUCTION	3
2 GAMIFICATION.....	7
2.1. Games, Playfulness and Gamefulness	7
2.2. Defining Gamification.....	9
2.3. History of Gamification.....	12
2.4. What Motivates People to Play Games	15
2.5. Obstacles of Gamification	16
3 EDUCATIONAL VIRTUAL EVENTS.....	18
3.1. Defining Virtual Event	18
3.2. Benefits and Challenges of Virtual Events.....	19
3.3. Producing Virtual Events	21
3.4. Gamification in Virtual Educational Events.....	23
4 METHODS.....	26
4.1. Data Collection with Semi-Structured Interviews.....	26
4.2. Sampling.....	28
4.3. Interview Questions.....	30
4.4. Analysing the Data with Thematic Analysis	32
4.5. Coding	34
4.6. Ethics	39
4.7. Limitations of the Chosen Methods	39
5 RESULTS.....	41
5.1. Gamification Elements Used in Educational Virtual Events.....	42
5.2. Learning Enhancements through Gamification.....	44
5.3. Challenges and Considerations.....	47
5.4. Measuring the Success and Effectiveness of Gamification.....	50
5.5. The Future Use of Gamification in Educational Virtual Events	52
6 DISCUSSION.....	55
6.1. Theoretical Implications	55
6.2. Practical Implications	57
6.3. The Role of Competition	58
6.4. Co-working, Peer Learning, and Social Interaction in Gamified Learning Environments.....	59
6.5. Summary.....	61
7 CONCLUSION	63
7.1. Limitations of the Study	64
7.2. Future Research Directions	65
REFERENCES	67

1 INTRODUCTION

In the wake of global shifts towards digital platforms, educational virtual events have emerged, serving as critical conduits for education, training, and professional development. Despite their advantages, these platforms often struggle with participant engagement and interactivity issues, crucial for effective learning and knowledge retention.

An event is a planned occasion, often public or social, with a specific purpose or goal, such as a concert, conference, festival, party, or sports game. Events can be organised for various reasons, including entertainment, education, networking, fundraising, or celebration. They usually involve gathering a group of people and may occur in a physical or virtual location. Events require careful planning, coordination, and execution to ensure their success.

Virtual events provide a digital platform for people to participate and engage with others without being physically present at the exact location. They can range in size and scope, from small meetings to large-scale conferences and exhibitions, and have various purposes, such as business networking, education, entertainment, and social gatherings. Virtual events provide researchers, academics, and professionals a platform to share their work, collaborate, and disseminate information without physical gatherings. Travelling is costly and time-consuming compared to online meetings, especially in academic and business meetings and conferences where time schedules are tight. The fact that participants can attend virtual events from the comfort of their homes or offices eliminates the need for travel and accommodation expenses, making events more accessible to individuals who may face barriers to attending in-person conferences, such as those with limited mobility or financial constraints.

While offering numerous advantages, virtual events also present several challenges. One of the main problems with virtual events is the lack of social interactions and the ability to convey a program or event's quality of life and cultural aspects. One way to tackle this problem is to use gamification.

Gamification refers to using game design elements and mechanics in non-game contexts to make activities more engaging and enjoyable. The relationship between gamification and games is complex and multifaceted. While gamification takes inspiration from the design and mechanics of games, it is not always the same as playing a game. Gamification

can range from adding game-like elements to a task or experience to fully integrating a game-like structure into an activity.

Thibault and Hamari (2021) provided an overview of the existing discussions surrounding gamification, identifying misunderstandings and key issues hindering progress in the field. They sought to propose solutions that would go beyond the problems identified, bridging perspectives and addressing fears and misconceptions related to gamification to restart the discussion on its role and productivity in academia. The authors emphasised the distinction between researching gamification and attempting to implement it successfully. They highlighted that while researchers study the effects and efficacy of gamification techniques, the two aspects should not be conflated. It is essential to consider the full spectrum of gamification's impact and acknowledge that gamification may initially experience a novelty effect, where its impact decreases over time. However, a familiarisation effect can occur later, where the impact can recover and positively influence users. (Thibault & Hamari, 2021)

This thesis explores gamification possibilities in the event industry, concentrating on educational virtual events in Finland. As Thibault and Hamari (2021) suggest, the research engages with the phenomenon's positive and negative sides. Instead of becoming frustrated with the current limitations, the thesis aims to find the exciting potential of gamification and its ability to provide a new lens for understanding human behaviour and focus on the possibilities.

The research of this thesis aims to identify the key factors that contribute to the success of gamification in educational virtual events. This includes elements such as the design of gamification mechanics, the integration of collaboration and competition, the alignment of gamification with event objectives, and the relevance of gamification elements to the target audience. By interviewing event industry professionals in Finland, insights can be gathered into their predictions for the future use of gamification in virtual events. This can include the types of gamification elements or techniques they anticipate using and the reasons behind their predictions.

The study is confined to the insights and experiences of event industry professionals in Finland who possess expertise in producing educational virtual events. This geographical and professional demarcation ensures a focused examination of gamification practices within a specific cultural and industry context. The Finnish setting is significant due to

the country's advanced digital infrastructure and strong emphasis on education innovation, which likely influence the adoption and implementation of gamification strategies in educational settings. By concentrating on this particular group of professionals, the research aims to uncover nuanced understandings of how gamification elements are integrated into virtual events to enhance learning and engagement, providing valuable insights into the effectiveness and challenges of these practices within the Finnish educational event landscape.

Gamification, incorporating game elements in non-game settings, has been identified as a promising strategy to mitigate these issues. However, the literature reveals mixed results regarding its effectiveness, indicating a gap in understanding its application in virtual educational environments. This thesis aims to bridge this gap by exploring how gamification can enhance engagement and learning outcomes in such settings. The primary research question, therefore, arises: How could gamification be used in educational virtual events to enhance participant experience and engagement? Addressing this question is essential for theoretical advancement in educational technology and practical applications in improving virtual educational practices.

The following sub-questions further guide the study in addressing this central inquiry. How do the event producers measure the success or effectiveness of gamification in educational virtual events? This question seeks to understand the metrics and indicators used by professionals in the field to evaluate whether gamification initiatives achieve their intended outcomes. Exploring this aspect is crucial for identifying best practices in gamification and ensuring its implementation leads to tangible improvements in engagement and learning.

What kind of gamification do event industry professionals predict they will use in the future, and why? This sub-question aims to gather insights on the anticipated trends in gamification from those directly involved in the industry. Understanding their predictions can help forecast future developments in gamification techniques and the reasoning behind these choices, providing valuable foresight into the evolution of gamification strategies in educational contexts.

This study aims to contribute significantly to educational technology by addressing these questions. It offers actionable insights and a forward-looking perspective on the evolving practices of gamification, thereby assisting educators, technologists, and event organizers

in enhancing virtual educational experiences. This thesis elucidates the effectiveness of gamification within educational virtual events, explores the factors that influence its success, and anticipates future trends in gamification applications. This understanding will equip event organizers and industry professionals with the knowledge to design and implement gamification strategies effectively, ultimately improving participant engagement and enriching learning environments in virtual settings.

2 GAMIFICATION

To answer this thesis's research question, how could gamification be used in virtual events to enhance participant experience and engagement? I need to understand what gamification is and how it can be used. I will start unravelling this by studying games and the concepts of playfulness and gamefulness and then tackle the definitions of gamification.

I will also cover a brief history of gamification to understand how it has been used and developed. I will introduce how understanding the motivations behind playing games is crucial for creating successful gamification experiences. Finally, I will discuss the common obstacles and mistakes when conducting gamification.

2.1. Games, Playfulness and Gamefulness

What is a *game*? In this chapter, I discuss the ongoing debate within game studies regarding the definition of games and introduce the concepts of *playfulness* and *gamefulness*.

The field of games studies has faced challenges in defining games, leading to an ongoing debate. Juul (2003) proposed six conditions to define games: rules, variable and quantifiable outcomes, assigned values to outcomes, effort invested in affecting the importance of the outcome to the player, and optional real-life consequences. However, these conditions alone may not be sufficient to define a game, as they can also apply to activities like work. This suggests that a more pronounced experiential component is needed to determine what constitutes a game.

The definition of a game is a subject of ongoing debate and disagreement among game scholars and professionals. In his article, *The Game Definition Game*, Stenros (2016) examines more than 60 definitions of games to identify areas of consensus and divergence. His work aims to provide game scholars with a framework for better understanding and positioning themselves within the concept of a game. One key point of contention is whether games should be viewed as activities or systemic artefacts. Scholars hold differing perspectives, influencing their understanding of games and their associated characteristics. Some definitions emphasise games' formal structure and design as artefacts, while others highlight games' dynamic and negotiated nature as activities shaped by player interactions (Stenros, 2016).

The presence of rules in games is another topic that sparks discussion. Some argue that rules are an essential component of games, providing structure and defining the boundaries of play. Others may challenge the necessity of rules, suggesting that games can exist without explicit guidelines. Similarly, the role of competition in games is a point of contention. While competition is often associated with games, there are differing viewpoints on whether it is a fundamental aspect or if games can exist without it. Considering consequences and feedback is another aspect that scholars examine when defining games. The impact of player actions and the provision of feedback within the game system can significantly influence the player experience and shape the nature of the game (Stenros, 2016).

Caillois' (1958) widely accepted categorisation provides a basis for understanding the different kinds of games. The categories include Agon (competition-based games), Alea (games of chance), Mimicry (role-playing games), and Ilinx (games that alter perception). These categories lay the foundation for gamefulness, which refers to the quality or state of being like a game or incorporating game-like elements.

These categories create a basis for gamefulness, which refers to the quality or state of being like a game or incorporating game-like elements. It is a concept that has been explored in game studies and gamification. Deterding et al. (2011) differentiate between "gamefulness" and "playfulness," which are terms used to describe the behavioural characteristics that distinguish games and play. The term "playfulness" encompasses the experiential and behavioural aspects of playing, while "gamefulness" specifically refers to the qualities associated with gaming. Gamefulness can refer to the experiential and behavioural attributes, and gameful interaction denotes artefacts that facilitate the expression of gamefulness. In contrast, gameful design involves the intentional design of experiences that promote gamefulness, often by incorporating game design elements (Deterding et al., 2011).

Playfulness is typically viewed as a natural characteristic that enables individuals to bring joy, fun, and entertainment into their lives. Studies suggest that playfulness is closely related to psychological well-being. It is associated with positive emotions, psychological well-being, and creativity. Playfulness can be expressed through playful behaviour, humour styles, and fun-seeking motivation, and it has been found to contribute to subjective happiness and job satisfaction. In specific contexts, such as creativity and

innovation processes, playfulness can be combined with intentionality in serious play to foster creativity and problem-solving (Yue et al., 2016).

2.2. Defining Gamification

I will explore gamification in this chapter, reviewing its emergent and intentional aspects. I will explore how emergent gamification has shifted cultural ideas and behaviours and how intentional gamification motivates and engages people. I will also examine the history of gamification and discuss the critiques.

The concept of gamification and its definitions have sparked controversy in academic circles. Gamification poses challenges in terms of definition due to the inherent ambiguity inherited from the term "game." The concepts of game and play are difficult to define, as they are expressed in diverse ways across languages and encompass a wide range of activities. Game studies have faced criticism for their preoccupation with definitions, and gamification has become entangled in this debate. (Thibault & Hamari, 2021)

Scholars and professionals have worked to define phenomena that link gaming elements to non-gaming contexts. These phenomena were identified as "persuasive technologies," "exergames," "serious games," "game-based learning," and others. Each concept had its subtle distinctions, resulting in competition and overlap. Gamification was occasionally proposed as an overarching term encompassing all these concepts, while at other times, it was considered a subset of one of them. However, researchers and practitioners seldom collaborated to systematise this abundance of terminology. (Thibault & Hamari, 2021)

The difficulty in defining gamification goes beyond gaming and game studies. Often, eager non-experts either view gamification too broadly, applying it to any multimedia application, or too narrowly, limiting it to applications that closely mimic specific game mechanics. Such approaches lead to superficial and irrelevant conversations. Moreover, widespread confusion about game-related terminology exacerbates the issue, causing the concept to be oversimplified and watered down. This superficial comprehension and application of gamification ultimately cast the concept in a negative light. (Thibault & Hamari, 2021)

Gamification usually refers to using game design elements and mechanics in non-game contexts to make activities more engaging and enjoyable. Nick Pelling (2011) introduced the term in 2002, but it has since been widely debated and redefined by academic scholars.

According to Juho Hamari (2019), gamification is a broader concept that encompasses not just the application of game design elements but also the technological, economic, cultural, and societal developments that make reality more game-like. This definition highlights the significance of gamification beyond just its application in specific contexts but as a more significant cultural trend.

The emergence of gaming has had a profound effect on our culture, as the terminology and concepts of gaming have begun to surface in areas such as politics, media, education, and even warfare (Raessens, 2012). Studies have identified a phenomenon known as the ludification of culture (Raessens, 2012) or emergent gamification (Hamari, 2019). These studies suggest that the gaming culture is becoming increasingly pervasive, significantly impacting society. This phenomenon has far-reaching implications for the way our culture develops and how we interact with each other in the future. Not only are gaming elements being integrated into different aspects of our lives, but they are also influencing the way we think, perceive, and interact with one another. As such, these trends will likely significantly impact our culture as we move into the future.

Hamari (2019) explains how game-like elements unintentionally spread into other areas of society due to widespread engagement with games and gameful interactions. It is driven by the increasing number of active gamers worldwide, estimated to be more than 3 billion in 2023 (Howarth, 2023). The influence of gaming culture is apparent in how other areas of society adopt game-like elements, such as points, rewards, and progress tracking, to engage and motivate people. Game-like language has become commonplace in everyday life, with terms like "levelling up" and "unlocking achievements" describing personal accomplishments. This change in language highlights the power and appeal of games and their ability to shape how we think and interact with the world.

Gamification is more than just a fleeting trend; it is strategically employed to enhance skills, motivation, creativity, engagement, playfulness, and happiness. This deliberate transformation of an activity, system, service, product, or organizational structure to emulate the positive experiences and skills associated with games is known as intentional gamification. This approach includes applications such as applied games, serious games, game-based learning, exergames, games designed for specific purposes, human-based computation games, and persuasive technology, all aimed at creating an engaging, game-like user experience. According to Hamari (2019), intentional gamification is a

purposeful process that influences various life aspects and is increasingly being adopted across multiple industries.

