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DEVELOPMENT OF SOCTAD GAME: A NON-DIGITAL LEARNING TOOL FOR ENHANCING GENDER-INCLUSIVE STUDENT ENGAGEMENT IN UNDERSTANDING CULTURE, SOCIETY, AND POLITICS

DESENVOLVIMENTO DO JOGO SOCTAD: UMA FERRAMENTA DE APRENDIZAGEM NÃO DIGITAL PARA APRIMORAR O ENVOLVIMENTO DE ESTUDANTES COM PERSPECTIVA DE GÊNERO NA COMPREENSÃO DE CULTURA, SOCIEDADE E POLÍTICA

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Abstract
Gender inclusivity in learning is an increasingly important concern in teaching 21st-century learners. The subject Understanding Culture, Society, and Politics (UCSP) holds significant academic, civic, and gender-related value, fostering critical thinking, cultural awareness, and social responsibility. However, traditional lecture-based methods often lead to substantial student disengagement and low academic achievement, indicating a systemic pedagogical challenge. Non-digital game-based learning (NDGBL) offers a promising solution to enhance motivation and active participation. This study aimed to analyze existing student concerns in UCSP and subsequently design, develop, and validate the SOCTAD Game as an innovative instructional tool. A descriptive developmental research design, guided by a modified ADDIE model (Analysis, Design, Development), was employed. Data on student concerns were collected from 123 purposively selected Humanities and Social Sciences (HUMSS) students via a self-constructed 7-point Likert scale questionnaire. Data analysis primarily utilized the weighted mean. Student surveys revealed significant disengagement and learning gaps, with consistent "Somewhat Disagree" ratings across UCSP content (Mean=3.33), performance (Mean=2.95), and learning outcomes (Mean=3.31). This pervasive dissatisfaction across multiple facets of the

Resumo
A inclusão de gênero na aprendizagem é uma preocupação cada vez mais importante no ensino de alunos do século XXI. A disciplina Compreendendo Cultura, Sociedade e Política (CSP) possui significativo valor acadêmico, cívico e relacionado a gênero, promovendo o pensamento crítico, a consciência cultural e a responsabilidade social. No entanto, os métodos tradicionais baseados em aulas expositivas frequentemente levam a um desinteresse substancial dos alunos e baixo desempenho acadêmico, indicando um desafio pedagógico sistêmico. A aprendizagem baseada em jogos não digitais (ABJND) oferece uma solução promissora para aumentar a motivação e a participação ativa. Este estudo teve como objetivo analisar as preocupações existentes dos alunos em relação à CSP e, posteriormente, projetar, desenvolver e validar o Jogo SOCTAD como uma ferramenta instrucional inovadora. Foi empregado um projeto de pesquisa descritiva de desenvolvimento, guiado por um modelo ADDIE modificado (Análise, Projeto, Desenvolvimento). Os dados sobre as preocupações dos alunos foram coletados de 123 alunos de Ciências Humanas e Sociais (CHS) selecionados intencionalmente por meio de um questionário de escala Likert de 7 pontos elaborado pelos próprios pesquisadores. A análise dos dados utilizou principalmente a média ponderada. Pesquisas com estudantes

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course pointed to the inadequacy of the traditional instructional approach itself as a significant barrier to effective learning. Expert validation, however, confirmed the SOCTAD Battle Game's high quality and pedagogical soundness, receiving an impressive overall mean of 3.85, interpreted as "Strongly Acceptable," across visual appeal, game mechanics, scoring accuracy, and question relevance. The findings suggest that the SOCTAD Battle Game is a pedagogically sound and empirically validated non-digital instructional tool designed to address fundamental issues in UCSP content delivery, student engagement, and learning accomplishment, promoting a more dynamic, gender-inclusive and learner-centered approach.

Keywords: Gender-Inclusive Learning. SOCTAD Game. Student Engagement. Instructional Design. Understanding Culture. Society. and Politics (UCSP).

revelaram desinteresse significativo e lacunas de aprendizado, com avaliações consistentes de "Discordo Parcialmente" em relação ao conteúdo da UCSP (Média = 3,33), desempenho (Média = 2,95) e resultados de aprendizagem (Média = 3,31). Essa insatisfação generalizada em múltiplas facetas do curso apontou para a inadequação da própria abordagem instrucional tradicional como uma barreira significativa para o aprendizado eficaz. A validação por especialistas, no entanto, confirmou a alta qualidade e solidez pedagógica do Jogo de Batalha SOCTAD, recebendo uma média geral impressionante de 3,85, interpretada como "Altamente Aceitável", em relação ao apelo visual, mecânica do jogo, precisão da pontuação e relevância das perguntas. Os resultados sugerem que o Jogo de Batalha SOCTAD é uma ferramenta instrucional não digital, pedagogicamente sólida e empiricamente validada, projetada para abordar questões fundamentais na apresentação do conteúdo da UCSP, no engajamento dos alunos e no sucesso do aprendizado, promovendo uma abordagem mais dinâmica, inclusiva em termos de gênero e centrada no aluno.

Palavras-chave: *Aprendizado Inclusivo em Relação ao Gênero. Jogo SOCTAD. Engajamento do Aluno. Design Instrucional. Compreendendo a Cultura, a Sociedade e a Política (UCSP).*

1 INTRODUCTION

1.1 Background of the project

Understanding Culture, Society, and Politics (UCSP) stands as a foundational course within the social sciences, designed to cultivate critical and creative thinking abilities among students. It encourages learners to examine how individuals and groups acquire knowledge, critically evaluate information, formulate solutions to societal challenges, and construct meaningful conclusions. Beyond cognitive development, UCSP fosters cultural awareness, broadens social perspectives, and instills a sense of civic character and mutual understanding (Crisolo *et al*., 2021; Sieck, 2024), emphasizing the continuous significance of social studies education in developing values and social responsibility (Shih, 2024).

