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Research Papers

**Modelling the Relationships between Destination Attractiveness,
Service Quality, Tourist Satisfaction and Destination Loyalty** 1
Muhamad Nasyat Muhamad Nasir
Universiti Malaysia Kelantan, Malaysia

Mahadzirah Mohamad and Nur Izzati Ab Ghani
Universiti Sultan Zainal Abidin, Malaysia

Green Practices of Event Management Enterprises in Batangas City 21
Jeninah Christia B. Pulhin and Noelah Mae D. Borbon
*College of International Tourism and Hospitality Management,
Lyceum of the Philippines University Batangas City, Philippines*

**The Impact of Perceived Greenwash Fear on Attitude, Reasons and Green Hotel
Patronage Intention** 41
Tan Ling Ling
Tunku Abdul Rahman University College, Malaysia

Norzalita Abd Aziz
Universiti Kebangsaan Malaysia, Malaysia

Review Papers

**Fortifying Organizational Commitment Through Job-Related and Personal Resources:
Evidence From the Indian Hotel Industry** 63
Santoshi Sengupta
Anand Verma
Ajay Kumar Saini
Graphic Era Hill University, India

Sustainable Tourism Development in Vietnam: A case of Hue 79

Abhishek Singh Bhati

Thanh Hung Nguyen

Anandita Goswami

Zilmiyah Kamble

James Cook University, Singapore

Research Notes

**Rethinking the Learning Space to build 21st Century Learning Skills:
Bringing Simulation-Based Gamification to the Hospitality Higher Education** 95

Neethiahnathan Ari Ragavan

Kandappan Balasubramanian

Ruth Sabina Francis

Taylor's University, Malaysia

Industry Paper

Potential of Pakistan's Tourism Industry in Post-COVID-19 Pandemic Scenario 103

Atif Sharif Mian

Foreign Service of Pakistan, Pakistan

Research Note

Rethinking the Learning Space to Build 21st Century Learning Skills: Bringing Simulation-Based Gamification to the Hospitality Higher Education

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Abstract: The development and growth of Web 4.0 has widened the opportunities for the higher education faculty fraternity to rethink their student learning space. The Industrial Revolution (IR) 4.0 now requires 21st century competencies or skills for industry employability, which in turn has necessitated higher education institutions to produce graduates with these capabilities. In this regard, hospitality educators recognised that introducing educational simulation into their learning space can help their students build 21st century learning skills in a simulated environment. The integration of simulation-based gamification in course programmes can create a stimulating learning journey and help develop graduates' intellectual, decision-making, analytical and critical skills to position their potential hotel employer as a top player amongst competitors. This study provides substantial theoretical support from the literature to show that simulation enables a learning environment that builds 21st century workforce capabilities in hospitality graduates by referencing to the Kolb's experiential learning model and Garris' logic model. The study suggests that the simulation-based gamification learning approach will help graduates relate to future challenges in the real-world hospitality industry and understand the impacts of humanising technology effectively.

Keywords: Hospitality simulation, gamification, 21st century learning skills, learning space

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Introduction

In recent years, the rapid advancement of information and communications technology (ICT) has drawn the attention of educators to engage their students with simulation-integrated experiential learning tasks in their teaching modules (Gredler, 1994; Martin & McEvoy, 2003; Urarat & Warrapojn, 2019). Moreover, the higher education cohort in the current decade is considered as digital natives as they belong to either the Millennials or Generation Z (Mulvey, Lever, & Elliot, 2019). In this context, gamification has been established and accepted as an engaging teaching tool in higher education to increase student motivation and help them learn more effectively (Looyestyn et al., 2017; Nurul & Mohamad, 2018; Lopez Carrillo et al., 2019). This has raised the need to explore the phenomenon of students learning in a gamified simulated environment, given the limited studies in the hospitality education context.

Today, it is well known that higher education requires radical changes in order to confront the challenges posed by the rapidly changing social and economic contexts in which it functions. Greater curricular flexibility, more interdisciplinary studies, expansion of delivery modes, wider range of social and communication skills, are some of the priorities that have been identified. In tourism education, for example, it has been argued that radical transformations are needed in the face of economic, social and technological changes (Hsu, 2018), involving the inclusion of skills related to areas such as entrepreneurship, innovation, crisis management, data analytics, and communication, through updated tourism curricula, and the introduction of transformative learning practices (Walker & Ngara Manyamba, 2019).

