Board Games as Content and Language-Integrated Teaching and Assessment Tool for EFL Students in Taiwan

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Abstract: Content and Language Integrated Learning (CLIL) teaching and assessment is extremely challenging because it isn't easy to assess content knowledge and language proficiency simultaneously. Assessing students of varying proficiency levels requires careful differentiation and consideration and finally, most CLIL programs are experimental, so their methods, materials, tools for testing and evaluation, and Teachers' Training Programmes (TTP) are scarce. Board-games have been successfully used as teaching/assessment tools measuring content and language to varying levels easily, becoming excellent course materials for CLIL courses. A foreign teacher designed board games for CLIL, English as a Medium of Instruction (EMI) course in a Taiwanese university called Books and Newspaper taught to senior students in the physics department over a 14-week semester. It was extremely challenging to develop listening, speaking, reading, and writing (LSRW) skills of Taiwanese students who only spoke Chinese throughout their university life, so the foreign teacher used board games as course materials when she taught the same EMI course to a new set of 21 students. Boardgames increased learning effectiveness and drastically increased the receptive and productive skills of learners creating efficient realization of course objectives than the iteration without course materials seen in the attendance and participation of the learners.

Keywords: EFL pedagogy and assessment; English as a medium of instruction; Content and language integrated learning; Learning outcomes, Board games

Introduction

Taiwan has adopted a policy to become a bilingual nation in both English and Mandarin Chinese by 2030 in a globalized society to compete with its Asian counterparts (Yang, 2020). According to 55% of participants in a survey, bilingual policy was essential for everyone and more than 75% of participants felt that it may face challenges like insufficient budget, lack of trained teachers, and lack of equipment (Meetei, 2022). Most Taiwanese people feel that becoming bilingual is less of a choice and more of a necessity for success in education and employment. To support the national bilingual goal, a greater number of courses in public and private universities are offered in English as a medium of instruction (EMI) (Lin, 2021). Content and Language Integrated Learning (CLIL) was another new technique combining language and content by using a foreign language as a medium of instruction (Rosi, 2018). Language proficiency and motivation were the biggest benefits of the CLIL technique, and it was effective in educating multicultural and multilingual students in some European schools (Zarobe, et al., 2011). In Asian countries like Japan, it is believed that integrating a flipped classroom into a CLIL course can help develop higher-order thinking skills,

collaborative skills, and address the lack of CLIL course materials (Birdsell, 2019). In keeping with the advocacy for multimodal forms of communication, Physics for CLIL experiments was an intentional choice, as it was more adaptable than humanities or arts subjects due to the use of non-verbal elements like symbols, images, and graphs (Birdsell, 2019). According to Barnard, "effectively explaining key concepts to students in such a way as to make the lectures comprehensible" did not happen with high proficiency in reading and writing of the EFL teachers. So, the foreign physics teacher in the present study completed 120 hours of TEFL course certification during the semester break period to understand language teaching pedagogies (Cumming, et al 1997). After much introspection on various course materials during the first-semester break, the foreign physics teacher felt that board games could be an effective teaching tool to engage students with different learning styles and inspire individual creativity facilitating rapid learning and retention thus replacing the traditional lecture method which did not produce interactive learning, learning retention, skill development or behavior change in the EFL context (Zhang, 2023). Dziob (2020) showed that there was a reduction in test anxiety, an increase in motivation for learning, and a positive attitude towards assessment when group board games were used for assessing a physics course. Board games helped English grammar retention learners which were otherwise considered complicated and boring according to Phuong, et al., (2017). Improving speaking competency, enhancing motivation in speaking and increasing interpersonal interaction among pupils were some of the positive impacts of using board games making board games an excellent tool for teaching and speaking in the EFL context (Phuong, et al., 2017).

Purpose of the study

The study investigated the implementation of the EMI course called Books and Newspaper from February to May 2023 for the first time to 21 students as a CLIL course without course materials and from September to December 2023 for the second group of 21 students as a CLIL course with board games as course materials for better and more efficient realization of the course objectives. Hence the study examined methods to assess content and language separately in a CLIL course and the use of board games in the implementation of such CLIL courses.