Despite its inherent academic and civic importance, UCSP is frequently perceived by students as a "boring and uninteresting" course, which consequently diminishes their motivation and negatively impacts academic achievement (Balakrishna, 2022). Observations by faculty members instructing in UCSP have consistently revealed student disengagement when conventional learning methods are employed. Discussions often revolve around lectures and the mechanical memorization of facts, such as names, dates, and events, which appear disconnected from students' everyday experiences and fail to capture their interest (Howard, 2015). This monotony and predictability, compounded by students' low intrinsic motivation and the inherent nature of social studies, present significant barriers to maintaining meaningful student engagement (Børhaug & Borgund, 2018). The perception that traditional UCSP content feels "disconnected from students' everyday experiences" highlights a fundamental deficit in the curriculum's delivery. This disconnection likely stems from the emphasis on rote memorization, which often presents information in an abstract, decontextualized manner. Students struggle to identify how historical dates or sociological theories apply to their lives or current events, leading to a lack of perceived relevance.

A promising pedagogical solution to address this pervasive problem lies in the integration of game-based, non-digital learning tools into UCSP instruction. Such strategies have been shown to potentially boost student motivation and engagement, fostering active participation, and strengthening their connection to the learning material (Mohamad *et al*., 2018). The incorporation of play in the classroom has been shown to generate excitement, enhance self-esteem, and cultivate a livelier and more encouraging learning atmosphere.

Board games, in particular, have emerged as highly promising non-digital, game-based educational resources (Treher, 2011). Research on board games designed with Education for Sustainable Development (ESD) in mind, for instance, indicates their capacity to improve students' decision-making abilities and facilitate the comprehension of complex ideas (Tsai *et al*., 2021). These games, through team-based gameplay, actively promote critical thinking, cooperation, and effective communication, while simultaneously providing practical learning experiences that mimic real-life situations. Further studies corroborate the efficacy of non-digital, game-based learning (NDGBL), demonstrating its beneficial effects across multiple dimensions of engagement: motivation, social interaction, classroom satisfaction, and cognitive development,

particularly in domains like problem-solving and decision-making (Balakrishna, 2023). NDGBL techniques are especially successful in elevating students' cognitive, emotional, and behavioral engagement, contributing to the creation of a more vibrant and welcoming learning environment (Dzulkafli *et al*., 2024). The explicit mention of NDGBL's efficacy in fostering "cognitive, emotional, and behavioral engagement" suggests a holistic approach to addressing learning challenges. Cognitive engagement directly addresses the understanding of key concepts and the application of concepts to real-world scenarios. Emotional engagement targets the perception of the subject as "boring and uninteresting," fostering positive affect and intrinsic motivation crucial for sustained interest. Behavioral engagement addresses low active participation and confidence by requiring students to actively interact with the game and their peers. This indicates that effective pedagogical interventions must address all three dimensions of engagement, recognizing their interconnectedness in fostering deep cognitive processing and meaningful learning outcomes.

Since the global pandemic, there has been a notable surge in interest regarding the use of board games as instructional tools. These non-digital resources have proven effective in catering to diverse learning styles, igniting students' creativity, and rekindling their passion for academic subjects (Sackstein, 2025). Board games effectively transform traditional, passive lessons into dynamic, captivating learning opportunities that actively promote student participation in classrooms (Balakrishna, 2023). The "SOCTAD Battle Game" is the specific non-digital, game-based instructional tool developed as the primary focus of this study to enhance the educational process. The acronym "SOCTAD" refers to the social studies curriculum, specifically as it relates to UCSP, while "Battle Game" emphasizes the tool's dynamic, competitive, and engaging format. This design choice was deliberate, leveraging competitive dynamics and gamification principles to counteract the identified student disengagement. This suggests that the perceived problem of student apathy and boredom in UCSP directly informed the solution's design, aiming to boost student engagement, foster critical thinking, and deepen their understanding of key concepts. By incorporating this game-based learning tool into the curriculum, this capstone project ultimately sought to transform students' perceptions of UCSP from a monotonous, required course into one that encourages inquiry, active participation, and in-depth learning, making the subject more applicable to their daily lives (Cicchino, 2015).

1.2 Statement of the problem and research objectives

The overarching aim of this study was to analyze existing student concerns in learning Understanding Culture, Society, and Politics (UCSP), and subsequently design, develop, and validate the SOCTAD Battle Game as a novel instrument to enhance student engagement in the subject.

Specifically, the study sought to answer the following research questions:

1. What are the concerns in learning UCSP?
2. How will the SOCTAD Battle Game be designed?
3. How may the SOCTAD Battle Game be developed on the following criteria:
   - Visual appeal and board game design;
   - Clarity and functionality of game mechanics and rules;
   - Accuracy and fairness of the scoring system; and
   - Quality and relevance of the questions to UCSP topics?

Beyond these specific questions, the project also aimed to provide actionable insights and recommendations for the future development and implementation of the SOCTAD Battle Game as a board game-based learning material, with the ultimate goal of attracting learners' interest in studying UCSP.

2 METHODS

2.1 Research design and methodological approach

This study employed a descriptive developmental research design. This methodological approach was chosen to systematically conceptualize, analyze existing concerns within UCSP instruction, and then proceed to design, develop, and validate the SOCTAD Battle Game as an instructional board game. The entire process was guided by a modified ADDIE framework, with a specific emphasis on the Analysis, Design, and Development phases. This structured approach facilitated the systematic creation and refinement of the instructional material, ensuring its potential effectiveness in addressing the identified learning challenges commonly encountered in UCSP instruction. The explicit mention of a "modified ADDIE framework" that emphasized Analysis, Design, and Development, while implicitly omitting full Implementation and Evaluation phases

as part of this specific capstone project's scope, represents a crucial methodological nuance. This indicates a limitation in the study's ability to assess long-term efficacy or real-world classroom impact, shifting its focus primarily to the creation and initial validation of the tool's potential. Therefore, this study is primarily a product development and initial validation effort, providing a well-validated tool that now requires rigorous empirical testing in authentic learning environments to fully ascertain its educational impact.