Skills-based learning refers to the learning content being adapted to the learner's needs. Thus, competencies and skills that have already been developed do not have to be relearnt and new knowledge can be built on what the learner already knows. As such, skills-based learning will increase student engagement and benefit the students tremendously especially when it is grounded in a stimulating learning environment that utilises the gamified approach.

Theoretical Background and Research Design

Kolb's Experiential Learning Model

The Kolb's experiential learning theory model consists of four different types of learners where the learners "experience, reflect, think and act according to the learning situation and what is being learnt" (Kolb & Kolb, 2005). Thus, simulation-based learning synergises the acquisition of knowledge and value-creation in an experiential learning environment.

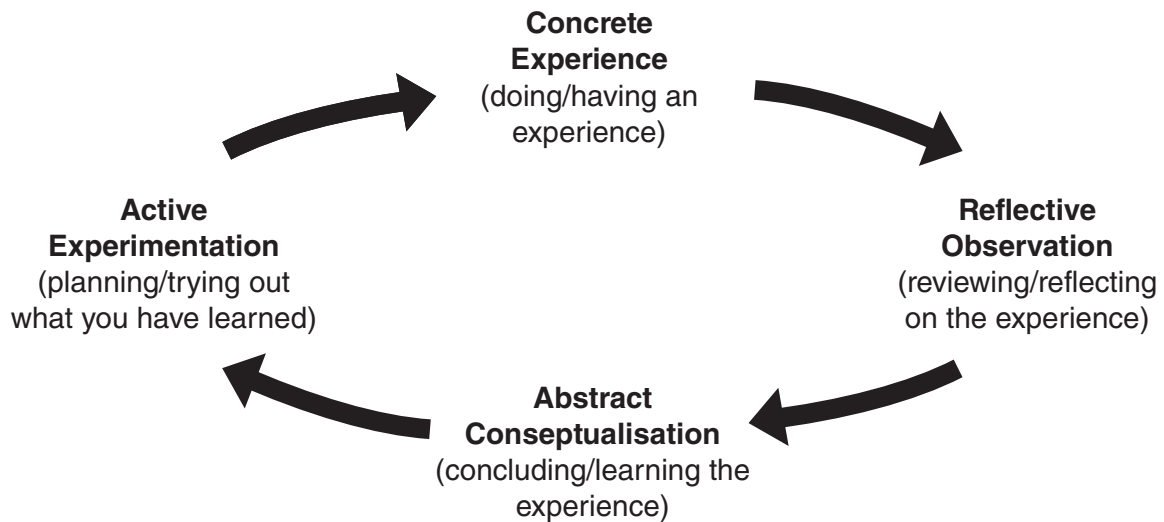


Figure 1. Kolb's experiential learning model

Logic Model

The logic model, first developed by Weiss (1972), is the theoretical basis used to support the simulated learning environment. Basically, the logic model comprises an Input-Process-Outcome model as illustrated in Figure 2 towards achieving the learning outcomes of hospitality simulation.