Research questions

1. How to assess content and language separately in a CLIL course?
2. Have Board games been used as course materials and assessment tools in CLIL/EMI classrooms?

Participation and procedure

The present study consisted of teaching physics research in English to Taiwanese private university students who only spoke and studied Mandarin Chinese throughout their school and university life. The EMI course called Books and Newspaper lasted for almost four months. About 14 teaching sessions took place and students were taught English as a foreign language (FL) in a CLIL framework for 2 hours per week.

The present research is both qualitative and quantitative because quantitative research methods provide immediate results with data collection that could be displayed numerically and analyzed scientifically while qualitative research targets reason and information such as sociology, and interpersonal psychology rather than prediction. To obtain complete information, the mixed-method approach, with qualitative data from semi-structured questions in Mandarin Chinese and quantitative data using a structured feedback questionnaire were both administered together by a teaching assistant to all students at the end of the semester (Wasti, et al., 2022).

Methodology

The objective of the course was to choose an original physics research paper from a journal and write a term paper describing the physics research in their own words in the FL. Through the content of physics research, the foreign language skills of LSRW (Listening, Speaking, Reading, and Writing) should be developed. After careful consideration of the student requirements, a mini course with a handout or study sheet was developed which is shown in Table 1 which was retained the same for both iterations of the EMI course. The course objectives of the "Books and Newspaper" elective course are shown in Figure 1 which was again retained the same for both iterations of the EMI course.

Table 1: Course content with topic/handout detail

Topic	Course content with topic/handout detail
Topic 1	About Course Objectives, Content, Teaching Plan, and Grading Policy
Topic 2	Algorithm for the selection of a research topic
Topic 3	Comprehension, and note-making basics of a research paper
Topic 4	Thesis and Term paper-definition and contents
Topic 5	Making Effective PowerPoint Presentations
Topic 6	Ten simple rules for making a good oral presentation
Topic 7	Abstract writing
Topic 8	Strategies for effective notetaking of an oral lecture

15-page written term paper in English alongwith a 1-page abstract of the term paper in Chinese and English based on a physics research paper of their choice

A 10-minute speaking oral presentation on the research paper through a PowerPoint presentation.

A 10-minute reading of their research paper's English and Chinese abstracts was conducted while submitting the written version

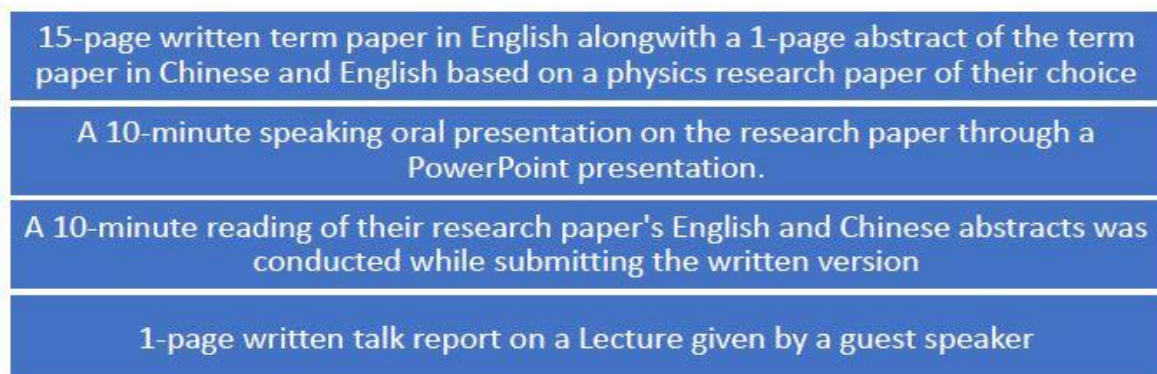1-page written talk report on a Lecture given by a guest speaker