2.2 Participants

For the initial analysis phase, which focused on identifying student learning concerns, 123 students from the Humanities and Social Sciences (HUMSS) Strand of the Basic Education Department at Wesleyan University-Philippines were purposively selected to participate in the survey. An additional 10 HUMSS students from a separate section were involved in a pilot testing phase to ensure the reliability of the research instrument. It is important to note that due to the purposive nature of this sampling, the findings on student concerns are specific to this group and may not be generalizable to a wider population.

For the expert validation of the SOCTAD Battle Game, a panel of five seasoned educators served as validators. These educators, all holding Master Teacher 1 positions, were drawn from Talavera Senior High School and Julia Ortiz Luiz National High School. Their teaching experience in UCSP and related core subjects ranged from 7 to 20 years, ensuring a high level of expertise in evaluating the instructional material.

2.3 Instruments used

The study utilized several instruments to ensure comprehensive data collection and validation:

1. **Self-constructed 7-point Likert scale questionnaire:** This instrument was specifically developed to assess students' concerns regarding key aspects of the UCSP curriculum. It focused on content, performance tasks, and overall learning outcomes, with a particular emphasis on issues related to boredom and engagement. The scale ranged from 7 (Strongly Agree) to 1 (Strongly Disagree).

During pilot testing, this instrument demonstrated strong reliability, yielding a Cronbach's Alpha of 0.87, indicating satisfactory internal consistency for research purposes. While the Cronbach's Alpha indicated strong internal consistency, it is acknowledged that the self-constructed nature of these instruments means their external validity was not independently established in this study.

2. **Self-developed 4-point Likert scale instrument for SOCTAD Battle Game validation:** A distinct instrument was created to assess the validity of the SOCTAD Battle Game against essential validation criteria. The scale ranged from 4 (Strongly Agree/Strongly Acceptable) to 1 (Strongly Disagree/Strongly Not Acceptable).
3. **4-point scale for relevance of items:** This scale was employed to quantitatively assess the relevance of items within both the student concerns survey and the SOCTAD Battle Game validation tool. It ranged from 4 (Highly Relevant) to 1 (Not Relevant).
4. **4-point scale for clarity of items:** Similarly, this scale was used to assess the clarity of items in both the student survey and the game validation tool, ranging from 4 (Very Clear) to 1 (Not Clear). These scales provided quantitative data that served as the baseline for evaluating the validity of the questionnaire's items.

2.4 Data collection procedures

The data collection process was systematically structured according to the modified ADDIE model's phases:

1. **Analysis Phase:** During this initial phase, information was gathered through various surveys to thoroughly investigate students' concerns about the content, performance, and learning outcomes within the UCSP curriculum. The insights derived from this survey data directly informed the subsequent design and development phases of the SOCTAD Battle Game.
2. **Design Phase:** Based on the identified student concerns, the conceptualization of the SOCTAD Battle Game commenced. Key design considerations included ensuring visual appeal, developing an intuitive board game layout, incorporating color-coded categories, and designing game mechanics that directly supported instructional goals. Attention was also given to culturally relevant content, the

strategic application of color psychology to enhance engagement, and the establishment of explicit rules and scoring systems. Canva.com served as the primary graphic editing tool for the design elements (Perkins *et al*., 2013).

3. **Development Phase:** This phase involved the physical creation of the non-digital board game. Detailed elements, such as tables for category questions, physical game numbers, icons for points, and the necessary game materials (color dice, number dice, "pato," and the tarpaulin board), were developed. The game mechanics were refined to facilitate group play, with each group selecting a representative. The game features 120 questions distributed across six distinct categories, each aligned with weekly UCSP topics. Players are given 10 seconds to answer questions after rolling a color dice to select a category. Correct answers allow a player to roll a number dice, determining their movement on the 1-60 step board, which includes special steps offering additional points or triggering movement parts. The scoring system was formalized with "ribbon points" (2 points), "trophy points" (3 points), and "biggest trophy points" (10 points), with the winner determined by the player who achieves the highest points upon reaching the finish line. The questions themselves were meticulously aligned with the weekly Most Essential Learning Competencies (MELCS) from the first quarter of the UCSP curriculum, covering diverse topics such as Anthropology, Sociology, Political Science; Culture and Society; Cultural Relativism; Cultural, Social, Political, and Economic Symbols and Practices; Socialization; and Social Groups in Society. A variety of objective (True/False, Multiple Choice, Identification) and subjective (WH short-response) question types were incorporated to promote diverse cognitive engagement and are *intended* to foster critical thinking and application of knowledge. The detailed description of game mechanics, particularly the use of "color dice to choose the category" and "number dice" for movement, reveals a deliberate design choice to introduce elements of chance into the learning process. While this enhances engagement and replayability, it also implies a balance between pure pedagogical control over content exposure and the motivational benefits of randomness. This design choice prioritizes sustained engagement and motivation by making the game less monotonous and more exciting. This highlights a sophisticated design philosophy that acknowledges the psychological aspects of learning, positioning the game not

just as a direct instructional delivery system but as an environment engineered to maximize student willingness to engage.

4. **Evaluation Stage (Expert Validation):** Upon the completion of the game's development, a panel of social science experts rigorously evaluated the developed instructional materials. The game was assessed against four pre-defined key criteria: visual appeal and board game design, clarity and functionality of game mechanics and rules, accuracy and fairness of the scoring system, and quality and relevance of the questions to UCSP topics.