Landers (2019) defines legitimate gamification as an effective tool for motivating new behaviours and enhancing learning experiences, distinct from rhetorical gamification. Legitimate gamification draws on principles from game design, human-computer interaction, and psychological research to encourage behaviour in an ethical and justified way. This form of gamification goes beyond superficial mechanics such as points, badges, and leaderboards and creates a transformative experience (Landers, 2019). Examples of legitimate gamification include health and fitness apps that use game principles to increase physical activity, educational software that turns learning into an engaging experience using game mechanisms, and workplace training programs that employ gamification techniques to make learning more enjoyable. On the other hand, rhetorical gamification merely uses the language and elements of successful games to exploit people and make profits without any actual game design or understanding of why people play games.

Rhetorical gamification is a deceptive marketing strategy instead of efficient gamification. It means the utilisation of language and recognisable elements from popular games. It lacks the actual design and principles from game design, human-computer interaction, and psychological research necessary to successfully integrate a game-based approach to learning. Rhetorical gamification is often criticised as ineffective and profit-driven, delivering a subpar learning experience. In contrast, legitimate gamification is ethically justified, motivating new behaviours through careful consideration of the design and mechanics of the game. Ultimately, rhetorical gamification must consider the complexities of creating an entertaining and educational game instead of relying on successful games' language to capitalise on their popularity (Landers, 2019).

Thibault and Hamari (2021) argue that the terminology around play and gamification is confusing and oversimplified, leading to a shallow understanding of the concept. However, the ludification of culture and the increased use of playfulness and gamefulness in everyday life are worth studying. It is essential to distinguish between cultural trends, practical implementations, and abstract and specific gamification aspects. Thibault and Hamari are saying that gamification should indicate "the many ways in which playfulness can be used to promote cultural, psychological and societal good, rooted in positive

psychology and the cultural drive of the ludification of culture." (Thibault & Hamari, 2021).

This thesis defines gamification as the intentional act of creating benefits by integrating game design and game-like elements into non-game contexts. This definition highlights the purposeful nature of gamification, focusing on the deliberate use of game elements to produce desirable results, including enhanced engagement, motivation, and capabilities. By emphasising the intentional use of game design elements to achieve an intended outcome, this definition emphasises the strategic value of gamification in allowing organisations to leverage the power of game design to meet their goals.

2.3. History of Gamification

In this chapter, I discuss gamification's historical roots and evolution and the criticisms and challenges associated with its implementation. I begin by exploring the use of game elements in ancient civilisations for motivation, training, socialisation, and education. I address the criticism of gamification, particularly the practice of applying game mechanics to mundane tasks without considering the intrinsic value of games. Despite the criticisms, I recognise the growing trend of gamification in various industries and its potential for enhancing user engagement. I highlight using game design elements in non-game contexts to increase social interaction, motivation, and productivity.

Using game mechanics to motivate and engage people is not a new concept, and it can be traced back to the early days of human civilisation. Ancient civilisations such as the Romans, Greeks, and Egyptians used games to motivate and train their soldiers, such as chariot races, gladiator battles, and wrestling (Futrell, 2006). In addition, they also used games as a means of socialising and education for children, with games such as Knucklebones (similar to dice) and Senet (a board game) being popular (Murray, 1952).

The concept of loyalty programs is another example of the use of game elements that have their roots in ancient Egypt. The modern loyalty program can be traced back to B.T. Babbitt, who launched a promotional program in the 1850s called "trade marks". Customers could cut out and collect trade marks from his product packaging and redeem them for rewards such as harmonicas and gold jewellery. Babbitt also introduced premium stores where customers could exchange their trademarks for household articles and toys. The program was marketed as a profit-sharing plan, giving customers a share

of the profits from Babbitt's business. S&H Green Stamps were popular during the mid-1900s, offering rewards to shoppers who collected stamps from participating retailers. Members could order rewards through a print catalogue or visit a redemption centre, but claiming rewards required filling books with stamps and mailing in orders, creating a sizeable logistical operation. American Airlines was the first to introduce a Gold tier for its most loyal customers, and other airlines and hotel and car rental companies followed suit (Shelper, 2020). Overall, gamification, as we know it today, evolved from these early practices and continues to be shaped by advances in psychology, technology, and business. However, it was not until the 21st century that gamification emerged as a widespread business strategy and a recognised field of study.

The rise of emergent gamification led to the practice of gamification, which is heavily criticised by academia and the corporate world. According to Bogost (2014), gamification is often used to make mundane or tedious tasks more engaging, but this approach overlooks the intrinsic value of games. In short, Bogost argues that gamification is not a meaningful or authentic use of games and that it is misguided to apply game mechanics to non-game contexts without carefully considering their purpose and utility. Critics like Ian Bogost (2014) argue that gamification merely adds superficial elements like badges and leaderboards to existing processes without offering real value. However, this view has been challenged by scholars like Landers (2019), who argue that gamification offers more than Bogost's critique suggests and refers to this poor form of gamification as "rhetorical gamification".

The inefficiency of rhetorical gamification is not the only problem with gamified solutions. With poor design, gamification can lead to short-term engagement, where users are motivated only by immediate rewards or incentives rather than a long-term interest in the subject matter or task. Once the rewards stop, users may lose interest and disengage. Gamification can also have unintended consequences, such as promoting unhealthy competition or encouraging users to cheat or game the system to achieve a desired outcome. Furthermore, it may exclude certain groups of users, such as those with disabilities, who may not be able to participate in the game-like elements (Callan et al., 2014).

The inferior use of gamification caused many disappointments when the gamification hype was at its highest in the early 2010s. In 2012, Gartner predicted that 80% of gamification projects would fail by 2014 (Petty & van der Meulen, 2012). This

prediction aligns with the typical progression of emerging technologies described by the Gartner Hype Cycle. The Hype Cycle framework illustrates a new technology's phases from inception to adoption and maturity. It starts with the 'Technology Trigger,' where a concept sparks interest and expectations rapidly inflate, followed by the 'Peak of Inflated Expectations,' a period marked by a flurry of publicity and high anticipation. The subsequent disappointment in many gamification projects reflects the 'Trough of Disillusionment,' where interest wanes as experiments and implementations fail to deliver. (Pelling, 2008)

Subsequent research by Raftopoulos (2020) revealed that gamification decreased significantly between 2014 and 2018, with early adopters discontinuing its usage. This downturn is typical of the 'Trough of Disillusionment' phase. Nevertheless, Koivisto and Hamari (2019) reported that, while gamification was at the bottom of the curve, they could already see signs that it was slowly gaining popularity and entering the 'Slope of Enlightenment' phase. During this phase, understanding of the technology improves, practical applications emerge more clearly, and many organizations feel comfortable expanding their investments. This phase is eventually followed by the 'Plateau of Productivity,' where the benefits of the technology become widely demonstrated and accepted, stabilizing its market position.

Gamification is a growing trend in many industries, including online sharing economies, education, business, and technology. It is expected to continue to be a popular way to support user engagement. Using game design elements in non-game contexts to increase social interaction, motivation, and productivity is at the heart of gamification (Hamari, 2019). Gamification has become a powerful tool for enhancing user engagement and motivation across various domains. Studies such as those by Trinidad et al. (2021) and Lister et al. (2014) have highlighted the widespread adoption of gamification in diverse fields, including health, education, business, and society. This trend underscores the effectiveness of gamification in fostering motivation and engagement among users, making it a popular choice for organizations seeking to enhance user experiences and achieve specific goals.

While some critics view gamification as a boring marketing strategy, others see it as a powerful and potentially harmful tool. Concerns about its impact on society, particularly in the case of the Chinese Social Credit System, are well justified. This system aims at social control through gamification (Thibault & Hamari, 2022). Even if some forms of

gamification can be dangerous and unethical, rejecting play altogether is not productive. Instead, it is necessary to embrace the pervasiveness of play and critically examine how it is being used.

2.4. What Motivates People to Play Games

While it is essential to understand the terminology of games, gameful and gamification, in creating successful gamification, it is even more critical to understand why people play games. In this chapter, I introduce how understanding the motivations behind playing games is crucial for creating successful gamification experiences.

The study by Banyte and Gadeikiene (2015) explores the effect of consumer motivation on video game-playing engagement. The research identifies three types of motivation: intrinsic, extrinsic, and experiential. These motivations describe consumer engagement with video games at personal and game levels. The study also examines the multidimensional nature of consumer engagement, encompassing cognitive, emotional, and behavioural dimensions. Specific dimensions of engagement in game-playing, such as immersion, presence, flow, and absorption, are analysed. The findings indicate that experiential motivation significantly impacts immersion, presence, and flow, with presence being the most influential. Intrinsic motivation primarily affects immersion, while extrinsic motivation related to game elements does not significantly impact consumer engagement. Absorption is not influenced by consumer motivation to play games. The results have implications for various stakeholders, including game designers and those interested in gamification for learning or value co-creation (Banyte & Gadeikiene, 2015).

Yee's (2016) study went deeper into motivation to play games. It identified six distinct clusters of gaming motivations: Action (related to excitement and destruction), Social (involving collaboration and competition), Mastery (focused on strategy and challenge), Achievement (centred around power and completion), Creativity (associated with design and discovery), and Immersion (related to story and fantasy).

Högberg et al. (2019) developed and validated GAMEFULQUEST, an instrument for measuring the perceived gamefulness of system use. It was created using a mixed-methods approach, including qualitative studies and psychometric evaluations. GAMEFULQUEST is designed to model and measure an individual user's gameful

experience in systems and services. It aims to capture the positive experiences and motivations that games evoke and their impact on user behaviour.

These motivations encompass various aspects of gameplay and provide insights into why individuals engage with games. Personalisation of incentives and experiences is a critical consideration in gamification. Recognising that individuals have different motivations, tailoring incentives and experiences to their specific needs can enhance engagement and drive targeted behaviours. The gameful experience plays a vital role in influencing behaviour, making personalisation of the gameful experience essential.

2.5. Obstacles of Gamification

What are the reasons for gamification's failure? In this chapter, I examine the obstacles to gamification.

Scheiner et al. (2017) have identified obstacles and challenges as critical elements that must be addressed for the successful implementation of gamification. Often, the failure of gamification initiatives can be traced back to inadequate design and a fundamental misunderstanding of the issues they are supposed to resolve (Callan et al., 2014). A limited understanding of what engages players in games can lead to merely cosmetic applications of gamification elements like points and badges rather than a meaningful integration into the process. This shallow implementation can cause a disconnect between the desired outcomes and the motivational dynamics intended by the gamification effort (Callan et al., 2014).

Scheiner et al. (2017) highlight that gamification should not be approached as a universal solution but should be meticulously tailored to each specific context or product. Game design elements must be seamlessly integrated into the process functionalities to prevent them from becoming a distraction. Moreover, employing basic and simplistic feedback mechanisms in gamified products can restrict the depth and enduring appeal of the games. Gaining a more profound understanding of game design and mechanics can facilitate the deployment of more intricate systems that captivate users' interests and extend their engagement (Schmidt et al., 2015).

One common pitfall in gamification is rewarding users for undesired behaviour, which can lead to ineffectiveness or even counterproductive outcomes. For instance, a gamified learning site that rewards users for clicking numerous links rather than focusing on actual

learning may hinder the desired educational outcomes (Callan et al., 2014). Moreover, gamification can inadvertently promote anxiety, stress, and demotivation if the reward system creates unhealthy competition or distracts individuals from their primary tasks (Callan et al., 2014).

Understanding that merely incorporating game design elements does not inherently ensure motivation is crucial. The motivational framework must be thoughtfully crafted, considering the participant's specific needs and attitudes to genuinely enhance motivation through gamification (Scheiner et al., 2017). Additionally, gamification should be optional rather than mandatory; imposing it on unwilling participants can detrimentally impact their engagement and learning, especially in educational contexts (Callan et al., 2014).

Another challenge lies in ensuring that the rewards offered in gamified systems have real-world implications and are aligned with the desired outcomes. If rewards have no tangible impact or the system is easily exploitable, participants may become unmotivated or lose sight of the actual goals of the gamified process (Callan et al., 2014; Scheiner et al., 2017).

Effective gamification interventions necessitate meticulous planning to ensure that the desired outcomes align with the behaviours that the rewards are intended to encourage. Gamification should be used only when participation in both the process and the gamified aspects are voluntary. Organizations looking to harness motivation through gamification must carefully select a motivational theory that fits their objectives and choose suitable game elements based on sound game design principles rather than quickly embracing popular trends (Callan et al., 2014). Additionally, it's important to acknowledge that developing a fully immersive gaming environment demands considerable resources and time (Callan et al., 2014).

3 EDUCATIONAL VIRTUAL EVENTS

Events are a significant aspect of human culture and society. They create possibilities for people to connect, learn, celebrate, and have fun in various ways. However, events are not fixed or uniform phenomena. They are changing and diverse, reflecting the participants' and organisers' different needs, preferences, and expectations. Moreover, events are affected by the context and environment, which can be physical or virtual.

In this chapter, I aim to provide an overview of the idea and the features of events, focusing on virtual events. I will first explain an event and how it can be categorised based on different criteria. I continue with the characteristics and the outcomes of events, such as the social interaction, the cultural meaning, the satisfaction, and the loyalty of the visitors. I will narrow the scope to educational virtual events with a learning or training purpose for the participants.

The popularity of virtual events has increased significantly in recent years, mainly due to the COVID-19 pandemic, which has disrupted many in-person events and activities. (Kuusisto & Sahlstedt, 2021;Boscolo-Berto et al., 2021) Rethinking the justification for conferences, exploring different financing models, and embracing new technologies and scheduling approaches may be necessary (Iglesias et al., 2021).

However, virtual events are not just a temporary solution or a second-best option. They have many advantages and opportunities that can make them more appealing and effective than live events. They also have some challenges and limitations that need to be addressed and overcome. Therefore, in this chapter, I aim to provide an overview of the benefits and challenges of virtual events. I will also give an overview of producing virtual events.

3.1. Defining Virtual Event

An event is a happening that has a specific time and location, a purpose and a plan, aimed at people whose everyday routines the event is outside of. An event can be one-off or recurring in physical or virtual space. Events can be described as public gatherings for celebration, training, marketing or meeting purposes. There are many different types of events, and they can be classified based on their size, type, and context. (Wirén, Westerholm & Liikamaa, 2020.)

Event features consist of elements that enable social interaction among visitors and between visitors and performers. Communicating shared cultural meanings is an essential part of the event. As a result, the participant experiences personal benefits, such as pleasure and self-improvement, and symbolic meaning, such as a sense of unity and recognition of external meanings and values. (Morgan, 2008.) Event features also influence the level of satisfaction and loyalty of the visitors. Satisfaction is the degree to which the event meets or exceeds the visitors' expectations, while loyalty is the intention to revisit or recommend the event to others. (Lee et al., 2011.) Satisfaction and loyalty are affected by various factors, such as the quality of the event, the perceived value, the emotional response, and the social identity. (Kim et al., 2012.) Therefore, event organisers should design and deliver event features that can create positive outcomes for the visitors and enhance their overall experience.