Figure 1: The course objectives of the books and newspaper elective course

The feedback from the students (retained same for both iterations) was done through the distribution of a questionnaire by a teaching assistant consisting of questions about the content, planning, and implementation of the EMI course by the foreign teacher for the first iteration of the EMI course without the board games as course materials. Teacher effectiveness at the university level required competencies like developing trust, compassionate relationship with students, patient and caring personality, dedication to teaching, subject matter knowledge, and knowledge of learners was measured with a questionnaire containing 28 questions (Akram, 2018) (Murcia, et al., 2015). Four questions out of 28 were under course planning which referred to everything related to the previous process of reflection and design of subject matter. 17 question items out of 28 were under development, with everything related to the execution of and compliance with the curriculum. Finally, 7 items out of 28 were under the results, discussing educational objectives, referring to the achievements made by the students, and the aspects involving revision and improvement. The detailed content under each head of planning, development, and results is

shown in Figure 2. The items were assessed using a Likert scale with a score range between 1 (completely disagree) and 5 (completely agree). Finally, two questions described one good aspect of the foreign teacher and one bad aspect of the teacher. For the second batch of students using board games as course materials, there were additional questions about the board games and a few questions from the private university management on realizing the course objectives with the grant money provided to create the course materials. The teacher assessment questionnaire with additional questions on board games and course objectives was uploaded to the cloud and the teaching assistant encouraged each student to complete the post-test questionnaire.
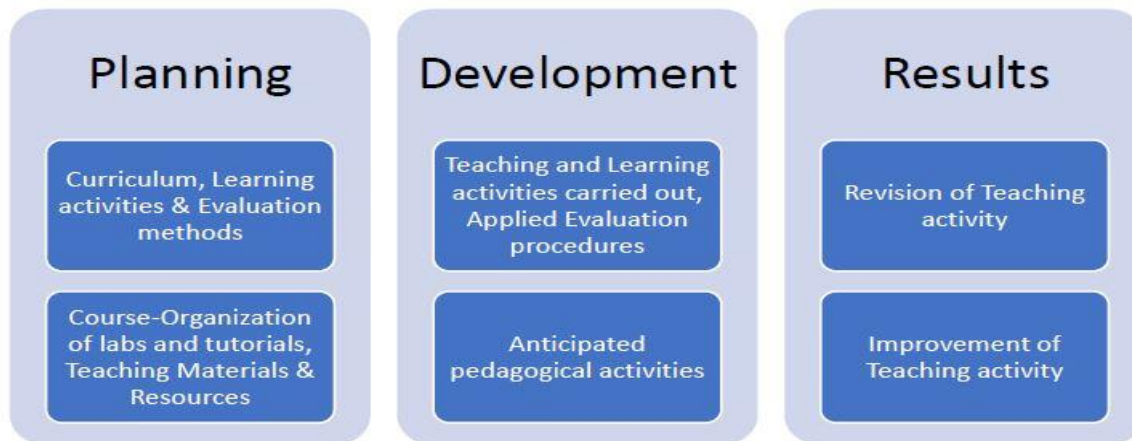
Planning	Development	Results
Curriculum, Learning activities & Evaluation methods	Teaching and Learning activities carried out, Applied Evaluation procedures	Revision of Teaching activity
Course-Organization of labs and tutorials, Teaching Materials & Resources	Anticipated pedagogical activities	Improvement of Teaching activity

Figure 2: The evaluation of the teaching performance questionnaire component of planning, development, and results