2.5 Data analysis methods

The following statistical methods were employed for data analysis:

- **Weighted Mean:** This statistical measure was primarily utilized to interpret students' concerns about the content, performance, and learning outcomes in the UCSP subject during the analysis phase. It was also subsequently applied to analyze the expert validation results for the SOCTAD Battle Game across all evaluation criteria.
- **Cronbach's Alpha (α):** This coefficient was employed to assess the internal consistency and reliability of the Survey Questionnaire for Students' Concern on UCSP during its pilot testing phase. A calculated alpha value of 0.87 indicated strong reliability and internal consistency of the instrument.
- **Weighted Mean for Expert Validation:** Used to analyze verbal descriptions based on the four criteria for the SOCTAD Battle Game validation (Visual appeal and board game design, clarity and functionality of game mechanics and rules, accuracy and fairness of the scoring system, and Quality and relevance of the questions to UCSP topics). The verbal interpretation was adopted from a research journal titled "RollRoll Dice: An Effective Method to Improve Writing Skills among Year 3 Pupils in Constructing SVOA Sentences" (Yunus, 2020).

2.6 Ethical considerations

Prior to the commencement of the research study, the researcher ensured adherence to ethical guidelines by obtaining formal approval from the relevant higher

authorities through a formal letter. All respondents were comprehensively informed about the study's purpose, provided clear instructions, and given explicit options to participate voluntarily or withdraw at any point without penalty. Confidentiality of all responses was strictly assured, and participants' rights and privacy were consistently upheld throughout the entire research process. The study was conducted with the aim of providing benefits to the educational community, ensuring no harm to participants, maintaining full transparency, and upholding the fundamental rights of all individuals involved. The researcher, as the designer and developer of the tool, made efforts to minimize bias in the construction of the instruments and interpretation of data. Participation was voluntary and anonymous, ensuring no academic penalty for non-participation or withdrawal.

3 RESULTS

This section presents the empirical findings of the study, addressing the identified student concerns in UCSP and detailing the expert validation results for the developed SOCTAD Battle Game.

3.1 Presentation of student concerns on UCSP

The initial phase of the study involved a comprehensive assessment of student concerns regarding the Understanding Culture, Society, and Politics (UCSP) course. The findings, derived from student surveys, revealed significant gaps in their engagement and understanding across various dimensions.

3.2 Concerns on content in UCSP

Students generally expressed a low level of agreement with the effectiveness of UCSP content, with an overall mean of 3.33, interpreted as "Somewhat Disagree". Specific indicators highlighted critical gaps in understanding key concepts (Mean=3.42), relevance to current cultural, societal, and political issues (Mean=3.24), the provision of in-depth knowledge by UCSP materials (Mean=3.35), the ease of following content (Mean=3.34), and the ability to connect theoretical concepts to real-world events

(Mean=3.28). These results underscore areas requiring significant improvement in content delivery and student perception of its value.

3.3 Concerns on performance in UCSP

Student responses concerning their performance in UCSP revealed an overall mean of 2.95, also interpreted as "Somewhat Disagree". Notably low scores were observed for active participation in class discussions about cultural, societal, and political issues (Mean=2.80) and confidence in contributing thoughts and ideas during class activities (Mean=2.85). While collaboration with peers in group discussions or projects received a comparatively higher mean (Mean=3.13), other performance aspects such as applying concepts to analyze current events (Mean=2.98) and improving critical thinking about UCSP topics (Mean=3.02) also indicated areas of concern. This analysis highlighted a general lack of engagement, active participation, and the practical application of knowledge among students. The relatively higher score for "collaboration with peers" compared to individual participation or confidence suggests that students may find group work less intimidating or more engaging than individual contributions within traditional classroom settings. This indicates that the social aspect of learning is a latent strength or preference among students that a tool like the SOCTAD Battle Game, with its explicit group-based play, can effectively leverage.

3.4 Concerns on learning outcomes in UCSP

The assessment of learning outcomes yielded an overall mean of 3.31, again interpreted as "Somewhat Disagree," indicating that students perceived limited success in achieving UCSP's intended learning objectives. Although understanding cultural diversity and its role in society scored slightly higher (Mean=3.43), awareness of political systems and their impact (Mean=3.22) and broadening global perspectives on cultural, social, and political issues worldwide (Mean=3.33) remained relatively low. These findings provided empirical evidence that students were not fully attaining the desired educational outcomes, suggesting a clear need for innovative instructional strategies.

The consistent "Somewhat Disagree" ratings from students across all three dimensions (content, performance, learning outcomes) is a strong indicator of a systemic

pedagogical challenge within traditional UCSP instruction. This uniformity across content relevance, ease of following, active participation, confidence, critical thinking, and achievement of learning objectives points to a pervasive issue, suggesting that the current teaching methodology itself is a significant barrier to effective learning for the majority of students.

Table 1 provides a consolidated summary of student concerns across content, performance, and learning outcomes in UCSP.

Table 1

Summary of Student Concerns in UCSP (Content, Performance, Learning Outcomes)