A virtual event can be defined as an event in a virtual or simulated environment rather than a physical location. Virtual events can encompass various activities, including conferences, meetings, exhibitions, performances, and social gatherings, conducted online or through virtual reality platforms (Georgieva & Georgiev, 2019). These events may aim to replicate the experience of attending an in-person event by providing interactive and immersive experiences through digital technologies, or they can seek to create entirely new ways to experience events. They can be small or large in implementation and organised lightly, for example, in Zoom or with a more extensive implementation on a virtual event platform or virtual reality. This thesis concentrates on educational virtual events, such as internal training events for companies, scientific conferences or events held by educational institutions.

3.2. Benefits and Challenges of Virtual Events

Virtual events offer several benefits for organisers and attendees, such as cost-effectiveness, convenience, accessibility, scalability, and sustainability. However, they also pose challenges, such as technical issues, engagement difficulties, security risks, and ethical concerns. Therefore, planning and managing virtual events requires careful consideration of various factors, such as the purpose, audience, content, format, platform, and event evaluation.

Several studies have examined virtual events, and their advantages compared to live events are well known. Studies have shown that participants generally report satisfaction

and engagement with virtual events. Virtual events can provide convenience, accessibility, and flexibility, allowing attendees to attend anywhere and engage in content and networking at their own pace. (Wu et al., 2021; Gopalakrishna, Lilien & Donsbach, 2022.) They are effective in promoting knowledge acquisition and learning outcomes.

Virtual environments can provide interactive and immersive experiences that improve knowledge retention and understanding. (Alrehaili & Osman, 2022.) Virtual events have also shown cost and resource efficiency compared to live events. Research has shown that virtual events can significantly reduce travel costs, venue costs and logistical requirements while delivering valuable experiences and results. (Foramitti et al., 2021.) Virtual events' carbon footprint is smaller than traditional in-person events. They significantly reduce greenhouse gas emissions related to travel, accommodation, and event infrastructure. (Yates et al., 2022.) Virtual events also have the opportunity to reach a wider audience and improve accessibility. Virtual platforms enable the participation of people who may have physical, financial, or geographical barriers to participate in events. (Foramitti et al., 2021.)

However, virtual events also present challenges. The technical and connectivity issues in webinars are significant barriers that impact the effective participation of individuals in online learning and meetings (Chaves, 2021). Lack of technical skills and digital competencies have been identified as significant challenges for participants engaging in online education (Doynovska, 2022), although the technical skills of the teachers are a more substantial concern in educational events (Chaves, 2021; Doynovska, 2022). The hardware and internet connection cost can also be a concern, which grows when using specialised equipment like VR headsets. Internet connectivity and power issues are common problems, especially in developing countries (Adhikari et al., 2020).

Furthermore, language barriers can also impede inclusivity in online meetings. Research has shown that language proficiency and media capabilities used in virtual teams can impact satisfaction and inclusion, highlighting the importance of addressing language-related accessibility issues (Fleischmann et al., 2019). This reason adds to the engagement difficulties in online events, which are already a challenge compared to onsite events (Yozcu et al., 2023).

Online events can also present security risks not found in traditional events. The loss of confidentiality and availability, exposure of critical data, and vandalism of public information services are pertinent to the broader context of online events (Graf, 2002).

Virtual events present various challenges but can be mitigated by understanding virtual event production. The potential benefits often outweigh the risks involved. Therefore, careful planning and management are essential to ensure the success of virtual events.

3.3. Producing Virtual Events

This chapter aims to provide an overview of producing virtual events. First, I will discuss the critical elements of a successful event, such as social interaction, personal experience, and cultural meaning. Then, I will explore the benefits and challenges of virtual events and the best practices and recommendations for planning and managing them successfully.

The key to a successful event is to create a space for social interaction and personal experiences. The organisers provide the presentations and the setting, but the participants' satisfaction depends on how much they share a sense of togetherness with the other participants. The organisers' goal should be to design a program that offers the freedom to experiment and choose activities. The event succeeds by providing space and time away from everyday life for intense experiences. Organisers are facilitators who help participants turn experiences into valuable memories. (Morgan, 2008)

Based on the studies, the main things to consider in producing virtual events are:

- Interactions and Engagement
- Content and Program
- Technology
- Cost
- Attendee Experience and Satisfaction
- Environmental Impact

Virtual events should facilitate attendees' interactions and provide engagement opportunities, including features like online chat, virtual networking sessions, and interactive elements within the event platform (Simons, 2018). Engaging attendees and

providing networking opportunities are considered essential factors in the success of virtual events (Iglesias et al., 2021).

The event's content plays a significant role in attracting attendees to virtual events. The quality and relevance of the content, including keynote speakers and the overall program, are essential factors in attendees' preferences for virtual events (Yozcu et al., 2023). Online and event content engagement influences attendees' satisfaction and future intention (loyalty) (Yozcu et al., 2023).

Producing a virtual event requires careful consideration of the technological aspects. Consideration includes selecting the appropriate online platforms, ensuring reliable audio-visual capabilities, and providing technical support for attendees. Planning for adequate event promotion and choosing suitable hosting platforms is essential (Rasheed et al., 2021).

Producing virtual events may have different cost implications compared to in-person events. Depending on the event's type, size, and complexity, virtual events may require different platforms, tools, services, and personnel to ensure a smooth and engaging experience for the participants. Some of the costs associated with virtual events include the fees for the platform or software, the internet bandwidth, the audio-visual equipment, the technical support, the production team, the speakers, the moderators, and the marketing.

The overall attendee experience and satisfaction are crucial for the success of virtual events. Factors such as the quality of the event content, the ability to engage with the content and other attendees, and the sense of community and belonging can influence attendees' satisfaction and future intention (loyalty) (Yozcu et al., 2023). Providing opportunities for networking and social interaction can help enhance the attendee experience (Iglesias et al., 2021).

Virtual events offer the opportunity to reduce the carbon footprint associated with physical events. Switching to online events can significantly reduce greenhouse gas emissions and contribute to sustainability efforts (Jäckle, 2021). Furthermore, virtual events can also promote sustainability by reducing waste generation. Physical events often generate significant amounts of waste, including paper materials, food waste, and single-use items. In contrast, virtual events rely on digital platforms, reducing the need for physical materials and minimising waste production.

In summary, producing a virtual or online event requires careful consideration of interactions and engagement, content and program, technological aspects, cost considerations, attendee experience and satisfaction, environmental impact, and adaptation to changing circumstances. Event organisers can create successful and engaging virtual events by addressing these considerations.

3.4. Gamification in Virtual Educational Events

The exploration of virtual event gamification has emerged as a compelling avenue for enhancing participant engagement and addressing social involvement gaps. This chapter delves into the evolving landscape, drawing insights from critical studies that have pioneered the integration of gamification in virtual educational events.

Thibault et al. (2021) introduced "Etsijä's Call" to address social involvement gaps in virtual conferences. Etsijä's Call was created to help the participants engage in a virtual conference and remedy the scarcity of social involvement. The authors believe that conference games can be a powerful tool to increase engagement and create memorable experiences for virtual events.

Sisson and Whalen (2021) conducted a study on the impact of gamification in conference events in the hospitality industry. Their study did not specifically target virtual events, but their work can be used as a guideline for educational events in general. They found that pre-event game communication significantly affects attendees' emotional commitment and perceived value of the conference. The study suggests that incorporating game elements into conference events can increase attendees' emotional commitment, satisfaction, willingness to participate in gameplay, and positive word-of-mouth intentions. The researchers suggest that relatedness, a part of the self-determination theory of motivation, drives attendees to participate in conference gameplay. They argue that fostering relatedness through games and activities can lead to attendees having a positive experience and forming long-term emotional commitments to the conference (Sisson & Whalen, 2021).

O'Connell et al. (2020) used gamification to enhance postgraduate medical students' engagement in virtual learning events. They created a virtual game that was run on a Zoom conferencing platform. The game allowed the participants to compete against each other in teams and eliminate teams one by one. While this proved an efficient way of

engaging, it also showed that not all participants were happy about the format and would have wished for a different way of learning. This example reminds us that gamification should be voluntary, as Callan et al. (2014) suggested, and that there are other aspects of games that motivate people, and it is not always the competition (Banyte & Gadeikiene, 2015; Yee, 2016; Högberg et al., 2019).

Flavián et al. (2023) extend the discussion by addressing the often-overlooked negative aspects of new technologies, particularly the distracting nature of virtual reality in cultural events. Their study reveals that the overwhelming amount of information in virtual reality hampers users' attention and leads to adverse effects, impacting their ability to envision cultural events and appreciate their existential authenticity. Despite these challenges, the study identifies gamification as a promising solution to effectively mitigate the negative impacts of virtual experiences. Their findings show that engaging in gamified tasks helps users concentrate on essential content and enjoy an enhanced experience. Perceived gamification also contributes to users' ability to imagine events and accept their existential authenticity, positively influencing their behavioural intentions. This research sheds light on the drawbacks and potential solutions for creating a more positive user experience in virtual reality events (Flavián et al., 2023).

According to Flavián et al. (2023), educational events like conferences find value in virtual reality. Consideration of the target audience is crucial; tech-savvy participants may navigate more effortlessly. Recognising negatives is vital for cultural events, especially for one-time experiences, where a lack of guidance induces feelings of loss. Sisson and Whalen (2021) also highlight the importance of intrinsic rewards such as relatedness, competence, and autonomy in motivating conference attendees to play games at conferences. These elements satisfy the need for interpersonal connection and understanding, which is crucial in understanding attendee behaviour and intentions. The researchers suggest that gamification at conferences can increase emotional commitment and lead to positive behavioural outcomes such as repeat attendance and positive word of mouth. In addressing this, gamification elements effectively capture attention, enrich experiences, and convey event information. Event managers are urged to integrate gamification to engage in virtual cultural events (Flavián et al., 2023).

Successful virtual reality events coexist with poor attendance and investment ratios (Flavián et al., 2023). Sisson and Whalen (2021) emphasise the significance of word-of-mouth (WOM) in the overall impact of an event. Understanding the relationship between

WOM and perceived values in the events industry is essential, as positive WOM can strengthen the effect of an event. The study suggests that games at events can impact attendees' perceived value and WOM intentions, which are likely linked to attendees' level of participation. Event planners should consider how gameplay affects attendees' attitudes and behaviours towards the event. (Sisson & Whalen, 2021.)

Meeting planners must motivate attendees to participate and interact in the game to ensure successful event gamification. This motivation can be achieved by incorporating attractive rewards, increasing the level of challenge, and using social media to create buzz. The type of game being used can also impact the level of participation and the game's outcome. Games that are easier to play and understand and have immediate rewards are more likely to attract participants. (Sisson & Whalen, 2021.)

Gamification can positively impact conference attendees' emotional commitment, value perceptions, and word-of-mouth intentions. It creates a sense of belonging and engagement by allowing attendees to interact and participate with others. Event planners should consider the impact of games on value perception and WOM behaviours when implementing gamification strategies in the events industry. Event organisers can enhance the conference experience and drive positive outcomes by utilising the benefits of self-determination and belongingness through gameplay. (Sisson & Whalen, 2021.)

In conclusion, the field of gamification in virtual educational events is not widely researched, but there are a few studies that shed light. While virtual reality and gamification offer exciting opportunities for enhancing engagement in virtual events, it is essential to consider the potential drawbacks and ensure that these tools are used to improve the user experience rather than detract from it. It is also crucial to consider the target audience and ensure that the gamification elements are aligned with their preferences and motivations.

4 METHODS

In this chapter, I delve into the methodologies of the study. This research hinges on the qualitative research of professionals' experiences and insights. Semi-structured interviews serve as the primary tool for data collection, offering the flexibility necessary to uncover nuanced information that may elude more rigid survey methods. This personalised approach facilitates a richer understanding of the participant's perceptions and experiences, guiding the researcher toward unanticipated yet invaluable data.

Subsequent thematic analysis is a robust framework for organising and scrutinising the qualitative data amassed, enabling a coherent articulation of emerging patterns and themes. This analytical process is not just about data organisation. It aims to provide the research with relevant and meaningful findings, capturing the essence of the study's core objectives.

This chapter methodically unfolds through sections detailing data collection via semi-structured interviews, the sampling strategy, interview questions, and thematic analysis, culminating in a discussion on ethical considerations and methodological limitations. Each segment meticulously outlines the processes and rationales undergirding the study's methodological choices, illustrating how these decisions are pivotal in shaping the research's trajectory and integrity.

The chapter makes the fundamental methods and principles on which the research is based understandable. It sheds light on the core techniques, strategies, and theoretical frameworks that form the foundation of the study, helping to understand how the research was conducted and on what basis the methodology was chosen and applied.

4.1. Data Collection with Semi-Structured Interviews

According to Almeida, Faria and Queirós, a survey is a technique where data collection comes directly from a person involved in the research. Data is acquired with a set of organised questions. A structured interview is designed to get comparable responses from multiple interviews, where the interviewer questions about experiences or hypothetical situations. The process must be standard for all people interviewed. A variant of this is a

semi-structured interview, in which there is a set of predefined questions but gives freedom to explore the issue in greater depth. (Almeida et al., 2017)

A survey is mainly considered a quantitative research method, while a semi-structured interview is qualitative. In the quantitative research methodology, it is essential to have many answers, and the research needs to be designed to quantify the data. It focuses on objectivity and is good when collecting quantifiable variables and inferences from population samples is possible. The qualitative research methodology is not concerned with numerical representativity. It is mainly used to find a deeper understanding of the subject of study, and the researcher is considered both the subject and object of his research. Thus, it is used in aspects that cannot be quantified. (Almeida et al., 2017)

According to Jansen (2010), the qualitative survey aims to determine the diversity of some topics instead of frequency or mean. Qualitative and quantitative surveys may start from the same aims and research question, but the research question's translation to knowledge aims should decide which methodology to use. The quantitative survey needs a sizable random sample, and the researcher needs a complete register of population members as a sampling frame. A qualitative survey is more logical and efficient for conducting diversity samples to cover all relevant varieties of the phenomenon. (Jansen, 2010)

Hirsjärvi and Hurme (2008) state that the interview is a very flexible method suitable for different kinds of research. Because of the respondents' interaction, it is possible to influence data collection and determine the answers' motives. The interaction also leads to very high response rates. The main point in choosing an interview is to underline that a respondent is an active participant who can create meaning. There may be a possibility to use more time on answers and make some follow-up questions. The interviewer can also help if the subject does not understand a question, and the interviewer can adapt questions to the specific individual and situation. It is also useful when the research subject is somewhat unknown, and the researcher does not know what kind of answers to expect or when it is likely that the answers are going in multiple directions. One of the best parts about interviews is that one can clarify and deepen the given answer. The problems are that the interviews are more expensive due to having live interviewers, and they are much more time-consuming and thus not easily scalable. It is also possible for the interviewer to influence responses either inadvertently or on purpose. Interviews require well-trained interviewers to be well conducted, and the analysing, interpreting and

reporting are often problematic because no given models fit everything. (Hirsjärvi & Hurme, 2008)

I chose semi-structured interviews to allow for an in-depth exploration of the experiences and perceptions of event organizers and participants regarding gamification. This method enables a deeper understanding of complex issues, less attainable through more structured or quantitative methods. This format provides the flexibility to probe deeper into interesting areas that emerge during the conversation, allowing the interviewer to explore nuances and complexities of gamification strategies that may not be fully captured through standardized questions alone.