Course implementation

Implementation of EMI course without course materials (board games): Input stage: The target language learning was integrated into presenting the mini-course content in a multimodal classroom, in a multisensory way (Lim, et al., 2022). This was primarily done using PowerPoint presentations and interactive oral presentations, accompanied by the distribution of handouts or study sheets. Students brainstormed using digital tools such as computers, tablets, educational software, images, and videos to enhance their learning with diverse and engaging input (Haleem, et al., 2022). However, the foreign teacher encountered challenges when it came to assessing the student's understanding of the content and their language abilities (Thippayacharoen, et al., 2023). Additionally, explaining the course's assessment and grading policy proved difficult. The ice-breaking sessions between the students and the foreign teacher were noticeably quiet, as the students were reluctant to speak in the target language and the foreign teacher was not familiar with their first language (Mahmud, et al., 2023). Towards the end of the 4-week immersive language class, the foreign teacher made decision to create a more relaxed and student-friendly atmosphere (Genesee, 1985). She led the students to the cafeteria, where she encouraged them to engage in conversation and make mistakes without fear (DeBrincat, 2015). She also tried to speak in her limited Chinese and assured the students that they were all there to learn and that mistakes are a natural part of the learning process. She emphasized that mistakes should be seen as opportunities for improvement.

Output stage: After teaching the first group of students for four weeks using course materials that did not include board games, it was difficult to encourage them to speak (Bouckaert, 2016) (Fan, et al., 2020). To assess their speaking skills, a short five-minute talk was assigned where the students

were asked to discuss their best vacation and the lessons, they learned from it (Fauzan, 2016). However, at this point, the foreign teacher had not yet assessed their knowledge of physics content (Lyon, 2013). It was challenging to come up with physics-related questions when the students' language skills were not very strong. The 5-minute talk served as the first assessment task in the target language. Due to the lack of extramural activities in the TL their confidence in speaking English was extremely low, so, the foreign teacher decided to purchase 5 English books about famous personalities and introduced a group oral presentation project, which involved creating PowerPoint slides (Kaatari, et al., 2023). However, she had concerns about teaching content terms given the students' limited speaking skills in the target language. Some students in the class were hesitant to speak in front of the entire class and requested separate assessments in a more private setting, such as the staff room. Taking this into account, the foreign teacher spent individual time with each student, motivating them to build their confidence and encouraging them to work together in groups to maximize their strengths and achieve the best possible outcomes in their presentations (Wazzan, 2015). Between weeks 5 and 10, the foreign teacher dedicated a significant amount of individual time to explain the content and basics of writing term papers to each student (Alharthi, 2021). It was a challenge to get the first group of students without board games to read and write in English, so the foreign teacher sat with them on a one-to-one basis to help them effectively read and write their papers. Despite several encouragements from the foreign teacher, the students did not engage with their classmates to develop their reading and writing skills.

Feedback stage: Weeks 11 to Week 14 were dedicated to the group oral book presentation with PowerPoint slides on various famous personalities. The students performed exceptionally well and demonstrated improved group dynamics and writing skills in their term papers on their research topics. Their content knowledge was assessed through a Physics lecture given by the foreign teacher on "Feynman's way of deriving Lorentz Transformation." The students were also given exercises and numerical problems that required higher-order thinking skills (Putri, et al., 2021). They were then required to write a single-page report summarizing the lecture's content. However, the students encountered difficulties completing the assignment and found the foreign teacher's fast pace intimidating. They also struggled with understanding physics content in English (Vargas, 2021).

Implementation of the EMI course with course materials
Implementation of the classes: The same topics in Table 1 were implemented in a blended classroom with lectures, demonstrations, presentations, and board games and the details of the topics implemented are shown in Figure 3 (Kosar, 2016).
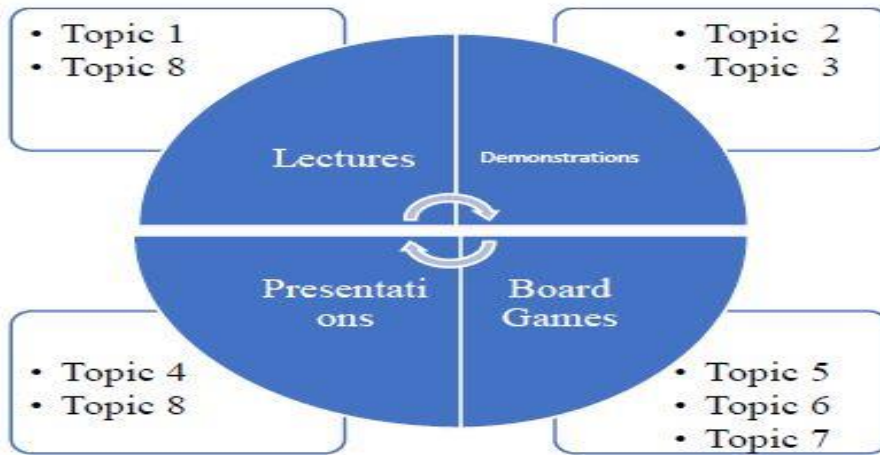
Figure 3: A blended classroom implementation with lectures, demonstrations, presentations, and board games for the same topics shown in Table 1

