

Innovative Game-Based Teaching of Entrepreneurship for Secondary Education: The Little Business Leader

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Abstract: In response to the evolving demands of the digital era, this study proposes a game-based pedagogical framework designed to cultivate entrepreneurial skills, financial literacy, and technological competencies among secondary school students. Drawing inspiration from the business reality show *The Apprentice*, the model incorporates experiential learning through simulation-based company creation, investment competitions, and formal summit presentations. This program uses a game-based, experiential learning approach to enhance participants' entrepreneurial thinking, investment literacy, public speaking skills, and assertiveness. Through a series of sessions, which include startup creation with AI tools, simulated investment competitions, and a high-impact business summit, participants will develop practical skills in innovation, management, and strategic presentation. With the methodologies of Bloom's taxonomy, Self-regulated Learning (SRL) theory, and Kolb's Experiential Learning Theory, the game-based teaching approach not only aligns with the syllabus for secondary business education but also equips students with essential skills for navigating the modern world. Additionally, it offers benefits that will aid them in their future endeavours, including asset management, career planning, and more. The author has already implemented this program in real educational practice and still feels it is being underestimated. Furthermore, the author believes more elements can be incorporated, such as self-created currencies and a simulated United Nations. The "Little Business Leader" concept could even evolve into "Little Economist," "Little Diplomat," and so on. Additionally, the game-based and role-based teaching methods will inspire more teachers and students in future pedagogical approaches.

Keywords: Entrepreneurship education, Business strategy simulation, Financial literacy, Game-Based learning, Secondary education

1. Introduction

The new era demands that the younger generation and future citizens acquire advanced technological skills and competencies. Generation Z, some of whom are already students, are familiar with basic concepts such as coding, the application of artificial intelligence (China, 2022), asset management (Bado & Basri and Hasan, 2023), and critical thinking from an early age.

In this context, the author's preferred approach to Self-regulated learning (SRL) is a game-based teaching method. Unlike conventional and monotonous course teaching, this approach also addresses some outdated theories, such as Porter's Five Forces model, particularly considering that the founder has since gone bankrupt (Denning, 2021). The game-based activity can provide students with a more immersive experience in business learning.

In response to the evolving demands of the digital era, this study proposes a game-based pedagogical framework designed to cultivate entrepreneurial skills, financial literacy, and technological competencies among secondary school students. In this regard, the model gets inspiration from the business reality show *The Apprentice* (Keef, 2018). In this framework, each student selects a company and formulates a strategy or business idea, which they then present to the class. For instance, a student interested in psychology can conduct in-depth research within that field, while a student passionate about aviation could launch their own self-driving airplane company.

In Session One, participants create their own startup companies by finalizing their business name, field, organizational culture, and visual identity, with AI tools assisting in generating logos, 3D product models, and office layouts. Session Two introduces an investment competition using simulation trading software to develop practical asset management and investment skills. In Session Three, the curriculum will be held as a simulated summit where students dressed in formal business attire as "Little Business Leaders" will present their business plan, operational arrangement, and finally receive simulated offer letters from global prestigious institutions such as Google, Tesla, Toyota, Dassault, and Oxford University, etc.

This game-based teaching approach not only cultivates students' independence, innovation, and managerial ability, but also enhances students' confidence and assertiveness in their chosen fields, which range from video games and aerospace to sports, psychology, and beyond.

Overall, the program combines experiential learning with hands-on activities, including creating simulated companies, participating in investment competitions, and delivering formal, summit-style presentations. It

encourages students to think critically about entrepreneurship, leadership, and the adaptability required to develop original business ideas. Designed as an immersive, game-based approach to teaching entrepreneurship at the secondary level, the program integrates traditional simulations, AI tools, and project-based learning. This combination provides students with a practical and engaging way to build financial literacy, develop an entrepreneurial mindset, and pursue a study path aligned with their personal interests—skills that are essential in today's rapidly changing world.

2. Teaching Note and Syllabus

2.1 Game-Based Teaching Objectives and Target Audience

This case is designed for discussion on entrepreneurship encouragement and financial literacy education for secondary school students, which caters to the advanced development of each.

To closely align with the undergraduate business teaching structures and syllabus, the author has thoroughly examined each chapter of the Business subject and the Global Perspectives & Research subject. The intention is to develop this case study as a teaching plan rooted in the A-Level Curriculum.