While surveys could provide quantitative data on a larger scale, they would not offer the same depth of insight into how practitioners implement and perceive gamification. Observational studies, on the other hand, would limit the ability to directly ask participants about their motivations and thoughts behind their actions. Experimental designs would offer control over variables but could lack real-world applicability given the diversity of virtual event settings.

4.2. Sampling

This chapter outlines the sampling strategy employed in this study, detailing participant selection criteria, recruitment processes, and the overall sample size. The sampling strategy utilised in this study was a combination of purposive sampling and snowball sampling techniques.

In purposive sampling, choosing participants aligns with a study's overall rationale. Qualitative research often involves using a small, deliberately chosen sample to deepen the understanding of a topic rather than to broaden it. Purposive sampling is employed to choose participants likely to provide the most relevant and valuable information, optimizing the use of limited research resources efficiently. (Campbell et al., 2020) This study's purposive sampling targeted experienced event industry professionals in Finland, focusing on event producers from known companies within my network.

Snowball sampling, a widely utilised technique in qualitative research, involves a progressive expansion of the sample size based on referrals from initial participants. As one interviewee offers the name of another potential participant, and subsequently, each new interviewee suggests additional contacts, the sample accumulates like a snowball

rolling downhill. Although prior personal connections are optional for ensuring sample diversity, they often facilitate the process, given that establishing fresh contacts during research can be resource-intensive. Ensuring diversity in the initial seeds of the sample is crucial for achieving overall sample diversity, as emphasised by Kirchherr and Charles (2018).

In this study, the initial selection of participants was based on their experience level in the event industry, particularly in producing educational virtual events. Furthermore, diversity among participants was sought in terms of their specific roles or positions within the industry and their involvement in various events. This approach aimed to capture multiple perspectives and insights relevant to the research objectives.

After selecting participants from known companies, snowball sampling was utilised to expand the sample size and reach individuals from companies not initially identified by the researcher. This method facilitated the inclusion of specialists who might offer unique insights and perspectives, thus enriching the study's findings.

The recruitment process involved emailing potential candidates and subsequently scheduling interviews with them. The selected individuals were emailed, introducing the research objectives and inviting them to participate. Upon confirmation of interest, meetings were scheduled at mutually convenient interview times.

The study sample included 12 participants. It is essential to note that while the sample size of 12 participants was sufficient to reach saturation, capturing a range of perspectives and experiences within the target population, this assessment is cautiously made. Saturation was deemed achieved when no new information or themes emerged from data collection, suggesting that the number of participants was adequate to explore the research questions comprehensively. However, it is important to recognize that the perception of saturation can be subjective and contingent upon the depth of the analysis. Therefore, while the sample size facilitated a detailed exploration within the specified context, it remains modest and could potentially limit the breadth of perspectives captured, highlighting the nuanced balance between depth and breadth in qualitative research sampling.

Informed consent was obtained from all participants before they participated in the study. Consent was initially requested via email, where participants were provided with detailed information about the study objectives, procedures, and their rights as participants.

Additionally, verbal confirmation of consent was sought at the beginning of each interview session to reaffirm participants' willingness to participate and ensure ethical compliance.

4.3. Interview Questions

Before the beginning of the interview, I defined the virtual and educational events for the interviewees as in chapter 3.1 and briefly described Yee's (2016) Gamer Motivational Model.

By asking the following questions, the study gained valuable insights from experienced event organisers about the possibilities and considerations when gamifying educational virtual events. Their responses provided a foundation for understanding the potential benefits, challenges, and strategies of incorporating gamification into virtual event experiences.

1. Can you provide an overview of your experience organising educational virtual events?

- This question allows the interviewee to share their background and expertise in organising educational virtual events, providing context for their insights on gamification.

2. How do you understand the term gamification?

- This question helps me evaluate how the interviewee understands gamification.

After the second question, we discussed the definition of gamification to ensure that we understood the term similarly. All the interviewees had a similar understanding of the term.

3. Have you ever incorporated gamification elements into virtual events? If yes, could you describe the specific elements used and their impact?

- These questions aimed to understand the interviewee's previous experience with gamifying virtual events and the outcomes they observed. They helped gather specific examples and insights into the effectiveness of gamification.

4. In your opinion, what are the potential benefits of incorporating gamification into educational virtual events?

- This question encouraged the interviewee to discuss the perceived advantages of gamification in virtual events, such as increased engagement, motivation, and interactivity.

5. What challenges or limitations have you encountered when implementing gamification in educational virtual events?

- This question explored the potential obstacles or difficulties when incorporating gamification into virtual events. It allowed the interviewee to share their insights on gamification's practical aspects and possible drawbacks.

6. How do you measure the success or effectiveness of gamification in educational virtual events?

- This question explored the interviewee's approach to evaluating the impact and success of gamification in educational virtual events. It allowed them to share their insights on metrics, feedback mechanisms, or other evaluation methods they use or recommend.

7. In your opinion, how can gamification enhance participant engagement and interaction in educational virtual events?

This question sought to understand the interviewee's perspective on how gamification can improve participant engagement and foster interaction in educational virtual events. It encouraged them to discuss the mechanisms and strategies they believe are effective.

8. In your opinion, how can gamification enhance participant satisfaction and loyalty in educational virtual events?

- This question sought mechanisms and strategies to improve participant satisfaction and loyalty.

9. How do you plan to reward participants in gamification? How does rewarding support educational goals?

- This question aided in gathering insights into the types of awards and prizes conferred by the interviewees and their perspectives on the criteria for award allocation, thus bolstering the event's objectives.

10. Do you believe gamification is especially well-suited or badly-suited for any particular type of educational virtual event?

- This question aimed to explore the interviewee's thoughts on the applicability of gamification in different types of educational virtual events.

11. What potential gamification elements or techniques could be successfully applied to educational virtual events in future?

- This question encouraged the interviewee to brainstorm and suggest specific gamification elements or techniques they believe could be effectively utilised in educational virtual events. It helped to gather innovative ideas and perspectives.

4.4. Analysing the Data with Thematic Analysis

The study uses thematic analysis to systematically code the qualitative data and find recurring patterns and themes. According to Braun & Clarke (2006), thematic analysis is a technique used to identify, analyze, and report patterns and themes found within data. It assists in organizing and providing a detailed description of the data set. Although thematic analysis is commonly utilized, there is no universally accepted consensus on its exact methodology or execution.

Braun and Clarke introduced the foundational concepts of thematic analysis in psychology in 2006 and continued to refine their methodology, as elaborated in Forbes' practical guide (2021). This evolution from their original work to Forbes' guide represents refinement and expansion, providing a more nuanced framework for conducting qualitative data analysis. The key methodological advancements in Forbes' guide include more profound guidance, an emphasis on reflexivity, and detailed applications of Braun and Clarke's thematic analysis framework.

In this study, I follow Braun & Clarke's (2006) original guidelines for using thematic analysis to find answers to my research questions. How could gamification be used in educational virtual events to enhance participant experience and engagement? How do the event producers measure the success or effectiveness of gamification in educational virtual events? What kind of gamification do event industry professionals predict they will use in the future, and why?

The theoretical standpoint of thematic analysis needs to be explicitly stated. An inductive approach in the thematic analysis is closely tied to the data itself. It involves identifying themes without being constrained by specific research questions or the researcher's theoretical interests. This data-driven method avoids fitting data into pre-existing frameworks and allows themes to emerge naturally from the data. However, researchers' theoretical commitments still influence the analysis.

In contrast, a more researcher-driven theoretical approach focuses on specific aspects of the data but may provide less overall description. The choice between inductive and theoretical approaches depends on whether the research question is predefined or evolves during analysis. (Braun & Clarke, 2006)

Braun & Clarke (2006) describe a data corpus as the entire collection of data gathered for a specific research endeavor. In contrast, a data set consists of a subset of this corpus that is utilized for a particular analysis. This study's data corpus comprises 12 interviews with experienced virtual event organisers. The whole data corpus is used as a data set.

Braun & Clark (2006) continue that a data item refers to each piece of data collected, comprising the data set or corpus, and that a data extract is a piece of coded data taken from a data item. The data extracts are used in the final analysis to recognise themes within the data set.

The research questions in this study are pre-defined, so I have used the deductive approach to create coding categories. I will introduce the coding process in the next chapter.

One decision in thematic analysis concerns the level of theme identification: semantic (explicit) or latent (interpretative). A semantic approach focuses on surface meanings of data, progressing from description to interpretation. Conversely, a latent approach delves deeper into underlying ideas and assumptions, shaping the data's meaning and requiring interpretative analysis rather than mere description. (Braun & Clarke, 2006) The data set in this study consists of focused interviews of professionals willing to give information on the subject, and thus, the thematic analysis uses a semantic approach where the researcher concentrates on what the interviewees are saying instead of trying to find deeper meanings.

A theme in qualitative research captures important patterns or meanings within the data set related to the research question. It is subjective to determine the significance and

prevalence of a theme; there is no set rule for how much data needs to exhibit a theme to consider it valid. Researcher judgment is crucial in identifying themes, considering their importance in addressing the research question rather than just their frequency across the data set. (Braun & Clarke, 2006) The themes from the data are participant engagement and motivation, challenges and considerations, measuring success and effectiveness and the future of gamification in educational virtual events. These themes are discussed in the Results chapter.

4.5. Coding

This chapter details the systematic categorization and analysis of data derived from interviews regarding the use of gamification in educational virtual events. Six code categories were initially developed based on the study's theoretical framework and research questions. Through an iterative process of reviewing and refining the data, final codes were established, each accompanied by descriptions and illustrative quotes translated from the original Finnish. The chapter presents these codes across six tables.

Initially, I created the following code categories from the research questions and the theoretical part of the study.

- Gamification elements
- Participant engagement
- Participant motivation
- Challenges and considerations
- Measurement of success or effectiveness
- Strategic planning
- The future of gamification in educational virtual events

I reviewed the data set and added codes under each code category. After going through all the transcripts, I refined and combined the codes and created themes from the data. I distributed the final codes under the themes. The final codes can be seen in the following code tables. The tables contain the actual code, description and an example quote for every code. The quotes are translated from Finnish, the language used in the interviews.

Table 1 presents the theme 1 – Gamification Elements. The final codes in this category are social collaboration emphasis, competition, score and point systems, feedback loops and immersive environments.

Table 1. Theme 1 – Gamification Elements.

Code	Description	Example quote
Social collaboration emphasis	How gamification fosters cooperative interactions	"It somehow liberates. It brings air and joy, and discussion and group formation also occur. Often, there can be some group work in training, or the goal might be to work on learning something or maybe a business event strategy. Gamification enables such natural grouping and collective action in a positive spirit." - Participant 3
Competition	Competitive aspects and the role of rewards in engagement	"Yes, but those kinds of social elements, so it has involved much cooperation or maybe some voting or perhaps just competition, like someone participates in a draw, or spotting these words so the first one wins prizes or something like that." – Participant 9
Score and point systems	Using points or scoring to motivate and track progress	"And then they were also given various points through it, which specifically motivated them." – Participant 2
Feedback loops	Immediate feedback mechanisms to guide and motivate learners	"We can also personalize the training because certain moments when we do something are our individual experience where we respond or act in a certain way, and we might get exactly the information and supporting learning material that suits us." – Participant 11
Immersive environments	Creating detailed settings or contexts to engage participants deeply	"When the event began, they watched something like a movie trailer, which gave a narrative context to what they would be doing that day." – Participant 2

Note. This table shows the final codes under the theme Gamification Elements. The example quotes are translated from Finnish.

Table 2 presents theme 2 – Learning Enhancements. The final codes in this theme are enhanced engagement, improved retention, adaptive learning paths, peer learning facilitation, real-world application simulation and motivation enhancement.

Table 3 presents theme 3 – challenges and considerations. The final codes in this theme are technological barriers, user experience design, cost implications, maintaining educational integrity, overemphasis on competition and time and resource requirements.

Table 4 presents the theme 4 – Measurement of Success or effectiveness. The final codes in this category are user engagement metrics, feedback and survey analysis, comparative study findings, retention and recall rates, completion rates monitoring and skill application in real-life.

Table 2. Theme 2 – Learning Enhancements.

Code	Description	Example quote
Enhanced engagement	How gamification leads to higher attention and participation rates	"And then many feel that the rhythm works much better than in so-called traditional

		training. It is more varied and maintains interest better." Participant 10
Improved retention	Discussing memory and recall benefits from gamified learning	"I would feel that they are, and then somehow the emphasis and highlighting of certain things being taught, the kind of memory trace that remains and what kind of emotional experience remains from the learning process." – Participant 10
Adaptive learning paths	Customizing challenges based on individual learning speeds and styles	"Different tasks can be offered to students of different levels." – Participant 6
Peer learning facilitation	Encouraging learning through interaction with peers	"gamification indeed works as a breaker of social tension and ice. It creates a naturally common activity and goal, making discussion a very natural way for some to connect over the network." – Participant 3
Real-world application simulation	Utilizing gamification to mimic real-world scenarios	"Simulations help understand real-world problems." – Participant 3
Motivation enhancement	The motivational impact of gamified elements on learners	"So I see it as a means of motivation and engagement that you must be present. You are an active participant, not just someone who receives information being poured in; you have to be involved in the learning process very strongly as an actor." – Participant 10
Target audience understanding	Tailoring gamification strategies to the specific needs of the learners	"It slightly limits because certain aspects of gamification rely very strongly on getting the participants involved and that it motivates the gamification methods used and does not cause reactions like, 'No, I did not want this; I came here to learn, and now we are just playing.' So, knowing the target audience is very important." – Participant 10

Note. This table shows the final codes under the theme of Learning Enhancements. The example quotes are translated from Finnish.

Table 5 presents theme 5 – the Future of Gamification in Educational Virtual Events. The final codes in this theme are technological advancements, greater emphasis on immersive learning, accessibility improvements and customizable learning environments.