Implementation of teachers and techniques: The Implementation of teachers and techniques is shown in Figure 4. The foreign teacher was able to use the contract staff to translate the course assessment into L1 (first language which was Mandarin Chinese) and the teaching assistant to conduct the board games for individual assessment of the students. Two techniques tried out were the immersive learning environment where the students had to use only L2 (second language or foreign language which was English) to communicate with the foreign teacher and a flipped classroom setup where the actual learning took place at home. Students were assessed in the classroom, especially for their reading skills in L2.
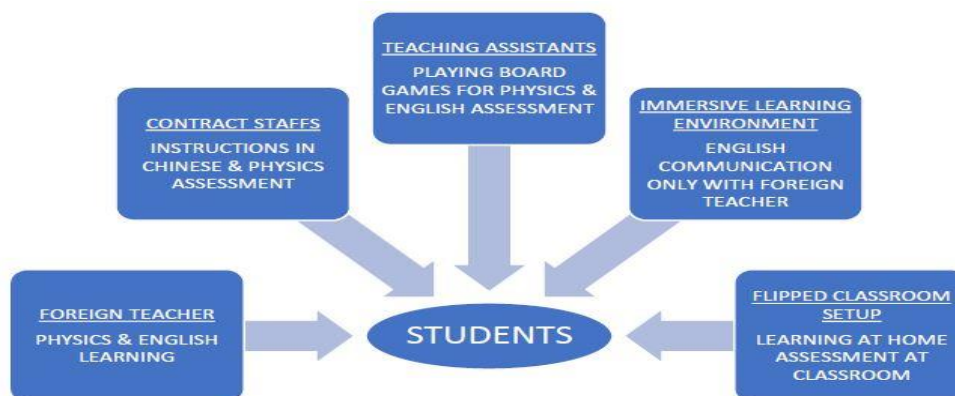

Figure 4: Implementation of teachers and techniques used in the second iteration with board games as course materials

Implementation of course materials–board games: The four different board games were taken from a specializing in games for EFL/ESL teachers and modified based on the course objectives as follows (Twinkl, 2023):

Conversational snakes and ladders board game: This game board is the traditional snakes and ladders game, where the player goes down when they encounter a snake's head and goes up a ladder when they land on the base of the ladder after rolling a die (Twinkl, 2023). An additional component with a question mark was added to the game board, as shown in Figure 5. When the player lands on the question mark, they must draw question cards that contain various icebreaker