Table 1: A-level syllabus and course content

Subject	Chapter	Cover in Little Business Man
Business - 9609	1.1 Enterprise	- Understand the basic elements of a company - Based on the simulated investment, cultivate students' understanding of IPOs, financing methods, financial ratios, etc. - According to the company's initiative, the Simulated Summit aims to build confidence, improve public speaking skills, and enhance leadership capacity.
	1.2 Business structure	
	4.1 The nature of operations	
	5.1 Business finance	
	6.2 Business strategy	
	7.3 Leadership	
Global Perspectives & Research – 9239	Component 1. Become effective researchers, using appropriate sources to support judgements and understanding of research processes.	- Identify the target business industry. - Analyse the market and take reference from the benchmark company in the world - Independent research ability on a business plan and business idea
	Component 3. Candidates work in teams to identify a local problem that has global relevance. Each team member researches the problem from a distinct perspective and suggests a solution based on their research findings.	
	Component 4. Undertake independent research on a topic of their own choice	

Source: data collected from the official website of Cambridge International AS & A Level subjects

2.2 Teaching Target

This teaching case is designed to associate with the following teaching outcomes, which are coordinated with the Cambridge A-Level Business (9609) and Global Perspectives & Research (9239) curricula, as well as business subjects of IGCSE, IB, etc:

- Demonstrate an understanding of enterprise formation, basic enterprise elements
- Analyse the specific segmentation and how realize the commercialization
- Enhance self-regulated learning (SRL) for students, with a particular focus on fostering autonomy and competency.
- Use the theoretical concepts in real-world business decision-making
- Acquire the capacity to estimate the investment value of part of the securities.
- Build confidence, innovative insight, and foster the students' ability in public speaking, critical thinking, and career planning.

2.3 Theoretical Frame

The program was rooted in the theories of Bloom's taxonomy, Self-regulated Learning (SRL) theory, and Kolb's Experiential Learning Theory. These educational foundational theories, respectively, support the design of the three-phase teaching model, which cultivates both cognitive development and practical business capacity

among secondary school students. Kolb’s standpoint outlines the foundational theory of experiential learning, emphasizing that learning is a process rooted in experience rather than merely a transmission of information. This focuses on practice-based learning, which is highly relevant to scenario-based learning. (Kolb, 2014) Additionally, the study examines the role of self-regulated learning (SRL) in helping students develop more sophisticated mental models for further learning and complex science topics. (Azevedo & Guthrie, 2004) By integrating progressive levels with active learning, critical thinking, backward design, and a flipped classroom approach, based on Bloom's taxonomy, we can achieve significant participation and recognition for all students, including those who are typically quiet in class. (Mulcare & Shwedel, 2017)

Through the support of the three Step by Step module sessions, students are encouraged to progress and develop greater application skills, critical thinking, and independent judgment.

3. Game-Based Teaching Structure

3.1 Session One: Entrepreneur and Startup

Guide the students in creating their own startup companies. They should finalize the name, industry, logo, organizational culture, and other essential elements. Students can use AI tools to generate rendering images for their business profiles, create company logos, and design 3D models of products and office layouts. (As shown in the Appendix 1)

The purpose of allowing students to use AI is to help them build their own understanding of business concepts. Therefore, AI serves solely as an auxiliary tool to assist them in completing the task.

Table 1: Agenda for Session One of The Little Business Leader Programme

Module	Session Length	Teaching Unit Title	Teaching Content	Learning Objectives
1.1	2 hours	Introduction to Entrepreneurship	<ul style="list-style-type: none"> - Introduce the basic information of famous companies worldwide. - Teach the basic process for registering a company 	<ul style="list-style-type: none"> - Understand the basic structure and process of setting up a business (such as business naming, organizational structure, and licenses) - Develop entrepreneurial awareness and self-positioning skills
1.2	2 hours	Group Formation & AI Tools Using for Business Design	<ul style="list-style-type: none"> - Form student teams - Choose a business structure - Register the company name - Identify required licenses and the employment system - Use AI tools to assist in business planning 	<ul style="list-style-type: none"> - Enhance effectively in teamwork - Apply learning and practical knowledge in designing a business - Utilize AI tools for creative business development - Understand AI is the tool for assisting in commercial activities, which enhances the efficiency rather than wheel and deal
1.3	2 days (home-based)	Reflection & Peer Feedback	<ul style="list-style-type: none"> - Reflect on group work and idea formation - Provide and receive constructive peer feedback 	<ul style="list-style-type: none"> - Strengthen self-reflection and critical thinking skills - Understand the challenges and achievements of the entrepreneurial process
1.4	2 hours	Finalization of the Business idea	<ul style="list-style-type: none"> - Refine the core business idea based on feedback - Finalize company profile, structure, and concept pitch 	<ul style="list-style-type: none"> - Merge the team's ideas into a complete business concept - Prepare for presentation and investor simulation