Table 3. Theme 3 – Challenges and Considerations.

Code	Description	Example quote
Technological barriers	Issues related to the digital tools and platforms used	"That we have the technical know-how to organize such a gamification element and that the technology works, do we know how to use it and how much time does it take?" – Participant 9
User experience design	Ensuring the gamified system is user-friendly and accessible	"It should be self-explanatory so that no participants need to learn any complicated game mechanics to be able to participate and carry out the tasks." – Participant 2
Cost implications	Considering the financial aspects of implementing gamified systems	"Certainly one is clearly money, that certain elements that one knows could be done, then there is a lack of money." – Participant 3
Maintaining educational integrity	Avoiding dilution of educational content in favour of gamification	"that gameful element should not be the main thing, but the content should still be in the centre." – Participant 10
Overemphasis on competition	Avoiding the negative impacts of too much focus on competitive elements	"Some, myself included, are not interested in the competition at all" – Participant 5
Time and resource requirements	Acknowledging the investment needed to create and maintain gamified systems	"The resource is very scarce, so it is a clear challenge and contradiction that it would be nice to do, but in the given time, these do not just happen." – Participant 3

Note. This table shows the final codes under the theme Challenges and Considerations. The example quotes are translated from Finnish.

Table 4. Theme 4 – Measurement of Success or Effectiveness.

Code	Description	Example quote
User engagement metrics	Tracking how participants interact with gamified elements	"Well, yes, we measure the number of participants, how many are in training, how many react, how many clicks, how many participate in this gamification." – Participant 9
Feedback and survey analysis	Using participant feedback to gauge the success of gamification	"In my opinion, the most reliable measurement is not just thumbs up but also the open feedback that we receive." – Participant 11
Comparative study findings	Research comparing gamified and non-gamified learning experiences	"But on the other hand, I have not done such an AB testing of my own training, even though there is a gamified version of this training, and it is not in a game way, and then we will see which one gets better feedback. That would be really interesting." – Participant 1
Retention and recall rates	Measuring memory retention as an indicator of effectiveness	"Improvement in memory through gamification is measurable; test results are better." – Participant 7
Completion rates monitoring	Tracking the number of participants who complete gamified courses	"Completion rates in gamification courses are higher; we actively monitor this." – Participant 9
Skill application in real-life	Assessing how well skills learned through gamification are applied outside the learning environment	"We have seen that skills learned through gamification transfer to the workplace." – Participant 11

Note. This table shows the final codes under Measurement of Success or Effectiveness. The example quotes are translated from Finnish.

Table 5. Theme 5 - the Future of Gamification in Educational Virtual Events.

Code	Description	Example quote
Technological advancements	The role of emerging technologies such as AI and VR in enhancing gamified learning experiences	“It was developed, and we are going through it, but something like that came to mind, that if we had the artificial intelligence somehow connected in that virtual event or training session, then the end users could even write two words, the keywords car and princess, and then the artificial intelligence would edit a picture of them, for example, and that is it like that.” – Participant 12
Greater emphasis on immersive learning	A shift towards more immersive environments that use gamification to simulate real-world scenarios	“And in the future, I believe this strengthening of this spatiality will add new ways to bring these playful elements to that virtual event. It can happen, for example, through such things as connecting to the senses, hearing, through some new audio technologies, that we can, for example, create a space that feels different with surround sound solutions so that even if we participate with our headphones, we suddenly somehow have a perception of how far away we are, for example about the trainer or other persons in that situation.” – Participant 2
Accessibility improvements	Making gamified learning more accessible to people with disabilities and from diverse backgrounds	"Virtual environments do not need accessible physical setups, which can be a significant advantage. For instance, if you were hosting an event in a forest, it would be hard to manage if someone in a wheelchair wanted to attend. In virtual settings, geographical and physical limitations are less of an issue, which makes them inherently more accessible." – Participant 4
Customizable Learning Environments	Platforms that allow educators and learners to create and modify their own gamified learning experiences	“If you take a gamified test, then if you answer incorrectly, you can be told right away in the game that they are not actually like that, that you should listen carefully now because we will go through this next or something similar. So, in that sense, I would very much hope that more would start to be exploited, and specifically perhaps also because the group can be kept awake.” – Participant 11

Note. This table shows the final codes under the theme of the Future of Gamification in Educational Virtual Events. The example quotes are translated from Finnish.

4.6. Ethics

Participants were informed that semi-structured interviews, conducted remotely via Teams meetings, typically lasted between 30 and 45 minutes. Participation was voluntary, with no penalties for withdrawal. There were no associated costs or fees, and the confidentiality of participants' information was guaranteed.

Additionally, participants received a statement detailing the handling of personal data in the study of gamification within virtual educational events. Data will be meticulously handled throughout its lifecycle in compliance with general data protection regulations and securely disposed of when deemed unnecessary.

The interviews were conducted according to standard journalistic ethics, where interviewees were provided with informed consent regarding the subject matter and topics covered. They could speak on or off the record or withdraw from the process entirely.

4.7. Limitations of the Chosen Methods

The methods employed in this study are subject to various limitations that warrant consideration in interpreting the findings. Non-probability sampling methods utilised in this study are inherently predisposed to sampling bias. The absence of random selection increases the risk of systematic biases, compromising the results' generalizability to the broader population. Moreover, the inability to estimate sampling errors, a characteristic of probability sampling, poses challenges in assessing the precision and reliability of the study findings. Non-probability sampling methods are also susceptible to unknown biases. (Kirchherr and Charles, 2018)

While semi-structured interviews offer valuable insights into participants' perspectives, they are not without limitations. Interviewer bias presents a notable concern, as the interviewer's interpretation and probing techniques may inadvertently influence the responses obtained, potentially skewing the data. Additionally, the reliance on participants' self-reporting introduces the possibility of response bias and inaccuracies stemming from participants' perceptions or memory limitations. The quality of semi-structured interviews heavily relies on the interviewer's proficiency in probing, active listening, and maintaining impartiality, which may pose challenges in consistently achieving neutrality across interviews. Furthermore, participants' inclination towards

providing socially desirable responses or withholding information may impede the depth and authenticity of the data collected, thus constraining the comprehensiveness of the study outcomes. (Hirsjärvi & Hurme, 2008)

The roles and perspectives of the interviewees inevitably influence the data quality. While the participants exhibited a keen interest in discussing the topic, their overwhelmingly positive views may introduce a potential bias, impacting the objectivity of the findings. It is essential to acknowledge that the enthusiastic engagement of interviewees may have influenced the data in ways that necessitate cautious interpretation.

These limitations underscore the need for a critical appraisal of the study's findings, acknowledging the inherent constraints associated with the chosen methods and the potential implications for the validity and reliability of the results.

5 RESULTS

The analysis of the interview data underscores the transformative effect of gamification on educational virtual events, with a pronounced emphasis on its role in enhancing participant engagement and motivation. Interviewees acknowledged the symbiotic relationship between gamification and participant involvement, noting a direct correlation with overall satisfaction. The discourse highlighted how gamification catalyses interactive dynamics, thus amplifying engagement in virtual educational settings. This increased engagement was universally acknowledged to lead to better learning outcomes and heightened satisfaction with the event experience.

Participants shared insights into how gamification can boost motivation and foster commitment. The essence of live interactions and activities was underscored for their critical role in driving engagement and maintaining motivation throughout the events. Moreover, the empowering influence of gamification tools was elaborated upon, focusing on how these tools engender positive participant experiences through thoughtful integration and design. User-friendly interfaces and inclusive design practices were emphasised to accommodate diverse participant backgrounds.

In terms of motivation sustainability, the role of rewards emerged as a critical theme. While the allure of tangible prizes like gift cards was debated, the intrinsic motivation derived from achievements within the gamified framework—such as sound effects, animations, trophies, and points—was highlighted. The narrative shifted towards the significance of creative engagement strategies, including challenges and fun elements, to link effort with rewards and validate learning achievements.

The narrative further expanded to the utility of creativity and storytelling as essential tools in enhancing problem-solving abilities and creating narrative-driven learning experiences. The conversation unveiled the necessity of integrating human elements into gamification, suggesting innovative methods like group discussions through unique chat interfaces to foster community and collaboration.

Finally, adaptability in gamification to suit specific event characteristics was considered paramount. The need for simplicity and efficacy in gamification strategies was echoed across discussions, highlighting the diverse spectrum of gamification elements like priority games, puzzle games, and interactive activities and acknowledging the challenges faced in the practical implementation of educational virtual events.

5.1. Gamification Elements Used in Educational Virtual Events

Integrating gamification elements into educational virtual events can benefit how participants engage with content and interact with each other. This chapter explores various gamification elements used in virtual learning environments, focusing on how they foster cooperation, competition, tracking, feedback, and immersion.

Social collaboration in gamification focuses on enhancing cooperative interactions among participants. This element is crucial in virtual events where the digital nature might otherwise limit personal interaction.

It somehow liberates. It brings air and joy, and discussion and group formation also occur. Often, there can be some group work in training, or the goal might be to work on learning something or maybe a business event strategy. Gamification enables such natural grouping and collective action in a positive spirit. – Participant 3

This quote from participant 3 emphasizes how gamification can transform potentially static learning environments into dynamic spaces that encourage active participation and group cohesion.

Competition is a key gamification element that leverages the innate human drive to compete. It can be utilized in educational settings to enhance learner engagement and motivation.

However, most of us are so competitive that, in principle, getting to the top of the list is enough to get you pretty excited. You try your best in everything you do, but those carrots can be pretty small carrots, so what do you really get there that the fact that you get 10 points and the parrot badge, quite often, actually takes you to the point where people are really excited about doing these things. – Participant 6

This statement from participant 6 underscores the effect of competition in creating an engaging learning atmosphere. The participant highlights using points and badges as a competitive tool, where rapid responses are rewarded, fostering a lively and dynamic learning environment. It reflects how competition can make learning experiences more engaging and rewarding when intertwined with other social elements.

Moreover, interviewees highlighted the role of rewards in sustaining motivation levels. Most recognised the impact of insubstantial rewards integrated into gamified elements such as sound effects, animations, trophies, and points. Many of them mentioned that

winning a competition or succeeding in a challenge was reward enough for most participants. A few event organisers mentioned using prizes like gift cards or vouchers, but they did not consider them effective in motivating engagement. Strategies such as incorporating challenges and fun elements were advocated to augment engagement, emphasising linking effort to rewards and validating learning achievements.

Score and point systems are straightforward yet powerful tools in gamification. They provide quantifiable measures of progress and achievement, motivating participants to engage more with the content. Scores and points motivate and provide a clear roadmap of progress, encouraging continuous participation and effort, as Participant 10 states in the following quote.

I probably saw a bit more traditional things like points and competence badges and the like, but then also something that can be built through interaction, like a prize in a certain way. Hey, we are now going in the right direction, which is strong. This is not the solution, and so on, and everything in between. – Participant 10

Some participants emphasise that gamification should primarily foster intrinsic motivation, enhancing the learning experience by making it inherently exciting and enjoyable. They argue that learning should be the reward, and gamification should aim to cultivate a love of learning for its own sake. Others believe in leveraging extrinsic motivators, like points, badges, or tangible rewards, to encourage participation and effort. They argue that such rewards can provide immediate, tangible goals and recognition of achievement, which can be particularly effective in large-scale or less interactive settings.

Feedback loops in gamification provide immediate responses to participants' actions, which is critical for adapting and personalizing the learning process. Immediate feedback helps tailor the learning experience to individual needs, enhancing effectiveness and satisfaction.

We can also personalize the training because certain moments when we do something are our individual experiences where we respond or act in a certain way, and we might get exactly the information and supporting learning material that suits us. – Participant 11

Creating immersive environments in educational virtual events involves using detailed settings or narratives that deeply engage participants, making the learning experience more vivid and memorable. Immersive environments help embed learning within a

context, making it more applicable and easier to retain. For example, participant 2 talked about using videos like movie trailers to create immersion at the beginning of the event.

When the event began, they watched something like a movie trailer, which gave a narrative context to what they would be doing that day. - Participant 2

Creativity and storytelling were identified as potent tools for encouraging rapid problem-solving and fostering narrative-driven experiences within educational virtual events. Integrating these elements was crucial in transforming training sessions into immersive gaming experiences tailored for enhanced learning outcomes. Importantly, interviewees stressed the need to incorporate the human element into gamification strategies, advocating innovative approaches such as group discussions facilitated through unique chat interfaces.

Using gamification elements such as social collaboration, competition, score and point systems, feedback loops, and immersive environments significantly enhances the effectiveness of educational virtual events. These elements foster a learning ecosystem that is engaging, interactive, and tailored to the needs of participants. By employing these strategies, educators can transform traditional learning modalities into dynamic and impactful educational experiences that captivate and educate simultaneously.

5.2. Learning Enhancements through Gamification

The interviewees collectively underscored the benefits of the gamification of educational virtual events, particularly highlighting its profound impact on participant engagement and motivation. A consistent theme emerged regarding the positive correlation between gamification, participant engagement, and overall satisfaction. Several interviewees elaborated on how gamification fosters heightened interaction, amplifying engagement levels within virtual educational settings. Enhanced engagement refers to the ability of gamification to capture and maintain learners' attention more effectively than traditional educational methods. It was widely acknowledged that increased engagement facilitates superior learning outcomes and enhances overall satisfaction with the event.

And then the fact that many feel that the rhythm works much better than in so-called traditional training. It is more varied and maintains interest better. – Participant 10

This observation from participant 10 suggests that the dynamic nature of gamified learning experiences can lead to higher participation rates by keeping the content engaging and varied.

Furthermore, insights were shared regarding the pivotal role of gamification in bolstering motivation and commitment among participants. There was an emphasis on the significance of live interactions and in-person activities in driving engagement and sustaining motivation. Some interviewees delved into the empowering potential of gamification tools, emphasising the positive participant experiences engendered by the integration of gamified elements.

So I see it as a means of motivation and engagement, that you really have to be present at it. You are an active participant, not just someone who receives information being poured in; you really have to be very strongly involved in the learning process as an actor. – Participant 10

Participant 10 highlights the role of gamification in transforming the learner from a passive recipient of information to an active participant in the educational process.

Gamification can significantly enhance memory and recall by embedding learning in interactive and emotionally engaging contexts. This quote from participant 10 emphasizes that the memorable and emotionally resonant aspects of gamification help solidify learning, improving retention over time.

I would feel that they are, and then somehow, the emphasis and highlighting of certain things being taught, the kind of memory trace that remains and what kind of emotional experience remains from the learning process. – Participant 10

Furthermore, the adaptability of gamification elements based on event characteristics was highlighted as paramount, with a focus on simplicity and effectiveness for optimal engagement. While various gamification elements, such as priority games, puzzle games, and interactive activities, were discussed, interviewees acknowledged the challenges of implementing educational virtual events.