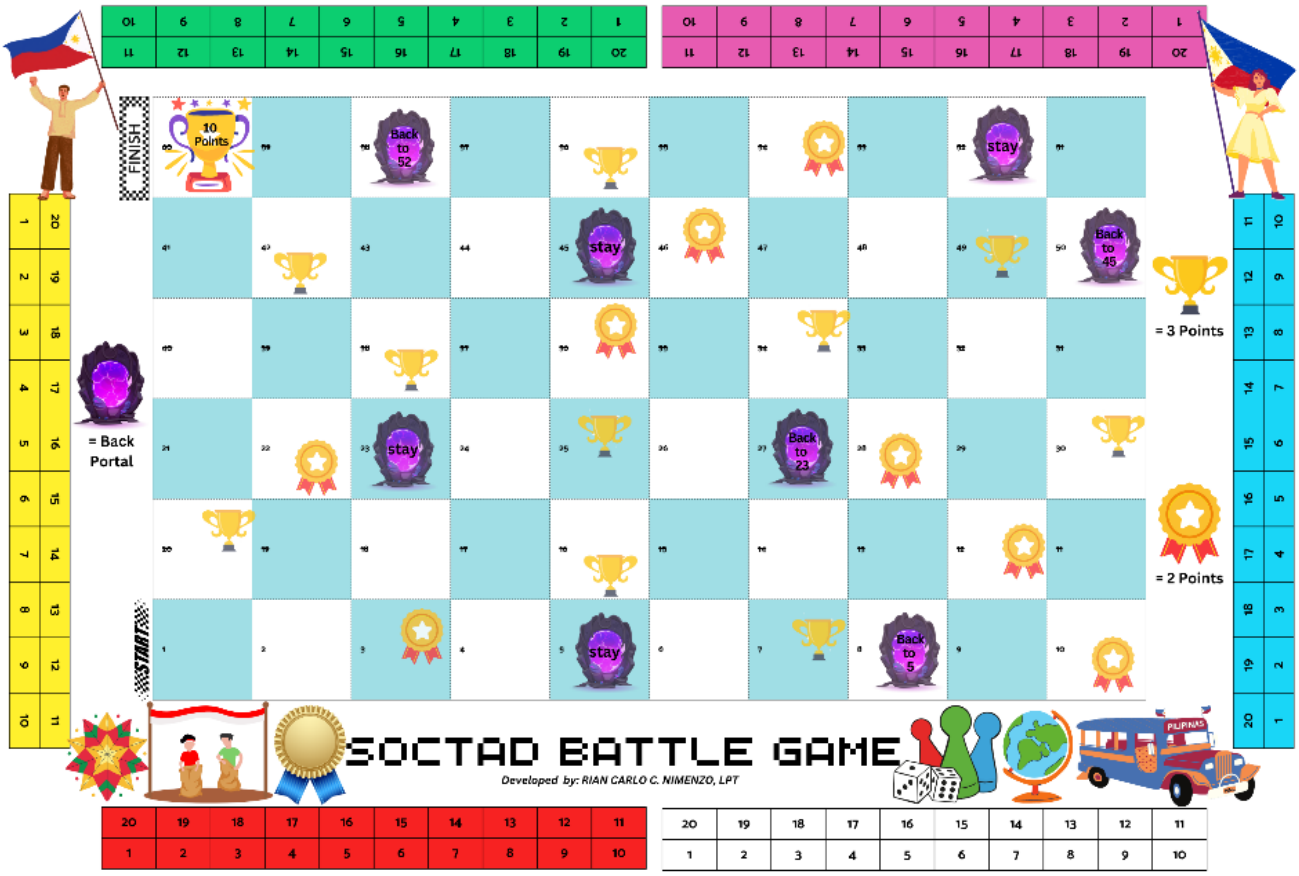
Indicators	Mean	Qualitative Rating
Concerns on Content in UCSP	3.33	Somewhat Disagree
Concerns on Performance in UCSP	2.95	Somewhat Disagree
Concerns on Learning Outcomes in UCSP	3.31	Somewhat Disagree

3.5 Design and development of SOCTAD battle game

In direct response to the identified student concerns, the SOCTAD Battle Game was meticulously designed and developed as a non-digital, game-based instructional tool.

Figure 1

The SOCTAD Battle Game



3.6 Visual appeal and board game design

The game board features six distinct color-coded categories Red, White, Blue, Pink, Green, and Yellow, strategically positioned on its four sides. Each category contains 20 table items with corresponding questions, contributing to a total of 120 questions. The center of the board game displays 1 to 60 move steps, alternating between white and blue colors. Certain steps incorporate icons such as back portals, trophies, and game ribbons, designed to enhance player progress and provide incentives. Male and female icons are utilized on the upper left and right sides of the board game, representing the game's players, a design choice intended to promote broader representation and inclusivity for all participants, regardless of gender.

The game's logo integrates culturally relevant symbols like "parol," "laro ng lahi," a ribbon, number dice, "pato," a globe, and a jeepney, all serving to symbolize the UCSP subject. Color psychology was intentionally applied in the design, with colors such as

Red (associated with passion and excitement), Yellow (happiness and creativity), Green (quality and peace), Blue (trust and loyalty), Pink (softness and compassion), Purple (glamour and royalty), and White (truth and honesty) used to attract attention and maintain interest (Cherry, 2024; The London Image Institute, 2020). The physical materials, including easy-to-handle "pato" (game pieces), wooden color and number dice, and a tarpaulin attached to an illustration board with a cover, were selected for usability and durability. A separate folder is provided for the category questions. The visual appeal and board game design were developed to address students' low active participation in learning the subject, aiming to make the content more engaging and visually appealing. The design was intended to encourage learners to actively participate, collaborate effectively, and feel confident in contributing their thoughts and ideas (Sackstein, 2025).

3.7 Clarity and functionality of game mechanics and rules

The game is structured for group play, with the class divided into a desired number of groups, and each group selecting a player representative. The SOCTAD Battle Game features six category colors, each containing 20 items, for a total of 120 questions. Questions within each category are derived from the weekly topics or Learning Competencies of Understanding Culture, Society, and Politics. Players roll a color dice to choose a category, and any player has 10 seconds to answer the question. A correct answer allows the player to roll a number dice, and the number rolled dictates their movement on the 1-60 step board, which includes special steps offering additional points or triggering movement parts. The game concludes when a player reaches the finish line, and the winner is determined by the player who accumulates the highest points. The clarity and functionality of the game mechanics were designed to help learners understand the concepts related to culture, society, and politics discussed in the subject. This design also aims to improve learners' ability to think critically and apply concepts to real-world cultural, political, and societal contexts, fostering an in-depth understanding in UCSP.