3.2 Session Two: Financing and Investment

Setting an investment competition, ask students to use the simulation trading software to invest and assess their final performance in the final session (As shown in the Appendix 4). In this second session, the lecturers will instruct students to learn the fundamental literacy of financing, which includes the domains of venture capital (VC), private equity (PE), and Initial Public Offerings (IPO). Based on the comprehensive interpretations and

interactions during this session, students can develop their own consciousness and common sense of financial literacy, as well as acquire the capacity to learn how a startup can raise capital and effectively manage its financing.

At the same time, invite students to present their investment portfolios, highlighting each of their acquisitions and losses. For profitable investments, the lecturer encourages them to share the strong points and potential they identified in the companies they chose. For those who incurred losses, provide appeasement and guidance to help them analyze their weaknesses or missteps and suggest strategies for future investment decisions.

Table 2: Agenda for Session Two of The Little Business Leader Programme

Module	Session Length	Teaching Unit Title	Teaching Content	Learning Objectives
2.1	2 hours	Introduction to Finance & Capital Markets	<ul style="list-style-type: none"> - Explain the basic concepts of stock, bond, fund, and securities. - Teach the basic process for enterprise financing as VC, PE, IPO, etc. 	<ul style="list-style-type: none"> - Understand the structure and role of capital markets - Acquire basic knowledge of investment action
2.2	2 hours	Simulation: Investment Strategy	<ul style="list-style-type: none"> - Guide students through mock investments using simplified trading tools - Introduce investment strategies and risk awareness 	<ul style="list-style-type: none"> - Understand the logic behind investment behaviour - Build up the consciousness for asset management
2.3	1 week	Practice for investment in simulation software and self-learning	<ul style="list-style-type: none"> - Ask students build their own portfolio and practice the investment 	<ul style="list-style-type: none"> - Strengthen participants' ability in investment software using - Enhance the self-learning and investment analysis capacity
2.4	2 hours	Portfolio Review & Risk Reflection	<ul style="list-style-type: none"> - Review individual and group investment outcomes - Reflect on gains and losses, identify strengths and areas for improvement - Provide peer and instructor feedback 	<ul style="list-style-type: none"> - Strengthen risk awareness and critical thinking - Learn from both success and failure in investment - Encourage a growth mindset and responsible risk-taking

3.3 Session Three: Simulated Summit

The summit meeting is referred to as an international meeting of heads of state or government. The benefits of a Summit, within the Diplomatic and commercial domains, are not only that it fosters interpersonal trust between leaders but also reinforces systemic trust in the state-as-person construct, which is identified as the implicit glue holding the international system together. (Ku & Mitzen, 2022) Furthermore, the formal attire and demeanor during the summit will help a person maintain their mental and physical well-being. Moreover, Self-confidence and a professional appearance are of vital importance for a worker. (A.O., 2021)The initiative to provide formal attire and well-prepared facilities can create a formal atmosphere for secondary students, many of whom rarely experience social conferences and meetings. A foundational understanding of business can instill the essence of a commercial environment.

Ask each "Little Business Leader" in formal attire to present their idea. They will be granted a simulation offer letter from eminent companies such as Google, Tesla, Toyota, Dassault, and Oxford University (As shown in Appendix 3). The purpose in this phase is to recognize them as the best and to gain recognition from the world's top enterprises, allowing them to continue pursuing their interests and dreams.

