



MODELING VALUES THROUGH PLAY: DEVELOPMENT OF THE CTCL-VAL40 GAME-BASED LEARNING SELF-REPORT INSTRUMENT

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ABSTRACT

In facing the new generation of learners, academicians in Malaysian Higher Education Institutions have demonstrated increasing creativity and innovation in designing active teaching and learning methods. The Climb the Corporate Ladder (CTCL) board game incorporates game-based learning strategies to enrich students' learning experiences. Grounded in management theories and principles, the game simulates the four main functions of management—planning, organizing, leading, and controlling—through dynamic and interactive play. Its objectives include improving student engagement, strengthening knowledge retention, and bridging the gap between theory and practice. This study introduces the CTCL-VAL40 model, the first assessment instrument designed for this game-based learning environment. Using a 5-point Likert scale and consisting of 40 items, the model evaluates Cognitive Learning, Affective Learning, Psychomotor Learning, and Social & Collaborative Values. Through this measurement, the model captures students' comprehension, application of management concepts, ethical decision-making, motivation, teamwork, leadership, and communication skills. The CTCL game aligns with UiTM's PEO, PLO, and evaluates the CLO for the Fundamentals of Management course.

KEYWORDS: Gamification, Game-Based Value Learning Model, Education, Active Teaching and Learning

PROBLEM AND OBJECTIVE

Higher Education Institutions in Malaysia continue to evolve in response to technological advancements and the changing learning styles of new-generation students (Ghapar et al., 2024; Ahmad, 2022). Game-based learning (GBL) offers an immersive and interactive learning experience that promotes engagement, critical thinking, and knowledge retention. The Climb the Corporate Ladder board game introduces management concepts through simulated real-life scenarios, transforming theoretical concepts into practical applications. The CTCL-VAL40 instrument is developed to evaluate these learning experiences. In Malaysian higher education, the Malaysian Qualifications Framework (MQF) highlights the important four key areas of learning that assist develop well-rounded graduates: cognitive learning, which strengthens critical and analytical thinking for solving academic and workplace problems; affective learning, which builds values, ethics, and emotional balance so students grow into responsible and morally grounded individuals in line with the National Education Philosophy; psychomotor learning, which develops practical, hands-on skills needed for real work environments, especially in technical and professional fields; and social and



collaborative learning, which enhances communication and teamwork skills so graduates can work well with others and contribute positively in diverse communities and workplaces. Previous studies have established that educational games enhance student motivation, cognitive development, and collaborative skills. The CTCL board game integrates the four main management functions into a structured gameplay format. With increasing adoption of such tools, systematic assessment is essential to measure learning outcomes, teamwork, ethical decision-making, and communication skills. Furthermore, those learning outcomes parallel with Program Educational Objectives (PEO) and Program Learning Outcomes (PLO) based on curriculum assessment as well as educational accreditation processes.

DESIGN DESCRIPTION

The instrument development and evaluation processes of an instrument in this study was designed by adapting the instrument development process proposed by DeVellis (2017), Nasab et al. (2015) and Miller et al. (2013) (Ramli et al., 2020). The process involves ten steps that are grouped into two phases namely, development and validation. In this article only focusing on the development of the CTCL-VAL40 Instrument in first phase. This phase involved with Step 1: Instrument Conceptualization and Step 2: Instrument Development. In order to reduce error in instrument development, the researchers need to create scales are able to provide comprehensive understanding of existing knowledge in the field.

For the most part, the process involves with selecting and formatting items that successfully grab the concept being measure. The well developing scale is able to point out and descriptive the real situation. Vooris and Clavio (2017) and Robinson (2019) in Ramely et al. (2025) mentioned that the scale should consist with an element of content validity, construct validity, reliability, and criterion validity. Furthermore, the scale able to provide statistics contribute generated from multi-item psychometric scale. According to Miller and Lovler (2020), the design and construction phase of the instrument involve with all criterial mention above and the inputs provided from past studies in order to determine the conceptualization and operationalization of the CTCL-VAL40 instrument. The researcher's firm that the CTCL-VAL40 instrument able to evaluate the four key areas of learning process through the CTCL board games.