3.8 Accuracy and fairness of the scoring system

The scoring system is transparent and structured to ensure fairness. Points are awarded as "ribbon points" (2 points), "trophy points" (3 points), and "biggest trophy

points" (10 points). The first player to achieve the highest points is declared the winner. The game concludes when a player reaches the finish line. The accuracy and fairness of the game's scoring system were designed to help learners perceive the world equitably in terms of their awareness of the political system, global perspective, and respect for cultural diversity and its role in society. This system also aims to increase engagement with content, performance, and learning outcomes, which were previously identified as lacking.

3.9 Quality and relevance of questions to UCSP topics

Questions for each category color are directly aligned with the weekly topics from the Most Essential Learning Competencies (MELCS) of the Understanding Culture, Society, and Politics curriculum, specifically covering the first quarter. The topics include Anthropology, Sociology, and Political Science (Week 1); Culture and Society (Week 2); Cultural Relativism in Attaining Cultural Understanding (Week 3); Cultural, Social, Political, and Economic Symbols and Practices (Week 4); Socialization (Weeks 5-7); and Social Groups in the Society (Week 8-9). A variety of objective (True/False, Multiple Choice, Identification) and subjective (WH short-response) question types are utilized, guided by DepEd learning materials, and are *intended* to promote diverse cognitive engagement and critical thinking. Every question was specifically related to the subject to address the identified concerns in content, performance, and learning outcomes in UCSP. The quality and relevance of questions to UCSP topics were developed to help learners apply theoretical concepts to real-world cultural contexts, particularly enhancing the relevance, clarity, and in-depth understanding of the subject. This also aims to enhance learners' critical thinking in political and societal contexts, addressing the previous indication that course content might not have been sufficiently applicable or relatable to students' experiences. Furthermore, the quality and relevance of questions to UCSP topics were intended to help learners attain the intended learning outcomes, especially in terms of political awareness and global perspective.

3.10 Expert validation of SOCTAD battle game

Following its development, the SOCTAD Battle Game underwent rigorous expert validation to assess its quality and suitability as an instructional tool.

3.11 Visual appeal and board game appearance

The expert validation of the SOCTAD Battle Game's visual appeal and board game appearance yielded an overall mean score of 3.80, interpreted as "Strongly Agree". This indicated strong acceptance from educational and game design experts, suggesting that the game demonstrated high design quality, clarity, and visual coherence. Several indicators received the highest possible rating of 4.00, including the layout of the board game, the accuracy of icon descriptors, and the ease of handling the materials. Most other indicators, such as color attractiveness, icon and symbol clarity, and visual engagement, hovered around 3.80. The assessment for color accuracy concerning color psychology was slightly lower at 3.60, and the size of the board game was assessed at 3.40, both still within the "Strongly Agree" category. These findings affirmed the game's structural integrity and usability, both critical for fostering engagement and supporting learning objectives in an educational setting. Research emphasizes that such design features, particularly clarity of symbols, alignment of visual elements with educational content, and practical color psychology, were critical for enhancing motivation, comprehension, and emotional engagement (Shiau Gee *et al*., 2019).

3.12 Clarity and functionality of game mechanics and rules

The expert validation concerning the clarity and functionality of the SOCTAD Battle Game's mechanics and rules demonstrated a high consensus among experts, with an overall mean of 3.88, corresponding to "Strongly Agree". This indicated strong acceptance and confirmed that the game was intuitively structured and pedagogically sound in facilitating smooth and engaging gameplay. Notably, most indicators, specifically Items 1 through 8, received perfect mean scores of 4.00, confirming that the game’s rules, mechanics, and flow were clear, logical, and easy to follow. The functionality of the color and number dice and the clarity of scoring elements such as

ribbons and trophies were all affirmed with top ratings, suggesting that the game offered an accessible structure that minimized cognitive load, allowing learners to focus on content rather than game mechanics. Time-related indicators received slightly lower, though still highly favorable, mean scores ranging from 3.60 to 3.80. These items assessed the sufficiency of time provided, the appropriateness of time relative to the complexity of the topics, and the impact of time constraints on player enjoyment. While the time allocations were typically regarded as adequate, these findings highlighted the potential benefits of implementing adaptive timing mechanisms or differential pacing strategies to support a range of student processing rates and engagement levels.

3.13 Accuracy and fairness of the scoring system

The expert validation of the SOCTAD Battle Game's accuracy and fairness of the scoring system revealed a high degree of agreement, with an overall mean of 3.97, interpreted as "Strongly Agree". This demonstrated substantial expert support for the system's accuracy and fairness. Five of the six characteristics, which included the clarity of the scoring method, the fair application of criteria, and the motivational impact of point distribution, received perfect 4.00 ratings. This demonstrated the game's ability to evaluate performance while enhancing player enjoyment and motivation. A minor decrease in rating for the accuracy of the scoring system (3.80) indicated potential areas for improvement in balancing material mastery with strategic play features. The expert validation confirmed that the scoring system increased students' motivation to re-engage with the game by instilling a sense of competitiveness and enjoyment, consistent with gamification concepts.

3.14 Quality and relevance of questions to UCSP topics

The expert validation concerning the quality and relevance of the SOCTAD Battle Game's questions to UCSP topics yielded an overall mean of 3.76, translated as "Strongly Agree". The results indicated that the game's questions were clear, relevant, and closely aligned with key UCSP topics, such as culture, society, and politics. Most indicators in this domain received a rating of 3.80, affirming the questions' ability to foster critical thinking, enhance retention, and accurately reflect the core concepts of the UCSP

curriculum. A slight deviation to 3.60 for question clarity and thematic relevance pointed to potential areas for refinement, but the overall expert feedback confirmed that the questions contributed meaningfully to the educational objectives of the game.

3.15 Overall summary of expert validation

Table 2 provides a consolidated summary of expert evaluations of the SOCTAD Battle Game across the four critical domains.