Adaptive learning paths in gamification allow educators to tailor challenges and content to match their students' individual learning speeds and styles. By offering customized tasks, gamification ensures that all learners are adequately challenged and supported regardless of their proficiency level.

Different tasks can be offered to students of different levels. -Participant 6

Gamification encourages peer interaction, which can enhance learning through collaborative and social dynamics. This approach breaks down social barriers and fosters a community learning environment where participants can learn from each other.

Gamification indeed works as a breaker of social tension and ice. It creates a common activity and goal, making discussion a natural way for some to connect over the network. – Participant 3

Simulating real-world scenarios through gamification allows learners to apply theoretical knowledge in practical, contextual settings. Such simulations enhance understanding and retention by providing practical experience and contextual relevance to the learning material and help to understand problems, as Participant 3 states.

Simulations help understand real-world problems. – Participant 3

The effectiveness of gamification hinges on the educator's ability to comprehend and anticipate the learner's reactions to game-like elements. Participant 10's reflection reveals a concern about potential negative reactions from learners who may feel that gamification detracts from their educational goals.

It is slightly limiting because certain aspects of gamification rely very strongly on getting the participants involved, and it motivates the gamification methods used and does not cause reactions like, 'No, I did not want this; I came here to learn, and now we are just playing.' So, knowing the target audience is very important. – Participant 10

This insight from participant 10 underscores the importance of aligning gamification strategies with the expectations and preferences of the target audience to maximize engagement and educational outcomes.

Throughout the interviews, the advantages of integrating gamification into educational virtual events have been vividly illuminated by the participants' experiences and insights. The collective testimonies underscore a significant enhancement in participant engagement and motivation, underscoring the transformative impact of gamification on the learning process.

Moreover, the interviews revealed that gamification is a powerful motivator, compelling participants to immerse themselves fully in the learning process. By transforming learners from passive receivers of information to active participants, gamification fosters a more profound commitment to the learning process.

The adaptability of gamification strategies also plays a pivotal role in their effectiveness. Tailoring these strategies to accommodate individual learning speeds and styles ensures that all participants are adequately challenged and supported regardless of their initial skill level. This personalized approach enhances learning efficacy and promotes equity within the learning environment.

Despite the numerous benefits, the implementation of gamification is not without challenges. It requires a nuanced understanding of the target audience to avoid potential disengagement or negative perceptions that may arise if participants feel that educational integrity is compromised by excessive gamification.

5.3. Challenges and Considerations

Implementing gamification in virtual training events presents challenges and considerations, as highlighted by various interviewees. From technical barriers involving the selection and deployment of digital tools to concerns about user experience and accessibility, the complexities of integrating gamification are multifaceted. Key issues include ensuring that all participants can engage with the gamified elements without feeling alienated due to varying levels of digital literacy. Additionally, the need for gamification systems to be intuitive and user-friendly is emphasized to prevent them from overshadowing the educational content and goals of the training.

One of the primary challenges in implementing gamification is the technological barrier. It includes the availability of technology, the technical know-how required to use it effectively, and the reliability of digital tools and platforms.

The technology works because we have the technical know-how to organize such a gamification element. Do we know how to use it, and how much time it takes? – Participant 9

This concern reflects the necessity for adequate technical support and infrastructure. Ensuring that both educators and learners are comfortable with the technology is crucial for the success of gamification efforts.

The user experience of the tools was a significant consideration. Human interaction and collaboration were considered more difficult than in traditional events. There was concern over the assumption of participants' digital literacy, with some suggesting that not all attendees might be comfortable or able to engage with gamified elements, potentially

leading to frustration or exclusion. This perspective warns against designing gamified experiences that could alienate or exclude participants who lack digital proficiency.

The design of gamified systems must focus on user-friendliness and accessibility. Complex game mechanics can deter participation, especially for users who are not technologically adept.

It should be self-explanatory so that no participants need to learn any complicated game mechanics to be able to participate and carry out the tasks.
– Participant 2

A user-centred design ensures that gamified learning is inclusive, enabling participants to focus on learning rather than navigating the system.

Another common consideration was the engagement challenge. While gamification was seen as a tool to enhance engagement, it would not do it automatically; it needed considerable planning and good execution to manage this goal. Also, some interviewees mentioned the resistance to gamification and emphasised the importance of knowing the participants when designing educational virtual events. For example, overemphasizing competition might lead to disengagement for some learners.

While competition can motivate learners, excessive focus on this aspect can lead to stress and disengagement for some participants.

Some, myself included, are not interested in the competition at all. –
Participant 5

Participant 5 suggests the importance of offering diverse motivational strategies within gamified learning environments to cater to different preferences and learning styles.

Some of the interviewees addressed financial constraints as a significant challenge. Due to the lack of good tools for creating gamification for virtual events, planning and implementing quality gamification was considered time-consuming and expensive. Plenty of tools exist to create simple quizzes, polls, and puzzles, but creating more profound and specialised gamification was seen as something that still needed tailor-made implementations that were hard to duplicate.

The development and maintenance of gamified systems require significant time and resources. These constraints can impact the feasibility and sustainability of gamification initiatives.

The resources are very scarce, so it is a clear challenge and contradiction that it would be nice to do, but these do not just happen in the given time. – Participant 3

This statement underscores the need for realistic planning and management of expectations regarding the scope of gamification projects.

Some participants debated whether gamification is equally effective across various subjects. One view was that gamification works well in areas with clear right or wrong answers, like mathematics or natural sciences, while it might be more challenging to implement effectively in subjects that involve nuanced interactions or subjective feedback.

A significant concern with gamification is the potential dilution of educational content. Gamification must serve to enhance, not overshadow, the educational objectives. Educators must ensure that the core content remains the focus and that gamification does not reduce the program's educational value.

That gameful element should not be the main thing, but the content should still be in the centre. – Participant 10

While some participants believed gamification could significantly boost engagement and learning, others were concerned it might sometimes distract from the content or lead to competitive behaviour that could undermine collaborative learning environments. Proponents of gamification assert that it significantly increases engagement and learning outcomes by providing an interactive and dynamic environment. They argue that gamification leads to higher retention rates and a better understanding of the content. Some say that gamification might shift focus from the learning objectives to the game mechanics themselves, potentially resulting in superficial engagement with the content. There is concern that competitive elements might also foster an environment more focused on winning than learning.

In conclusion, while gamification holds significant promise for enhancing engagement and learning outcomes in virtual training environments, its practical implementation requires careful consideration of several critical factors. These include technological accessibility, the simplicity of design, financial constraints, and the educational integrity of the program. Educators and designers must understand their audience's diverse needs and capabilities to prevent potential frustration or exclusion. Ultimately, successful gamification efforts will balance these considerations with the goals of enhancing

learning and engagement, ensuring that gamification complements rather than complicates the educational experience.

5.4. Measuring the Success and Effectiveness of Gamification

One of the interview themes was how the event industry professionals measured the success and effectiveness of gamification in educational virtual events. Measuring the success and effectiveness of gamification in educational virtual events involves a balanced approach, integrating analytical data and subjective feedback to enhance the gamification experience and achieve academic goals iteratively.

Most interviewees mentioned post-event feedback surveys as crucial for assessing the effectiveness and success of gamification. Participants mentioned using these surveys to gather insights on whether the gamified elements met the attendees' needs and expectations. By systematically collecting data after the event, organisers can evaluate whether the gamified components are aligned with attendees' expectations and learning objectives. The feedback helps them to understand whether these elements were engaging, motivating, and effective in facilitating the intended educational outcomes.

Feedback from participants serves as a vital source of information for gauging the effectiveness of gamification. It includes quantitative metrics like survey ratings and qualitative data like open-ended responses. Such feedback provides direct insights into the learners' perceptions and experiences, offering a nuanced view of the impact of gamification.

In my opinion, the most reliable measurement is not just a thumbs up but also the open feedback that we receive. – Participant 11

The extent of participant engagement and interaction is a critical success metric for gamification. High participation rates and active engagement in gamified activities suggest the event was captivating and successfully maintained attendees' interest. These metrics, often gathered through real-time monitoring tools during the event, serve as immediate indicators of gamification's impact.

User engagement metrics are crucial for understanding how participants interact with gamified elements during educational sessions. These metrics typically include data on participation rates, user interactions, and the extent of engagement with gamified content.

We measure the number of participants, how many are in training, how many react, how many click, and how many participate in this gamification. – Participant 9

Quantitative data from surveys and engagement metrics provide solid statistics, but qualitative feedback offers a nuanced understanding of gamification's effectiveness. Open-ended survey responses allow participants to express detailed perceptions, experiences, and suggestions, offering organisers rich insights into the strengths and areas for improvement of the gamification elements.

Comparative studies between gamified and non-gamified learning experiences can reveal the added value of incorporating game elements into educational practices.

On the other hand, I have not done such an AB testing of my own training, even though here is a gamified version of this training and here is not in a game way, and then we will see which one gets better feedback. That would be really interesting. – Participant 1

Though not always conducted, such comparative analyses can significantly illustrate the benefits or shortcomings of gamification by providing a direct performance comparison.

One of the key indicators of effective learning is the improvement in retention and recall rates, which can be directly measured through tests and assessments post-training. Higher retention rates indicate that gamification may help embed knowledge more effectively than traditional learning methods.

Improvement in memory through gamification is measurable; test results are better. – Participant 7

Monitoring the completion rates of courses can provide insights into the motivational impacts of gamification. High completion rates often indicate that gamified learning is more engaging.

Completion rates in gamified courses are higher. We actively monitor this. – Participant 9

The ultimate test of any educational method is the application of learned skills in real-life scenarios. Gamification aims to teach and equip learners with skills that are transferable to their professional or personal lives.

We have seen that skills learned through gamification transfer to the workplace. -Participant 11

Such transferability strongly indicates gamification's effectiveness in practical, real-world settings.

Industry professionals recognise that gamification is not a static concept and underscore the importance of iterative improvement. Feedback and data-driven insights are essential for refining gamification strategies. The aim is to continually adapt and enhance these elements to meet participants' evolving needs better, thereby optimising future virtual events' educational impact.

In conclusion, the successful implementation and evaluation of gamification in educational virtual events hinge on a robust and multidimensional approach to measurement. Industry professionals emphasize the critical role of qualitative and quantitative feedback in assessing the effectiveness of gamified elements. This feedback, coupled with engagement metrics and comparative studies, provides a comprehensive picture of how gamification influences learning outcomes, participant satisfaction, and real-world application of skills. By continuously gathering and analysing this data, organizers can refine and optimize gamification strategies to better align with participants' educational goals and needs. Ultimately, this iterative process ensures that gamification remains a dynamic and effective tool in enhancing the educational experience in virtual settings.

5.5. The Future Use of Gamification in Educational Virtual Events

Event industry professionals predict using gamification more often and comprehensively in the future to enhance engagement, interaction, and learning experiences. The shared viewpoints across most interviews emphasise the evolution of gamification towards immersive and interactive experiences, personalised engagement, and fostering commitment among participants.

Professionals foresee gamification incorporating competition, group activities, and interactive scenarios to increase motivation, satisfaction, and active event engagement. They also anticipate integrating new technologies like artificial intelligence to create dynamic gaming components, enhancing overall event engagement.

Emerging technologies such as Artificial Intelligence (AI) and Virtual Reality (VR) are set to revolutionize gamified learning by creating more dynamic and responsive

environments. AI can automate and personalize learning experiences, while VR provides deeply immersive scenarios that mimic real-world settings.

If we had the artificial intelligence somehow connected in that virtual event or training session, then the end users could even write two words, the keywords car and princess, and then the artificial intelligence would edit a picture of them, for example, and that is it like that. – Participant 12

This quote from Participant 12 illustrates the potential of AI to interact intuitively with participants, enhancing engagement and making learning experiences more compelling and customized.

The shift towards more immersive learning environments aims to leverage VR and advanced audio technologies to simulate real-world scenarios in more tangible, impactful ways. This approach enhances the realism of simulations and engages multiple senses, thereby enriching the learning experience.

In the future, I believe this strengthening of this spatiality will add new ways to bring these playful elements to that virtual event. It can happen, for example, through such things as connecting to the senses, for example, hearing, through some new audio technologies, that we can, for example, create a space that feels different with surround sound solutions so that even if we participate with our headphones, we suddenly somehow have a perception of how far away we are, for example about the trainer or other persons in that situation. – Participant 2

Participant 2 highlights the potential for virtual events to become more sensory and engaging, making the gamified elements more effective and memorable.

Virtual environments inherently offer greater accessibility compared to physical locations. This advantage is particularly significant for people with disabilities or those from diverse geographical and socio-economic backgrounds. Enhancing accessibility ensures that gamified learning can reach a broader audience, democratizing education and training opportunities.

Virtual environments do not need accessible physical setups, which can be a significant advantage. For instance, if you were hosting an event in a forest, it would be hard to manage if someone in a wheelchair wanted to attend. In virtual settings, geographical and physical limitations are less of an issue, which makes them inherently more accessible. – Participant 4

Additionally, gamification is a strategic tool for achieving desired outcomes in virtual events, providing organisations with opportunities to leverage its benefits. The unique or differing viewpoints provided by certain documents highlight the importance of

simplicity and familiarity in gamification, the applicability of gamification in educational contexts, and the need for innovative practices to enhance engagement and retention. Professionals stress the adaptability and versatility of gamification, suggesting that its success depends on aligning with the content and objectives of the event. They also emphasise the significance of understanding participants' motivations for gaming and the potential of gamification to transform passive listeners into active contributors.

Future virtual platforms will likely enable educators and learners to create and modify their gamified experiences. This customization will allow for more targeted learning paths and interactive feedback mechanisms that adapt to individual learner responses.

That is, if you take a gamified test, then if you answer incorrectly, you can be told right away in the game that they are not actually like that, that you should listen carefully now because we will go through this next or something similar. So, in that sense, I would very much hope that more would start to be exploited, and precisely, perhaps also because of the fact that the group can be kept awake. – Participant 11

Customizable environments foster a more engaging and responsive learning process, crucial for maintaining learner interest and effectiveness.

In conclusion, the future of gamification in virtual events is marked by a significant shift towards more dynamic, immersive, and interactive experiences. Industry professionals anticipate a profound integration of advanced technologies like AI and VR, which will personalise and enhance the sensory aspects of virtual environments. This technological evolution will facilitate deeper engagement, greater accessibility, and more effective learning outcomes, ensuring that virtual events can cater to a diverse and global audience. As these technologies become more prevalent, the ability to customize and adapt gamified elements to individual preferences and learning styles will be crucial.