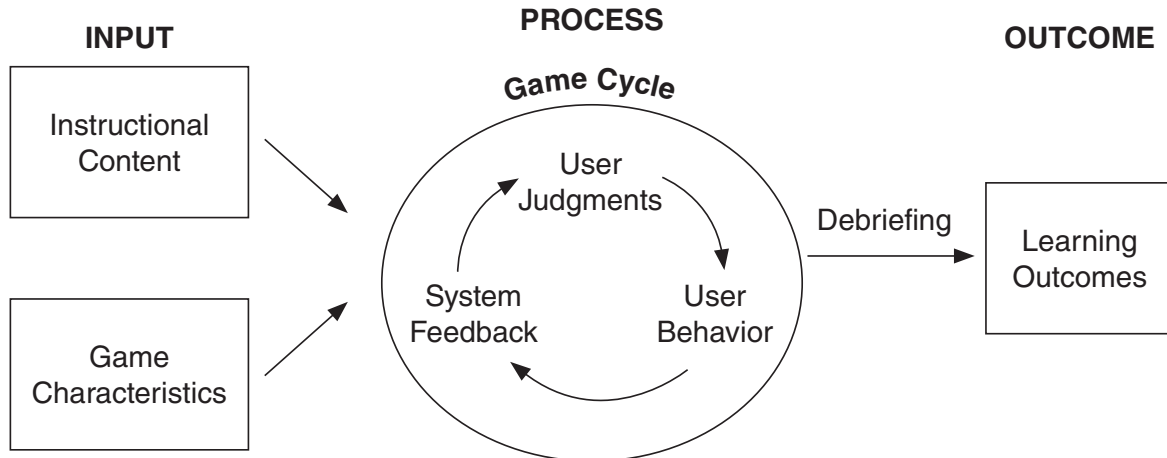


Figure 2. Input-Process-Outcome game model

Weiss' model was supported further by the basic structure of Garris, Ahlers, and Driskell's (2002) logic model, where each domain develops 21st century skills in different stages as illustrated in Figure 3 below.