Table 2

Summary of Expert Validation of SOCTAD Battle Game

Criteria	Mean	Qualitative Rating
Visual Appeal and Board Game Appearance	3.80	Strongly Agree
Clarity and Functionality of Game Mechanics and Rules	3.88	Strongly Agree
Accuracy and Fairness of the Scoring System	3.97	Strongly Agree
Quality and Relevance of the Questions to UCSP Topics	3.76	Strongly Agree
Overall Mean	**3.85**	**Strongly Agree**

The consolidated summary shows an impressive overall mean of 3.85, with all four domains receiving qualitative ratings of "Strongly Agree". This signifies that the SOCTAD Battle Game fulfilled the criteria requirements as "Strongly Acceptable".

4 DISCUSSION

This section interprets the findings from both student concerns and expert validation, drawing connections to relevant educational theories and highlighting the implications for UCSP instruction.

4.1 Interpretation of student concerns and implications

The consistent "Somewhat Disagree" ratings from students across content, performance, and learning outcomes underscore a pervasive issue of disengagement within traditional UCSP instruction. This is not merely a matter of individual student apathy but indicates a systemic pedagogical challenge that necessitates innovative

approaches. Students' reported difficulty in connecting theoretical concepts to real-world issues highlights a critical relevance gap in conventional teaching. The SOCTAD Battle Game was *designed to promote* the application of UCSP principles to real-world contexts, thereby aiming to make the subject more tangible and meaningful. The low levels of active participation and confidence in contributing ideas confirm that traditional methods foster a passive learning environment. The game's interactive and collaborative design is a direct response, aiming to transform students into active participants who are confident in their contributions and engage in critical discourse. The relatively higher score for "collaboration with peers" compared to individual participation suggests that students may find group work less intimidating or more engaging than individual contributions within traditional classroom settings. This indicates that the social aspect of learning is a latent strength or preference among students that a tool like the SOCTAD Battle Game, with its explicit group-based play, can effectively leverage to make the learning experience more accessible and effective.

Furthermore, the low scores in "awareness of political systems" and "broadening global perspectives", despite UCSP's stated aims to foster "civic character" (Hyun *et al*., 2024) and "social responsibility" (Shih, 2024) , indicate that traditional methods may be failing to cultivate higher-order civic competencies. These objectives are complex and require critical analysis and contextual understanding beyond factual recall. The game’s design, by emphasizing the application of concepts to "real-world cultural context, political, and in-depth understanding”, implicitly aims to move beyond rote memorization to foster political literacy and global citizenship, which are crucial 21st-century skills. This suggests that the study, through the development of the SOCTAD Battle Game, implicitly advocates for a shift in UCSP pedagogy from merely delivering content to actively cultivating crucial civic competencies essential for informed and engaged citizens in a globalized world. The game is presented as a vehicle for achieving these more ambitious educational goals.

4.2 Analysis of SOCTAD battle game design and development

The strong visual appeal and engaging board game design of the SOCTAD Battle Game, as validated by experts, directly address the initial problem of student disengagement. The intentional use of color psychology and culturally relevant icons

aligns with research on visual preferences in educational game design for enhancing motivation and emotional engagement (Shiau Gee *et al.*, 2019). The inclusion of both male and female player icons further contributes to this visual appeal by promoting a sense of inclusivity and representation for all students, reflecting a gender-inclusive design approach. The clarity and functionality of the game mechanics and rules, highly rated by experts, ensure that learners can focus on the content rather than struggling with game navigation. The diverse question types and their strong relevance to UCSP topics, also highly validated, are designed to promote critical thinking and the application of theoretical concepts to real-world scenarios, thereby aiming to address the identified performance and learning outcome gaps. This aligns with the understanding that game-based learning can foster critical thinking in student discourse (Cicchino, 2015). The highly accurate and fair scoring system is crucial for maintaining student trust and enhancing motivation. This transparent and equitable system, consistent with gamification principles, encourages competitiveness and enjoyment, thereby boosting students' desire to replay the game and iteratively reinforce their knowledge. The strong expert validation across all design criteria confirms that the SOCTAD Battle Game is not merely an entertaining diversion but a pedagogically sound tool designed to achieve specific learning objectives. The alignment of questions with Most Essential Learning Competencies (MELCS) further ensures its curricular relevance and effectiveness in promoting subject retention and engagement.

4.3 Interpretation of expert validation results

The consolidated expert validation, with an impressive overall mean of 3.85 ("Strongly Agree"), provides robust evidence for the SOCTAD Battle Game's quality, usability, and potential as an effective instructional tool. This strong endorsement from seasoned educators underscores the game's readiness for implementation. While overwhelmingly positive, it is important to acknowledge that this validation represents expert opinion on the tool's design and potential, and not direct empirical evidence of its impact on student learning outcomes in a classroom setting. The small, purposively selected panel of experts also suggests a potential for a halo effect, and the study did not include triangulation with student feedback during or after gameplay, or long-term teacher feedback from actual classroom implementation. The slight variations in ratings

for color accuracy, board size, and time considerations offer valuable input for future iterative design improvements. The expert feedback on timing, in particular, suggests the potential benefits of incorporating adaptive strategies to cater to diverse learner processing rates and enhance inclusivity (Sharma, 2024). The successful validation of the game's design elements aligns strongly with established instructional design theories, such as Keller's ARCS model of motivational design (Keller, 2010), which emphasizes attention, relevance, confidence, and satisfaction to maximize learner involvement and educational impact. The project reinforces the imperative for continuous innovation in instructional design, advocating for solutions anchored in rigorous research and a deep understanding of optimal student learning in evolving educational landscapes. This suggests that the challenges identified in UCSP are symptomatic of wider educational issues that demand ongoing, research-backed solutions, rather than isolated fixes. The study positions itself as a model for how educational challenges should be approached: through rigorous analysis, innovative design, and empirical validation, leading to a continuous cycle of improvement.