6 DISCUSSION

The discussion chapter delves into a comprehensive discussion of the findings from this study, juxtaposed against the backdrop of the theoretical framework and previous research discussed in the literature review. This chapter aims to interpret the implications of these findings, mainly focusing on how gamification elements influence participant engagement and learning outcomes in educational virtual events.

In this chapter, we revisit the initial research objectives outlined in the introduction, assessing the extent to which they have been achieved and reflecting on the necessity and impact of any deviations from the original research design. The discussion is structured to summarize the main findings related to each objective, followed by a critical analysis of how these findings relate to existing theories and prior studies in gamification and educational technology.

Furthermore, this chapter aims to bridge the gap between theoretical knowledge and practical implementation, drawing on the perspectives of the interviewees who are professionals in the field. This approach provides a grounded understanding of gamification's real-world applications and limitations in virtual educational settings.

By aligning the research findings with the literature and theoretical frameworks, this chapter highlights the study's contributions to the body of knowledge and proposes directions for future research that can expand on these insights.

6.1. Theoretical Implications

To analyse the study's results on using gamification in educational virtual events, I use the theoretical frameworks introduced in the previous chapters on games, playfulness, gamefulness, and the history and motivations behind gamification. My study addresses the practical application of these concepts, investigating how gamification can enhance participant experience and engagement in virtual educational events.

My findings resonate with the concepts of playfulness and gamefulness discussed earlier. The enhancement of participant engagement and learning outcomes through gamification aligns with the definition of gamefulness by Deterding et al. (2011), which is about creating engaging and motivating experiences by incorporating game elements. The positive impact of gamification on interaction and sustained interest among participants

shows that the playful and gameful design can successfully translate into educational virtual events, confirming the significance of experiential components in defining games and gamification.

The findings of my thesis resonate with the research by Banyte and Gadeikiene (2015) on the motivations influencing engagement in video gaming. Interviewees in my study emphasized the effectiveness of intrinsic and experiential rewards—such as the joy of completing a challenge and the sensory gratification from sound effects, animations, trophies, and points—in sustaining participant motivation and enhancing engagement levels. This aligns with Banyte and Gadeikiene's observation that experiential motivation substantially enhances immersion, presence, and flow in gaming, which are equally critical in educational contexts for maintaining engagement and facilitating deep learning experiences.

The study highlights the challenges and complexities of implementing gamification, reflecting the ongoing debate about gamification's definition and scope. The need for simplicity in gamification design and careful planning to address technical and user-friendly concerns aligns with Hamari's (2019) view that gamification should extend beyond mere game elements to include broader technological and cultural aspects.

As mentioned in the literature review, gamification has historically been used to engage and motivate people, with roots in ancient civilisations. The motivations behind gamification in this study, like social competition, collaboration, mastery, creativity, and immersion, align with these historical practices. They also resonate with Yee's (2016) motivation clusters, indicating a multidimensional approach to engagement in games and gamified systems.

The obstacles to gamification, such as technical issues, limited resources, and participant resistance, echo the challenges mentioned by Callan et al. (2014) and Scheiner et al. (2017) regarding the need for a well-thought-out design and understanding of the target audience. The future predictions for gamification in educational virtual events suggest an evolving field, emphasising immersive, personalised experiences and new technologies like AI, which could address these obstacles by creating more engaging and meaningful gamified experiences.

The theoretical framework of games, playfulness, gamefulness, and gamification provides a valuable lens to analyse the study's results. It shows that gamification can

significantly enhance educational virtual events' engagement and learning experience, mirroring gameplay dynamics in traditional and digital game settings when designed and implemented thoughtfully.

6.2. Practical Implications

Gamification in educational virtual events integrates game elements into learning environments to enhance participant engagement, motivation, and knowledge retention. This chapter explores strategies for planning, implementing, and measuring the success of gamification, drawing on insights from event industry specialists.

Effective planning is the foundation of successful gamification. It involves understanding the event's objectives, audience demographics, and desired outcomes. It is critical to define clear objectives for gamification, aligning them with the overall educational goals of the event. Objectives may include increasing engagement, enhancing learning, or fostering collaboration.

Understanding the audience's preferences, learning styles, and technological capabilities helps to tailor gamification to suit the audience's needs, ensuring inclusivity and accessibility. Selecting gamification elements that resonate with the audience and support the event's goals is essential.

The success of gamification in educational virtual events hinges on thoughtful implementation that enhances the learning experience without overshadowing educational content. Choosing the right technology platforms that support gamification features, such as quizzes, interactive tasks, and real-time feedback, helps to achieve the educational goals of the event. The technology should be reliable, user-friendly, and compatible with various devices. Gamification should seamlessly integrate with the educational content. Activities that complement and reinforce the learning objectives facilitate a cohesive learning journey.

The event producer should provide facilitators and support staff knowledgeable in subject matter and gamification techniques. These staff members are crucial in guiding participants through the gamified activities and ensuring engagement.

Evaluating the effectiveness of gamification involves assessing its impact on participant engagement, learning outcomes, and overall event success. The event producer should

gather feedback through surveys, interviews, or real-time interactions to gauge participant engagement and satisfaction. Feedback can provide insights into what worked well and areas for improvement. Measuring learning outcomes using pre- and post-event assessments to determine the educational impact of gamification helps to analyse whether gamified elements contributed to a deeper understanding of the subject matter. The event producer may utilise analytics tools to track participation, activity completion rates, and interaction levels. These metrics can offer objective evidence of the gamification's effectiveness.

Planning, implementing, and measuring the success of gamification in educational virtual events requires a strategic approach that aligns with educational objectives and meets the audience's needs. When executed effectively, gamification can transform the virtual learning experience, making it more engaging, interactive, and impactful. By continuously evaluating and refining gamification strategies, event organisers can enhance the educational value of their virtual events and achieve lasting success.

6.3. The Role of Competition

Competition is a core element of gamification that can motivate participants to engage more deeply with learning material. According to the interview data, competition serves as a dual-edged sword. On one hand, it can significantly increase participant engagement and motivation. On the other, if not carefully balanced, it can lead to negative experiences for those who feel left behind.

Rewards are integral to the competitive gamification framework, incentivising learners to participate and excel. Non-material rewards, such as graphical or sound elements and achieving levels, were often more efficient than material rewards, such as gift coupons or certificates. The interviews reveal that rewards effectively enhance motivation and help maintain learner engagement over time.

There should be a balance between competition and collaboration. Excessive focus on competition might undermine the beneficial aspects of cooperative learning. Moreover, competition can be un motivating for some people, as Participant 5 states.

As I mentioned, when we have done these kinds of leaderboards, i.e. competing for points or competing for speed or whatever, not everyone has liked it because, since the starting situations may be different, some people

are really competitive. Some, myself included, are not interested in the competition at all. – Participant 5

When competition is implemented thoughtfully, these elements can significantly enhance learner engagement and motivation. However, competition is not a necessity in gamification. Many interviewees emphasized co-working, learning from peers and other social aspects of gamification.

6.4. Co-working, Peer Learning, and Social Interaction in Gamified Learning Environments

The emphasis on collaborative learning experiences is increasingly prominent in the modern educational landscape. Gamification strategies often enrich educational outcomes by combining co-working, peer learning, and social interaction. This chapter explores how these themes are integrated into gamified learning environments, drawing on insights from professionals who have implemented these methods in virtual training settings.

Co-working in a gamified context refers to activities that require learners to collaborate towards common goals. This approach helps assimilate knowledge and fosters soft teamwork, communication, and problem-solving skills.

It is social, not so much about competition but maybe cooperation. – Participant 1

Participant 1's reflection highlights the shift from competitive to cooperative gamified activities, underscoring the importance of collaborative tasks. Learners are encouraged to work together in these settings, enhancing engagement and making learning more enjoyable and effective.

Peer learning is a natural extension of co-working, wherein participants learn from each other's experiences and insights. Gamified learning can be facilitated through discussion forums, group challenges, and peer review sessions, where learners are incentivized to interact and share knowledge.

In other words, it is a bit like a school on a school bench. If you were in an actual training event, you would do something active, be a part of, and cooperate in group work, but of course, only in this virtual situation, so their effect has been really positive. I liked the active grip. – Participant 5

Many of the professionals interviewed mentioned how group work enhanced learning. Participant 5 underscored the meaning of belonging to the group and doing something active together.

Learners expose each other to different viewpoints and approaches, enriching the learning experience. Teaching and explaining concepts to peers can reinforce one's understanding, and learners can offer mutual support, which can be particularly motivating in challenging modules.

Social interaction is critical in gamified learning environments as it enhances engagement and retention. Gamification can transform learning into a social experience, making it more appealing and less isolating, especially in online education settings.

Using platforms that students are already familiar with can increase participation and engagement. Live chats and video calls can simulate a classroom environment, offering immediate communication and feedback. Creating a sense of community among learners encourages continued interaction and engagement outside scheduled learning activities.

While integrating co-working, peer learning, and social interaction into gamified learning offers numerous benefits, it also presents challenges. Not all students may be equally comfortable or effective in group settings, leading to imbalances in participation and benefit. Ensuring all learners can participate in and benefit from interactive and collaborative activities regardless of technological or physical constraints. Keeping the balance between social interaction and the learning objectives can be challenging. Too much focus on social aspects might detract from the educational goals.

Co-working, peer learning, and social interaction are fundamental components that enhance the effectiveness of gamified learning environments. These strategies make learning more engaging and help develop valuable interpersonal skills beyond the educational context. Effective implementation of these strategies requires careful consideration of group dynamics, accessibility, and the program's educational goals. As digital learning evolves, these gamification elements will likely play increasingly significant roles in shaping future educational experiences.

6.5. Summary

The primary research question of this thesis is: How could gamification be used in educational virtual events to enhance participant experience and engagement? The interviewees emphasised incorporating social competition, collaboration, mastery, creativity, and immersion to improve participant engagement and learning outcomes. They highlighted the benefits of gamification, including heightened engagement, motivation, interactivity, and sustained interest among participants. Challenges in implementing gamification, such as technical issues, user-friendly design, limited resources, and participant resistance, were also addressed, underscoring the need to overcome barriers for successful adoption.

The first sub-question for the thesis is: How do event producers measure the success or effectiveness of gamification in educational virtual events? The event organisers use methods like AB testing, customer feedback, participant engagement, activity levels, and post-training feedback surveys. The importance of feedback for measuring success and enhancing participant engagement through gamification was underscored across various interviews. The success of gamification was evaluated through participant satisfaction, learning effectiveness, and long-term impact on clients, emphasising the need for active interaction to maintain engagement and motivation throughout training events.

The interviewees also discuss the complexities of designing technological solutions that require minimal technical support, careful planning in utilising technology for virtual events, and the challenges of finding user-friendly tools for gamification. They stress the significance of simplicity in incorporating gamification, data privacy considerations, and adapting to varying digital literacy levels among participants. The potential for gamification to enhance engagement, interaction, satisfaction, and loyalty through various rewards and game elements is explored, with examples of incorporating puzzles, role-playing, quizzes, and reaction games mentioned as effective strategies.

The second sub-question for the thesis is: What kind of gamification do event industry professionals predict they will use in the future and why? Event industry professionals anticipate a broader integration of gamification in future events to elevate engagement, interaction, and learning experiences, emphasising its evolution towards immersive, personalised, and commitment-driven approaches. Foreseeing elements like competition, group activities, and AI integration, they aim to boost motivation, satisfaction, and active

participation. Furthermore, professionals view gamification as a strategic tool for achieving desired outcomes, stressing simplicity, alignment with objectives, and understanding participant motivations to optimise engagement and transform passive attendees into active contributors.

Based on the discussion of this research, I propose recommendations for the implementation of gamification in educational virtual events:

- Customization: Develop gamification strategies adaptable to diverse learner needs and contexts to enhance engagement.
- Integration: Seamlessly integrate gamification elements with educational content to ensure that gamification mechanics do not overshadow learning objectives.
- Training: Provide training for educators and event organizers on the effective design and implementation of gamification.
- Evaluation: Implement ongoing assessment mechanisms to evaluate the impact of gamification on learning outcomes and participant engagement.

These recommendations aim to optimize the application of gamification in educational settings, ensuring that it contributes positively to learning and engagement.

7 CONCLUSION

This thesis has explored the nuanced landscape of gamification in educational virtual events, uncovering the multifaceted elements contributing to its effectiveness and the complexities of its implementation. This conclusion chapter revisits the overarching aims and specific objectives outlined at the beginning of this study on the effectiveness of gamification in educational virtual events. This thesis explored how gamification could be integrated into virtual educational environments to enhance participant engagement and learning outcomes. The objectives set to achieve this aim included identifying the key elements of gamification that contribute to successful learning experiences and determining the impact of these elements on participant motivation and engagement.

The research objectives were approached through qualitative analysis of semi-structured interviews with industry professionals and an extensive literature review. The findings indicate that while gamification significantly enhances engagement and motivation, its effectiveness depends on the context in which it is applied and participants' differences.

The study's findings align with existing literature that supports gamification as a tool to enhance learning experiences but also extend this understanding by highlighting the importance of context. This research contributes to theoretical frameworks by demonstrating that gamification elements' motivational effects are enhanced when integrated in a manner that respects individual learner differences and preferences. A literature critique revealed that while many studies focus on the quantitative aspects of gamification, qualitative impacts such as participant satisfaction and the subjective quality of engagement are less frequently examined.

Although master's theses often consolidate existing knowledge rather than pioneering new theories, this research offers a unique contribution by providing a nuanced understanding of how gamification can be tailored to diverse educational contexts. This study emphasises gamification's qualitative impacts, offering a more profound, contextually grounded insight into its practical implementation.

Gamification in educational virtual events is more than just a trend; it represents a dynamic and evolving facet of digital engagement that harnesses the principles of game design to create meaningful and memorable experiences. The research findings have demonstrated that when implemented thoughtfully, gamification can transform the

educational landscape of virtual events, fostering more significant interaction, motivation, and learning outcomes.

The key factors contributing to the success of gamification in these settings include the thoughtful design of game mechanics, the alignment of gamification strategies with educational objectives, and the relevance of game elements to the target audience. The positive impacts of gamification, such as increased engagement and enhanced learning experiences, highlight its potential as a powerful tool for event organisers and educational professionals.

However, the journey to successful gamification is not without challenges. Technical constraints, resource limitations, and the need for user-friendly design are significant hurdles that need careful consideration and strategic planning to overcome. The future of gamification in educational virtual events appears promising, with predictions of more immersive, personalised, and interactive experiences driven by technological advancements and a deeper understanding of participant motivations.

The insights gained from this study are valuable for event organisers, educators, and professionals seeking to leverage gamification to enhance the educational value and participant experience of virtual events. As we look forward to the evolving landscape of gamification, its potential to revolutionise the world of virtual education is immense and only just beginning to be tapped.