questions related to physics. The player is then required to speak for 45 seconds, expressing their thoughts, feelings, and opinions on the given question. This board game provides an opportunity for both the teacher and the students to formulate their responses, fostering positive motivation and a competitive mindset, and ultimately encouraging discussions among the students. The Conversational Snakes and Ladders board game made icebreaking activities at the beginning of the semester, specifically in week 1 of the course, much easier for two reasons. Firstly, it allowed the students to use the foreign language in a meaningful and relaxed manner, thus reducing their anxieties and creating a conducive environment for future learning. Secondly, it provided time and comfort for both the foreign teacher and the students to interact with one another, as the board game offered a much-needed platform to raise questions and obtain answers in a positive manner or, at the very least, stimulate critical thinking among all stakeholders involved.
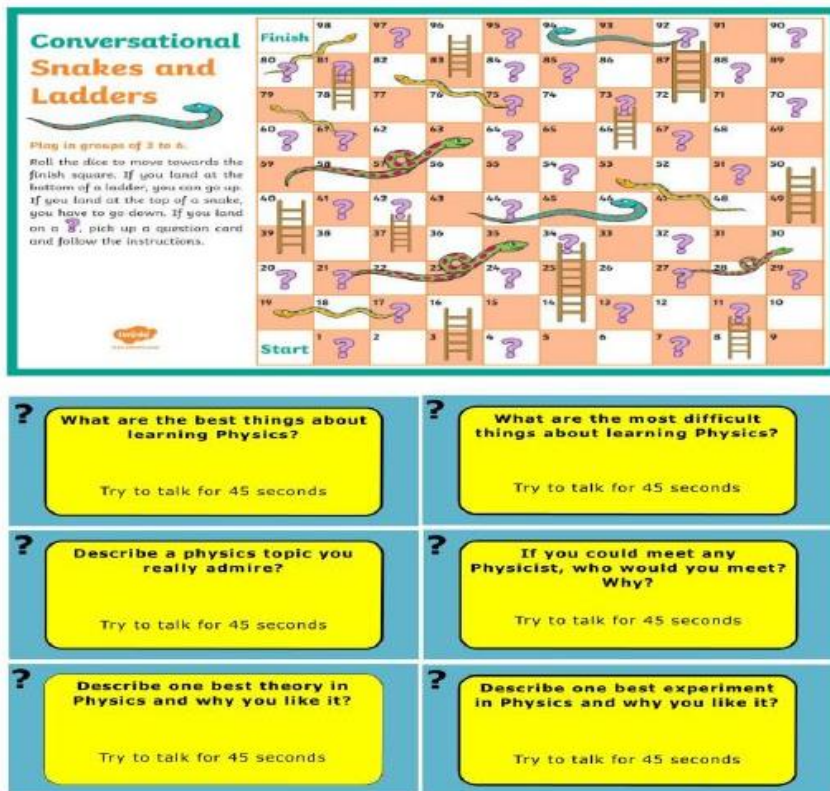

Figure 5: Game board of conversational snakes and ladders with question cards below

English vocabulary building board game: The students were assigned to read the book "Lives of Einstein," which covered various eras of physics and included many pictures and conversations related to physics. The foreign teacher provided special pronunciation cards for the students, who then read four chapters of the book at home in a flipped classroom setting. In this setting, the students were instructed to practice reading the assigned physics chapters by typing the content into Google Translate and listening to the spoken version. This listening exercise greatly aided in improving their speaking skills. Two teaching assistants assessed the students' fluency and accuracy of pronunciation. Additionally, a vocabulary-building board game was used to test the students' pronunciation, as well as their ability to identify synonyms, antonyms, and word meanings (Twinkl, 2023). They were also required to use the words in sentences and identify their parts of speech. The vocabulary-building board game was specifically developed using words from the "Lives of Einstein" book, and students played two different versions of the game using different sets of words. During the game, players rolled a die twice-the first roll determined which word they