Table 3: Agenda for Session Three of The Little Business Leader Programme

Module	Session Length	Teaching Unit Title	Teaching Content	Learning Objectives
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3.1	1 hours	Business Presenting	<ul style="list-style-type: none"> - Students formally present their business ideas and company profiles to other candidates and the audience 	<ul style="list-style-type: none"> - Practice business communication and presentation skills - Build confidence in public speaking within the context of IPOs or other commercial presentation scenarios.
3.2	1 hours	Completion & Voting	<ul style="list-style-type: none"> - Each student receives a token representing a simulated startup capital - Teams pitch their businesses to attract investment votes - Voting process conducted based on presentations <p><i>Refer to Appendix 2: Voting Token</i></p>	<ul style="list-style-type: none"> - Understand investor perspectives, and acquire the ability navigating in capital market - Enhance persuasive communication and teamwork under pressure
3.3	1 hours	Instruction and review	<ul style="list-style-type: none"> - The instructor provides feedback on student ideas, teamwork, and presentations - Encourage students to offer constructive suggestions to one another and learn through other contemporary. - Encourage reflection and areas for improvement 	<ul style="list-style-type: none"> - Provide constructive feedback and full consideration for growth <p>Reflect on learning progress and group collaboration</p>
3.4	30 minutes	Prize-giving & Ceremony	<ul style="list-style-type: none"> - Announce the most-voted company and ask to present their inspiration - Grant the offer letter from prestigious global companies <p>(As shown in Appendix 3)</p> <ul style="list-style-type: none"> - Celebrate participation and effort 	<ul style="list-style-type: none"> - Enhance the sense of ceremony and students' professional belonging - Cement students' confidence in study and life

Note: Note in the offer letter that it is for events and educational purposes only, and not for commercial use.

4. Further Thinking and Business Insight

The purpose of motivating students to participate in this game-based program is to cultivate their initial awareness of entrepreneurial spirit, financial literacy, innovative thinking, and resilience in business operations. The game and awards are not the end goal, but rather a starting point for their future development, encouraging deeper engagement in postgraduate studies, career planning, business insight, and the ability to withstand pressure in real-life challenges.

4.1 The practice for Pedagogy Theory

The practice for Pedagogy theory coherently correlates with the content in 2.3 Theoretical Frame, and can be exhibited as the following aspects:

- Self-directed learning and practical business skills development: Rooted in Self-Regulated Learning (SRL) theory, this module aims to foster student motivation by creating an engaging and participatory learning environment. It encourages the development of students' autonomy, a sense of relatedness, and competence through hands-on business activities. (Niemic, 2009)
- Concretization in business subject and conception: Drawing on Kolb's Experiential Learning Theory, the programme guides students through all four stages of the learning cycle: concrete experience, reflective observation, abstract conceptualization, and active experimentation. (Kolb, 2014) These stages are embedded in practical activities to help students connect theory with real-world business practice.
- Gradually enhance students' cognitive abilities to think deeply and critically. There's analysis indicates that implementing case-based learning effectively enhances the application of knowledge, which in turn fosters higher-order thinking. This advanced thinking ability positively influences learners' capacity to evaluate practice. The teaching approach uses case studies in teaching an undergraduate course on the Internet for Business in class, based on the revised Bloom's taxonomy. (Nkhoma & Lam, 2017)

This programme takes reference from Nkhoma’s case study, and extends the topic to the finance and entrepreneurship field. In this regard, the author believes that this case has covered the three main pedagogical theories and effectively integrated educational theory with learning practice.

4.2 Lessons Learned and Application in Further Education

This game-based teaching approach not only aligns with the syllabus for secondary business education but also equips students with essential skills for navigating the modern world. Additionally, it offers benefits that will aid them in their future endeavours, including asset management, career planning, and more.

Aiming to foster creativity, resilience, and business acumen, the “Little Business Leader” program offers a unique teaching model for entrepreneurship education and the development of comprehensive skills.

Compared to postgraduate business education, secondary-level business education integrates more interactive elements and encourages greater participant engagement.

The author has already implemented this program in real educational practice and still feels it is being underestimated. Furthermore, the author believes more elements can be incorporated, such as self-created currencies and a simulated United Nations. The “Little Business Leader” concept could even evolve into “Little Economist,” “Little Diplomat,” and so on. Additionally, the game-based and role-based teaching methods will inspire more teachers and students in future pedagogical approaches.

5. Conclusion, Implementation and Impact Evaluation

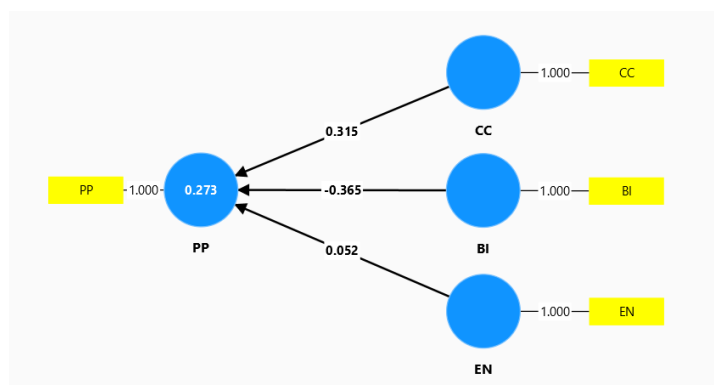
The author is honoured to implement this teaching plan for students from Hanyang University – Raya team. Following a two-week immersion program involving 24 participants, the students consistently expressed in their compositions and feedback that they had gained greater confidence.