7.1. Limitations of the Study

Purposive and snowball sampling methods led to a non-random selection of participants, which may not represent the broader population of event industry professionals, which can introduce sampling bias, as the participants selected through these methods might have similar perspectives or experiences, limiting the diversity of viewpoints and potentially skewing the findings.

While the relatively small sample size of 12 participants is sufficient for qualitative depth and reaching data saturation, it limits the study's generalizability. The findings might not apply to all event industry professionals or other contexts beyond the study's specific demographic and geographic focus.

The investigation is expressly limited to the experiences and insights of event industry professionals in Finland, who are versed in producing educational virtual events. This geographical and professional boundary means the findings might not be universally applicable, as they are deeply rooted in the Finnish context, characterized by its advanced digital infrastructure and innovative educational culture. While this focus provides an in-depth understanding of gamification practices in Finland, it also restricts the generalizability of the results to other regions and event types. Additionally, the perspectives are confined to professionals in the event industry, possibly overlooking the experiences and viewpoints of other stakeholders such as attendees, educators, or tech developers. These limitations highlight the need for caution when extrapolating the study's findings to broader contexts or different educational event formats.

A single researcher's reliance on semi-structured interviews can introduce interviewer bias. The interviewer's perspectives, questioning style, and interaction with the participants might influence the responses received, affecting the neutrality and objectivity of the data collected.

The data is based on participants' self-reporting, which can be subject to inaccuracies due to memory limitations, personal biases, or a tendency to provide socially desirable responses. Self-reporting could affect the authenticity and depth of the insights gained.

While thematic analysis is adequate for qualitative data, it is inherently subjective. The process of identifying and interpreting themes is influenced by the researcher's perspectives and theoretical commitments, which can shape the analysis and outcomes of the study. The study focuses on qualitative insights and lacks quantitative data, which could provide a different dimension of analysis, such as statistical significance or patterns in a larger population. The study's focus on educational virtual events within Finland might limit its applicability to other types of events, industries or regions, affecting the breadth of its implications.

7.2. Future Research Directions

Most of the current research, including this study, focuses on the immediate effects of gamification. Future research could explore longitudinal studies to examine the long-term impacts of gamified learning on knowledge retention, sustained engagement, and skill application outside the virtual learning environment. Longitudinal research could help

determine whether the initial boosts in engagement and learning outcomes are enduring or if they diminish over time.

While this study focused on participants in Finland, future studies should consider a broader range of demographics, including different age groups, cultural backgrounds, and educational levels. Understanding how cultural differences affect the perception and effectiveness of gamification can tailor strategies to diverse learner populations, thereby enhancing inclusivity and accessibility.

Comparative studies across different virtual event platforms (like Zoom, Microsoft Teams, and specialized virtual learning environments) could elucidate how platform capabilities and limitations impact the effectiveness of gamification elements. Such studies could guide platform choice or customization when planning gamified educational events.

Integrating emerging technologies such as artificial intelligence, virtual reality, and augmented reality with gamification represents an exciting area of future research. Studies could explore how these technologies can create more immersive and interactive learning experiences and how they interact with traditional gamification elements like points and badges.

Future research should also explore the ethical considerations of gamification in education, including issues of fairness, privacy, and potential adverse effects such as addiction or increased stress. Ethical guidelines for gamification can help ensure that it is used responsibly and beneficially.

Finally, future research could investigate the impact of implementing gamification on instructors and event organizers, including the resources and training they need and the challenges they face to help develop support systems and training programs for professionals implementing gamification.

REFERENCES

- Adhikari, P., Paudel, S., Pandey, R. R., Parajuli, A., & Pyakuryal, A. (2020). Effectiveness of e-learning during the covid-19 pandemic among the undergraduate medical students in nepal: an online survey. *Journal of Pharmacy Practice and Community Medicine*, 6(3), 40-43. <https://doi.org/10.5530/jppcm.2020.3.13>
- Almeida, F., Faria, D. & Queirós, A. (2017). Strengths and Limitations of Qualitative and Quantitative Research Methods. *European Journal of Education Studies*. 3. 369-387. [10.5281/zenodo.887089](https://doi.org/10.5281/zenodo.887089).
- Banyte, J., & Gadeikiene, A. (2015). The effect of consumer motivation to play games on video game-playing engagement. *Procedia economics and finance*, 26, 505-514.
- Bogost, I. (2014). Why gamification is bullshit. *The gameful world: Approaches, issues, applications*, 65-79.
- Boscolo-Berto, R., Porzionato, A., Stecco, C., Macchi, V., Caro, R. (2021). Anatomical Societies Find New Ways To Come Together In a Post-covid World. *Anatomical Sciences Ed*, 6(14), 739-751. <https://doi.org/10.1002/ase.2135>
- Braun, V., & Clarke, V. (2006). Using thematic analysis in psychology. *Qualitative research in psychology*, 3(2), 77–101.
- Caillois, R. (1958). *Man, Play and Games*. Translated by Meyer Barash. Urbana: University of Illinois Press.
- Callan, R. C., Bauer, K. N., & Landers, R. N. (2014). How to Avoid the Dark Side of Gamification: Ten Business Scenarios and Their Unintended Consequences. In *Gamification in Education and Business* (pp. 553–568). Springer International Publishing. https://doi.org/10.1007/978-3-319-10208-5_28
- Campbell, S., Greenwood, M., Prior, S., Shearer, T., Walkem, K., Young, S., ... & Walker, K. (2020). Purposive sampling: complex or simple? Research case examples. *Journal of research in Nursing*, 25(8), 652-661.
- Chaves, M. G. F. (2021). Remote learning readiness and challenges: perceptions and experiences among tertiary state university management students. *Recoletos Multidisciplinary Research Journal*, 9(1), 79-89. <https://doi.org/10.32871/rmrj2109.01.08>
- Deterding, S., Dixon, D., Khaled, R., & Nacke, L. (2011, September). From game design elements to gamefulness: defining " gamification". In *Proceedings of the 15th international academic MindTrek conference: Envisioning future media environments* (pp. 9–15).

- Doynovska, R. (2022). Student assessment from the faculty of “public health, healthcare and sports” south-west university “neophit rilsky” on the online training. *Medis – International Journal of Medical Sciences and Research*, 1(3), 43-47. <https://doi.org/10.35120/medisij010343d>
- Flavián, C., Ibáñez-Sánchez, S., Orús, C., & Barta, S. (2023). The dark side of the metaverse: The role of gamification in event virtualization. *International Journal of Information Management*, 102726.
- Fleischmann, A. C., Aritz, J., & Cardon, P. W. (2019). Language proficiency and media synchronicity theory: the impact of media capabilities on satisfaction and inclusion in multilingual virtual teams. *Proceedings of the Annual Hawaii International Conference on System Sciences*. <https://doi.org/10.24251/hicss.2019.042>
- Forbes, M. (2021). Thematic analysis: a practical guide. *Evaluation Journal of Australasia*, 22(2), 132-135. <https://doi.org/10.1177/1035719x211058251>
- Futrell, A. (2006). *The Roman Games: Historical Sources in Translation*. Wiley.
- Graf, F. (2002). Providing security for elearning. *Computers & Graphics*, 26(2), 355–365. [https://doi.org/10.1016/s0097-8493\(02\)00062-6](https://doi.org/10.1016/s0097-8493(02)00062-6)
- Hamari, J. (2019). Gamification. In *The Blackwell Encyclopedia of Sociology*, G. Ritzer (Ed.). <https://doi.org/10.1002/9781405165518.wbeos1321>
- Hamari, J., Koivisto, J., & Sarsa, H. (2014). Does Gamification Work? -- A Literature Review of Empirical Studies on Gamification. 2014 47th Hawaii International Conference on System Sciences, 3025–3034. <https://doi.org/10.1109/HICSS.2014.377>
- Hirsjärvi, S., & Hurme, H. (2008). *Tutkimushaastattelu : teemahaastattelun teoria ja käytäntö* . Gaudeamus Helsinki University Press.
- Howarth, J. (2023). How Many Gamers Are There? (New 2023 Statistics). Exploding topics. Retrieved April 4th, 2023, from <https://explodingtopics.com/blog/number-of-gamers>
- Huotari, K., & Hamari, J. (2012). Defining gamification: a service marketing perspective. *Proceeding of the 16th International Academic MindTrek Conference*, 17–22. <https://doi.org/10.1145/2393132.2393137>
- Högberg, J., Hamari, J., & Wästlund, E. (2019). Gameful Experience Questionnaire (GAMEFULQUEST): an instrument for measuring the perceived gamefulness of system use. *User Modeling and User-Adapted Interaction*, 29(3), 619-660.

- Iglesias, V., Smith, S. M., Gibson, D. (2021). A Lesson In Resilience: the Abrupt Digital Transformation Of Society Conferences In 2020. *Learned Publishing*, 1(34), 35-42. <https://doi.org/10.1002/leap.1362>
- Jansen, H. (2010). The logic of qualitative survey research and its position in the field of social research methods. *Forum, Qualitative Social Research*, 11(2).
- Juul, J.: The game, the player, the world: Looking for a heart of gameness. In: *Proceedings of the 2003 DiGRA International Conference: Level Up, DiGRA 2003*, pp. 30–45. Utrecht, The Netherlands (2003)
- Jäckle, S. (2021). Reducing the Carbon Footprint Of Academic Conferences By Online Participation: The Case Of The 2020 Virtual European Consortium For Political Research General Conference. *APSC*, 3(54), 456-461. <https://doi.org/10.1017/s1049096521000020>
- Kim, J. H., Ritchie, J. B., & McCormick, B. (2012). Development of a scale to measure memorable tourism experiences. *Journal of Travel research*, 51(1), 12–25.
- Kirchherr, J., & Charles, K. (2018). Enhancing the sample diversity of snowball samples: Recommendations from a research project on anti-dam movements in Southeast Asia. *PloS one*, 13(8), e0201710.
- Koivisto, J., & Hamari, J.: The rise of motivational information systems: A review of gamification research. *International Journal of Information Management*, 45, 191–210 (2019).
- Landers, R. (2019). Gamification Misunderstood: How Badly Executed and Rhetorical Gamification Obscures Its Transformative Potential. *Journal of Management Inquiry*, 28(2), 137–140. <https://doi.org/10.1177/1056492618790913>
- Lee, J. S., Lee, C. K., & Choi, Y. (2011). Examining the role of emotional and functional values in festival evaluation. *Journal of Travel Research*, 50(6), 685–696.
- Lister, C., West, J. H., Cannon, B., Sax, T., & Brodegard, D. (2014). Just a fad? gamification in health and fitness apps. *JMIR Serious Games*, 2(2), e9. <https://doi.org/10.2196/games.3413>
- Murray, H. J. R. (1952). *A History of Board-Games Other Than Chess*. Oxford: Clarendon Press.
- O'Connell, A., Tomaselli, P. J., & Stobart-Gallagher, M. (2020). Effective use of virtual gamification during covid-19 to deliver the ob-gyn core curriculum in an emergency medicine resident conference. *Cureus*. <https://doi.org/10.7759/cureus.8397>

- O'Leary, D. E. (2008). Gartner's hype cycle and information system research issues. *International Journal of Accounting Information Systems*, 9(4), 240-252.
- Pelling, N. (2021). The (short) prehistory of "gamification"... (2021, September 12). <https://nanodome.wordpress.com/2011/08/09/the-short-prehistory-of-gamification/>
- Raessens, J. F. F. (2012). Homo ludens 2.0 the ludic turn in media theory.
- Raftopoulos, M. (2020). Has Gamification Failed, or Failed to Evolve? Lessons from the Frontline in Information Systems Applications.
- Rasheed, R., Salako, B., Odutola, O., Shanthakumaran, Y. (2021). 54 Service Transformation Of Acute Home Visiting Service (Ahvs) During Covid-19 Pandemic. Abstracts. <https://doi.org/10.1136/leader-2021-fmlm.54>
- Schmidt, R., Emmerich, K., & Schmidt, B. (2015). Applied games—in search of a new definition. In *Entertainment Computing-ICEC 2015: 14th International Conference, ICEC 2015, Trondheim, Norway, September 29-October 2, 2015, Proceedings 14* (pp. 100-111). Springer International Publishing.
- Scheiner, C., Haas, P., Bretschneider, U., Blohm, I., & Leimeister, J. M. (2017). Obstacles and challenges in the use of gamification for virtual idea communities. *Gamification: Using game elements in serious contexts*, 65-76.
- Shelper, P. (2020). The True History Of Loyalty Programs. (Retrieved April 14th, 2023 from <http://loyaltyrewardco.com/the-true-history-of-loyalty-programs/>
- Simons, I. (2018). Events and Online Interaction: The Construction Of Hybrid Event Communities. *Leisure Studies*, 2(38), 145–159. <https://doi.org/10.1080/02614367.2018.1553994>
- Stenros, J. (2016). The game definition game. *Games and Culture*, 12(6), 499–520. <https://doi.org/10.1177/1555412016655679>
- Thibault, M., & Hamari, J. (2021). Seven points to reappropriate gamification. In *Transforming Society and Organisations through Gamification: From the Sustainable Development Goals to Inclusive Workplaces* (pp. 11-28). Cham: Springer International Publishing.
- Thibault, M., Legaki, N. Z., Buruk, O., & Hamari, J. (2021). Etsijä's Call: Gamifying virtual conferences with alternate reality games. *CEUR Workshop Proceedings*.
- Trinidad, M., Calderón, A., & Ruiz, M. (2021). Gorace: a multi-context and narrative-based gamification suite to overcome gamification technological challenges. *IEEE Access*, 9, 65882-65905. <https://doi.org/10.1109/access.2021.3076291>

- Wirén, M., Westerholm, T. & Liikamaa, A. (2020). Tapahtumateollisuuden toimialatutkimus 2020. Tapahtumateollisuus ry. <https://www.tapahtumateollisuus.fi/media/>
- Yee, N. (2016, October). The gamer motivation profile: What we learned from 250,000 gamers. In Proceedings of the 2016 Annual Symposium on Computer-Human Interaction in Play (pp. 2–2).
- Yozcu, Ö. K., Kurgun, H., & Bagiran, D. (2023). Factors that influence attendance, satisfaction, and loyalty for virtual events. *Advances in Hospitality and Tourism Research (AHTR)*, 11(1), 97–119. <https://doi.org/10.30519/ahtr.1068444>
- Yue, X., Leung, C., & Hiranandani, N. (2016). Adult playfulness, humor styles, and subjective happiness. *Psychological Reports*, 119(3), 630-640. <https://doi.org/10.1177/0033294116662842>