would choose from the grid squares, and the second roll determined one of 6 outcomes, as shown in Figure 6. As part of their classwork, students had to create synonyms and antonyms, use words in sentences, and understand their meaning, pronunciation, and parts of speech. This board game served as an assessment of the students' English vocabulary level and overall language skills in reading and vocabulary building using the "Lives of Einstein" book. The flipped classroom approach allowed students to learn at home and practice their skills in the classroom during assessments. The board game proved to be an ideal quarterly assessment tool after four weeks of intensive reading practice, engaging students and motivating them to speak and read with their peers during assessments. Consequently, this student-centered board game revolutionized traditional teacher-centered speaking lessons and passive acceptance of linguistic knowledge, ushering in a new era of EFL assessment.
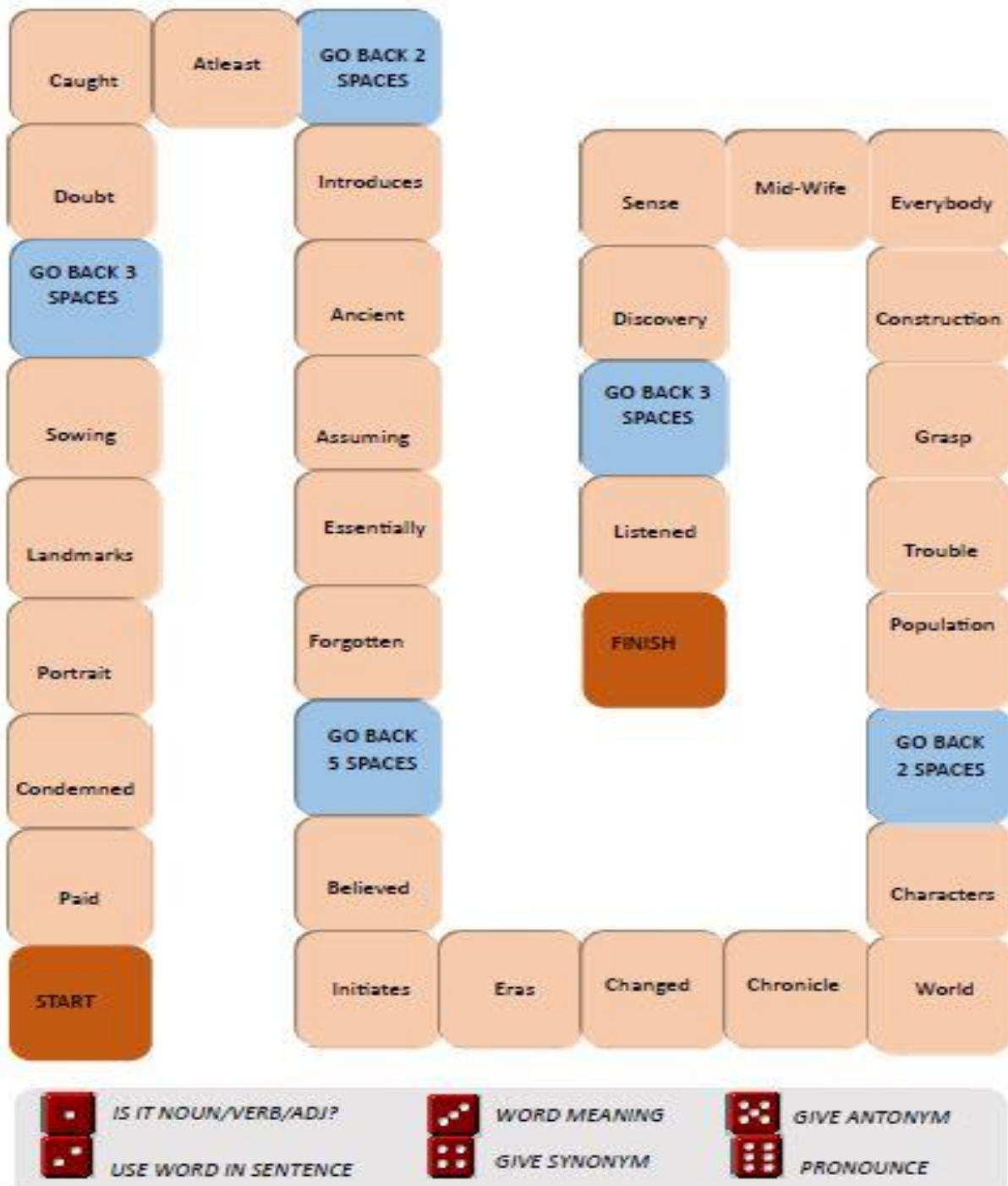
Figure 6: Game board of English vocabulary building board game with words from "lives of Einstein" book