The Impact Evaluation was estimated with both quantitative and qualitative methods. For the quantitative aspect, we distribute the questionnaires, as the question is shown as follows:

- The simulation summit and company offer enhance my confidence
- The Little Business Leader programme builds up my business insight
- The summit meeting presentation enhances my English-speaking skills
- I get progression in this programme

According to the SmartPLS results using the basic PLS-SEM algorithm to examine the questionnaires, the correlation is presented in the figure below. Despite the limited number of observations, the results indicate that confidence enrichment, with the coefficient 0.315, has the most significant impact on students' self-progression.

Table 4: The results for correlation with confidence, business insight, English-speaking skills, and self-progression



Nevertheless, due to the scarcity of the observation sample, the author conducted a supplementary assessment with qualitative feedback:

“I learned about confident attitude and critical thinking. Marshal taught us that we can do anything, and we should be more confident.”

“I could learn the mind and mental of speaking English. Thanks to Marshall and Daniel, I could learn confidence and courage.”

The comments above represent some of the students' key reflections. In this regard, our teaching team has come to realize how subtle influence, encouragement, and patience can effectively support and reshape students' mindsets. The following table is a summary by Hanyang University – Raya team 24 students' composition and feedback.

Table 5: Domains of Student Growth Reflected in Feedback

	Confidence Enrichment	Critical Thinking	English Skill	Business and Economic Literacy
Volume of Students	17	6	9	1

Source: Data collected from Hanyang University – Raya team students' composition and feedback

Most participants highlighted the emphasis on thinking and noted that the relaxed atmosphere helped build their confidence. They felt more comfortable using English as a tool for communication and self-expression, and were encouraged to apply their language skills in practical contexts.

Moreover, the implementation process and impact evaluation coincidentally align with the three core psychological components of self-regulated learning: autonomy, competence, and relatedness. These elements have been shown to effectively enhance and support students' engagement and performance in comprehensive learning environments.

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In this spirit, I hope this paper serves not only as a meaningful academic outcome but also as a fruit of inspiration that motivates my excellent Korean students to pursue their aspirations and explore vibrant career pathways ahead.

Statements and Ethics declaration: This study involved 24 students from Hengyang University in Korea, who participated as members of the Raya team. All necessary ethical reviews were conducted, and informed consent was obtained from all participants. The authors declare no conflicts of interest, and no funding was received for this study. All images, logos, and renderings used—whether processed or generated by AI—were authorized by the author, who retains the publication rights. The datasets used in this study were collected from publicly accessible sources, including official industry websites, news reports, media agency information, as well as students' compositions and feedback. Code availability is not applicable. The first author, Chen JianYuan, served as the lead researcher and principal writer of the teaching plan. The second author, Han Qisheng, was the primary lecturer responsible for implementing and delivering the module.

I hereby declare that the manuscript with the title *“Innovative Game-Based Teaching of Entrepreneurship for Secondary Education: The Little Business Leader”* is my original work and has not been published previously, in whole or in part, in any journal, book, or other academic outlets.

Furthermore, I affirm that this manuscript is not under consideration for publication elsewhere and will not be submitted to another journal while under review by your publication.

All authors have read and approved the manuscript and have agreed to its submission to your journal.

Declaration of AI: This paper employed an AI tool (ChatGPT by OpenAI) to assist in matching A-level business subjects, refining language, checking grammar, generating example posters and symbols, and enhancing the clarity and structure in certain tables and paragraphs. The author developed the ideas, structure, analysis, and academic content entirely and originally. The AI-generated suggestions were only served as a reference and edited to ensure alignment with the intended meaning and academic integrity of the paper.

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Appendix 1: Example of Student Startup Plan



Appendix 2: Mock Token for Startup Voting Activity



Appendix 3: Sample Offer Letter from Prominent Enterprises



Appendix 4: Example of the Simulated Investment Platform