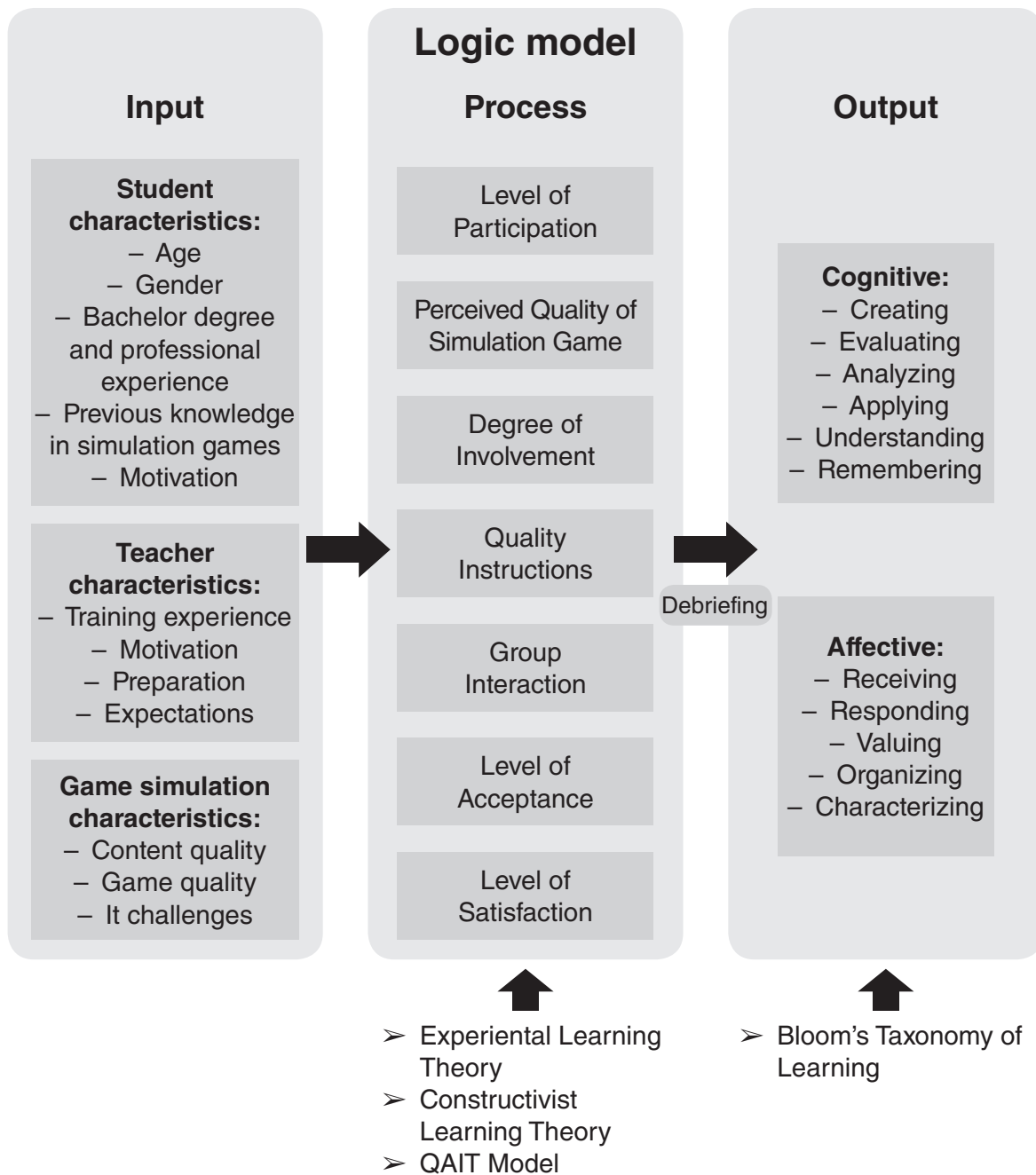


Figure 3. An overview of the simulated learning logic model

Hospitality simulation does not merely involve game playing only, but helps players become skilled in positioning their respective hotels as a top performer through team decision-making and business strategies. Similarly, other skills are learnt as well like team-building, intercultural management, hotel management knowledge, decision-making and communication which are required to become

effective managers in the future. The four main elements which are measured in the game include:

1. Market (25%)
2. Financial (25%)
3. Guest Satisfaction (25%)
4. Associate Engagement (25%)

It is important to understand the four-steps of Kolb's experiential learning model in the simulated-based learning environment: experimentation, experience, observation and conceptualisation (Fawcett, 2002; Gopinath & Sawyer, 1999; Kolb, 1984). The experimentation stage allows the learners to think critically at every round as an individual as well in a group to position their hotel in a better ranking among the competitors. Every round of decision-making in the simulation will undergo the entire process of the logic model involving high-order levels of learning taxonomy and the end result will show the impacts of 21st century skills learned. This simulation-based comprehensive learning enables students to understand the interlinking domino effect of decision-making involving various departments by demonstrating how they all are interrelated in managing a business successfully.

Conclusion

Due to the rapid development of information technology brought about by the Industrial Revolution 4.0, the global business environment has experienced widespread, disruptive changes. These changes have drastically transformed the skillset requirements for the human capital, which in turn, has necessitated the need to design new ways of teaching and building 21st century graduate competencies. The recent advancements in technology have driven educators to shift their learning space to become more interactive and collaborative by focusing on the 21st century learners. In recent years, education simulation has been established as one of the contemporary teaching and learning practices aligned with the changes of paradigm in education, referred to as "Education 4.0". Higher education institutions are now left with no option but to realise the integration of simulation in their courses to revolutionise the way 21st century competencies and skills are taught or developed in students.

The use of business simulation games in teaching and learning has increased rapidly today to help students acquire real-world skills through experiential learning exercises. The 21st century professional competencies are built through the integration of the simulation's learning components — decision making, and the development of interpersonal relationships (Knut, 2004; Knut & Sutherland, 2009). Furthermore, the integration of simulation in hospitality higher education courses

is recommended as it exposes students to real-world hospitality business scenarios as they partake an active role in the learning environment.

The present study examined the benefits of simulation towards the development of 21st century competencies or skills and improving the learning outcome of hospitality graduates. A deductive approach encompassing supporting theories and hypotheses formulated from the literature review was adopted to address the identified research gap. A structured questionnaire was administered to study participants selected from hospitality students who have undertaken hospitality simulation courses at Taylor's University, Malaysia. The findings of this study shed light on the potential of hospitality simulation in developing 21st century graduate skills and future workforce competencies to manage hospitality businesses.

Future Research

It is important to understand current and future industry requirements to increase graduate employability for the future workforce by redesigning the curriculum with game-based simulation. Future studies can extend the research topic by looking at the hybrid or online integrated simulation learning model in terms of personality traits, technology readiness and adoption among hospitality graduates. Additionally, it will be interesting to explore the challenges faced by the educators in teaching simulation in large groups and maintaining students' interest and engagement through the learning stages.

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