The CTCL-VAL40 instrument comprises 40 items across four domains: Cognitive Learning, Affective Learning, Psychomotor Learning, and Social & Collaborative Values. It uses a 5-point Likert scale to measure comprehension, engagement, ethics, responsibility, teamwork, leadership, and communication demonstrated during gameplay. Section A assesses Cognitive Learning, focusing on conceptual understanding, analytical reasoning, and the ability to apply foundational management theories within simulated organisational scenarios. Section B measures Affective Learning related to learner engagement, autonomy, and responsibility, capturing motivational dimensions such as effort, persistence, focus, and self-directed learning behaviours. Section C deepens the affective dimension by assessing Ethical Decision-Making and Professionalism. This domain evaluates learners' commitment to fairness, integrity, respect, and responsible conduct while engaging in competitive or uncertain gameplay conditions. Section D evaluates Social and Collaborative Values, including teamwork, leadership, empathy, communication, and peer support. These items assess learners' ability to navigate group dynamics, contribute positively to collective decision-making, and foster a constructive social learning environment during gameplay. Refer to summaries below;



Section A — Cognitive Learning (Understanding & Applying Management Concepts) (C2 – C3) Section
B — Affective Learning: Engagement, Autonomy & Responsibility (A2)
Section C — Affective Learning: Ethical Decision Making & Professionalism (A3) Section D
— Social & Collaborative Values (Teamwork, Leadership, Communication)

Table 1.0 CTCL-VAL40 Instrument – Domain, Subscale and Items

Domain	Subscale	Items
Cognitive (C2–C3)	Understanding & Application	1–10
Affective (A2)	Engagement, Autonomy, Responsibility	11–20
Affective (A3)	Ethics & Professionalism	21–30
Social Values	Teamwork, Leadership, Communication	31–40

NOVELTY AND UNIQUENESS

The CTCL board game and CTCL-VAL40 model align with UiTM’s Program Educational Objectives (PEO), Program Learning Outcomes (PLO), and evaluate Course Learning Outcomes (CLO) for the Fundamentals of Management course, making it valuable for curriculum assessment and educational accreditation processes. Latest improvement, the Climb the Corporate Ladder (CTCL) board games adapting Technology Acceptance Model (TAM) factors and Digital Game Based Value Learning Model to completely National Education Philosophy and aligned with current teaching and learning approach needs and become more flexible in future. Implementing TAM successfully able to promoting elements of usefulness, ease of use, creating positive attitude, learning opportunities, plus increasing students experience. Meanwhile, the involvement of Digital Game Based Value Learning Model in CTCL board games able to improve and promoting integrates explicit, implicit, and social values among students.

BENEFITS TO MANKIND

The CTCL-VAL40 instrument benefits students by providing a comprehensive, game-based learning assessment that strengthens their cognitive, affective, psychomotor, and social-collaborative competencies. Through the CTCL board game, students enhance their understanding and application of management concepts within realistic decision-making scenarios. The instrument also boosts motivation, engagement, self-directed learning, and emotional regulation by presenting challenges that encourage persistence and autonomy. Ethical awareness is strengthened through built-in dilemmas that prompt learners to consider fairness, integrity, and professionalism. Additionally, teamwork, communication, leadership, and conflict-handling skills are developed through social interaction and collaboration during gameplay. Overall, the instrument cultivates holistic student growth aligned with the National Education Philosophy and UiTM’s programme learning outcomes.

The CTCL-VAL40 instrument benefits communities by contributing to the development of graduates who possess strong personal values, ethical judgment, communication skills, and collaborative behaviours include qualities that are essential for positive societal engagement. By nurturing responsible decision-making, empathy, and integrity, the instrument assist shape students who can contribute meaningfully to community and workplace environments. The strengthened teamwork and leadership capabilities fostered through the CTCL board game translate into improved interpersonal relationships and cooperative problem-solving within diverse groups. Furthermore, the instrument supports Malaysia’s broader educational agenda by aligning with the Malaysian Qualifications

Framework and National Education Philosophy, ultimately serving produce well-rounded, values-driven individuals who can elevate community well-being and support sustainable social development.

CONCLUSION

In conclusion, the Climb the Corporate Ladder (CTCL) board game, together with the CTCL-VAL40 instrument, offers an innovative and holistic approach to management education that aligns with UiTM's learning outcomes and the National Education Philosophy. By integrating the Technology Acceptance Model and digital game-based value learning, this approach enhances students' academic achievement, motivation, and engagement. It supports the development of cognitive, affective, and social competencies while strengthening ethical awareness, teamwork, leadership, and communication skills. Ultimately, the CTCL framework contributes to the development of values-driven graduates who are well prepared to contribute positively to professional practice and sustainable societal development.

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