4.4 Limitations of the Study

It is important to acknowledge that while this study rigorously designed, developed, and validated the SOCTAD Battle Game, it primarily focused on the Analysis, Design, and Development phases of the modified ADDIE model. A full-scale, long-term implementation and empirical evaluation of the game's direct impact on student learning outcomes, engagement during play, knowledge retention, or transfer of learning in a sustained classroom setting were beyond the immediate scope of this capstone project. Therefore, while the tool's quality and potential are strongly affirmed by expert validation, its proven efficacy in improving learning outcomes over an extended period requires further research. Furthermore, the study relied on self-constructed instruments for assessing student concerns and for expert validation, and while internal consistency was established, independent external validation of these instruments was not performed. The small, purposively selected panel of experts also suggests a potential for a halo effect, and the study did not include triangulation with student feedback during or after gameplay, or long-term teacher feedback from actual classroom implementation. This methodological

choice, while appropriate for a capstone project focused on development, highlights crucial areas for future research.

5 CONCLUSION

This study successfully analyzed significant student concerns in learning Understanding Culture, Society, and Politics (UCSP) and, in direct response, designed, developed, and validated the SOCTAD Battle Game as an innovative, non-digital, game-based instructional tool. The analysis phase revealed pervasive student disengagement and substantial learning gaps in UCSP, particularly concerning content relevance, active participation, and the achievement of key learning outcomes. Students reported difficulties in applying theoretical concepts to real-world cultural, societal, and political contexts, compounded by low active participation, confidence, and critical analysis. In response, the SOCTAD Battle Game was meticulously designed and developed, with expert validation confirming its high quality across visual appeal, clarity of mechanics, accuracy of scoring, and relevance of questions to UCSP topics. The game consistently received "Strongly Agree" ratings from experts, affirming its pedagogical soundness and empirical validation.

The SOCTAD Battle Game emerged as a pedagogically sound and empirically validated tool, *designed to address* fundamental flaws in traditional UCSP content delivery, student engagement, and learning accomplishment. It represents a significant move towards a learner-centered, dynamic, and engaging instructional approach, with design elements that promote gender inclusivity. The project underscores the imperative for continuous innovation in instructional design, advocating for solutions anchored in rigorous research and a deep understanding of optimal student learning in evolving educational landscapes. The conclusion's emphasis on the "imperative for continuous innovation in instructional design" elevates the study beyond a single product development to a broader call for systemic pedagogical reform. This implies that the challenges identified in UCSP are symptomatic of wider educational issues that demand ongoing, research-backed solutions, rather than isolated fixes.

5.1 Recommendations

In line with the conclusions drawn from this study, the following recommendations are proposed for key stakeholders involved in instructional design, pedagogy, and policy, aiming to support the advancement of game-based learning, particularly within the context of Social Studies education:

5.2 For future researchers

Researchers are strongly encouraged to implement the complete ADDIE model, encompassing the Implementation and Evaluation phases, to ensure comprehensive instructional development and methodological rigor. This would involve deploying the SOCTAD Battle Game in authentic classroom settings over a sustained period and empirically assessing its direct impact on student learning outcomes, engagement during play, knowledge retention, and the transfer of UCSP concepts to real-world problem-solving. Investigations into the adaptability and effectiveness of the SOCTAD Battle Game, or similar non-digital game-based learning tools, in other social science subjects or diverse educational contexts beyond UCSP are also recommended to explore generalizability. Furthermore, future research could delve into the specific contributions of individual game elements (e.g., the role of chance versus skill, different scoring mechanisms, specific visual design elements) on various dimensions of student engagement and learning, including potential gender-specific impacts or preferences. It is also recommended to conduct studies that triangulate expert validation with student feedback during and after gameplay, and long-term teacher feedback from actual classroom implementation, to provide a more comprehensive understanding of the tool's effectiveness.

5.3 For the academe

The academe should formalize non-digital game-based learning pedagogy as a legitimate and significant domain of academic inquiry. This can be achieved through establishing dedicated research clusters focused on game-based learning, integrating NDGBL principles and practices into teacher education curricula, and actively promoting

peer-reviewed publications in this burgeoning area. Additionally, the development and offering of specialized training programs and workshops for educators on the principles of designing, developing, and effectively integrating game-based learning tools into their teaching practices are crucial.

5.4 For UCSP teachers

UCSP educators are strongly encouraged to integrate structured game-based approaches, such as the SOCTAD Battle Game, into their classroom settings to actively foster student engagement and critical thinking. Teachers should also be empowered to adapt and localize existing game-based learning tools to better suit specific cultural contexts, local curricula nuances, and the unique learning needs of their students, including considerations for gender-responsive pedagogy. Fostering a community of practice among UCSP teachers is also recommended to facilitate the sharing of best practices, collaboration on the development of new game-based learning materials, and collective addressing of challenges in implementation.

5.5 For Policymakers and curriculum developers

Educational authorities should actively support the widespread use and integration of validated non-digital game-based learning resources within official curricular frameworks. Tools aligned with essential 21st-century skills (e.g., critical thinking, collaboration, communication, creativity) should be institutionalized through targeted grants, pilot programs, and clear accreditation pathways. This will promote differentiated and inclusive instruction at scale, preparing students for future challenges, with a particular emphasis on ensuring equitable access and engagement for all genders. The recommendation for policymakers to "institutionalize tools aligned with 21st-century skills" implies a recognition that traditional curricula may be insufficient for preparing students for modern societal and professional demands. The SOCTAD Battle Game, by fostering critical thinking, collaboration, and problem-solving, implicitly addresses these crucial skills. This suggests a strategic alignment of pedagogical innovation with broader educational reform goals to produce future-ready citizens.

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Authors' Contribution

All authors contributed equally to the development of this article.

Data availability

All datasets relevant to this study's findings are fully available within the article.

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