Speak, read, and write physics board game: The third board game was customized for physics research homework. Students were expected to meet course objectives with their chosen research paper (Twinkl, 2023). The game involved playing with a printed version of the research paper, and the game board featured rectangular shapes with various instructions (see Figure 7). There were 10 "speak" questions on the board, where players had to discuss their research paper's introduction, content, and conclusions. For the 10 "read" questions, students had to read 10 lines from their research paper. The 10 "write" questions focused on fundamental physics topics such as calorimeters, potentiometers, and conservation of angular momentum. Players had to provide written answers in English for all the physics content questions. When players landed on a "speak" box, they had to discuss their research paper. When they landed on a "read" box, they had to read 10 lines from their paper, and the "write" box required them to write about specific physics concepts. The foreign teacher used this game to assess students' speaking, reading, and writing skills in a one-on-one setting, providing valuable insights into each research paper. In group play, students had to discuss their research with each other, read 10 lines from their papers to each other, and write about physics concepts. Group activities also included physics numerical problems for the writing component. The board game's pre-planned questions created a comfortable environment for both the foreign teacher and the students, allowing for individual assessments. The same board game was also used for peer discussions of research work among group members. The foreign teacher initially played the game with individual students, which helped with motivation and mid-semester assessment. Later, the game was played in groups in the classroom, promoting awareness of each other's reading and speaking abilities and facilitating peer discussions. The written questions included additional numerical problems for group solving, providing a way to assess content and language abilities simultaneously.

		SPEAK About one basic physics concept in your research work 5	READ 6	Write about the Calorimeter and its uses. 7	SPEAK About the introduction part of your research work 8		READ 12	Oh, no! Go back to start! 13	Write about the different types of collisions found. 14
☆ START	Move ahead 2 spaces! 4								

SPEAK About why you chose your research work 1	READ 2	Write about the Potentiometer experimental set-up in the laboratory. 3			READ 9	Write about the Conservation of angular momentum. 10	SPEAK About the methods you are using to understand the research paper 11	SPEAK About the description part of your term paper 15

								Move ahead 3 steps. 16

SPEAK About the use of references in your research paper 27	Write about magnetic flux. 26	Oh, no! Go back to start! 25	READ 24	SPEAK About the various AI tools, you used to write your term paper. 23	Write about Rotational Kinetic energy. 22	READ 21	SPEAK About the conclusion part of your term paper 20	Move ahead 4 spaces! 19	Write about the Moment of Inertia of a Cylinder 18	READ 17

READ 28								

Write about Electric potential. 29	SPEAK About the abstract part in your research paper	Miss a turn! 31	READ 32	Write about concave and convex mirrors. 33	SPEAK About learning physics research in English	Go back 3 spaces! 35	READ 36	Write about Gauss's law in electrostatics.	FINISH ⊕

Figure 7: Game board of speak, read, and write physics to be played with research papers

Matching scientist names with physical concepts board game: The fourth board game was a matching exercise with two different variants used for content assessment alone (Twinkl, 2023). The first variant involved matching scientist names with physical concepts. The player has two cups in front of them-one cup contains scientists' names, and the other cup contains concept names that are stuck on colorful popsicle sticks. The first player must choose a scientist's name from the first cup and place it on the game board as shown in Figure 8. Then, they must choose a concept name from the second cup in two trials. If they correctly match the concept to the scientist on the first trial, they earn two points. If they correctly match on the second trial, they earn one point. If they cannot find the correct match within these two trials, they earn zero points and must move on to the next scientist's name. There are twenty scientists' names, so a single player could earn a maximum of forty points if they always get the correct match on the first trial. This is a simple matching game, but by creating two trials and using popsicle sticks, it was creatively executed. Students enthusiastically engaged with this colorful board game, which solely measured their content knowledge and served as a fantastic end-semester assessment.

Figure 8: Game board of match the scientist names with their physical concepts

Matching physical quantities with their SI units board game: The second variation of the matching game involves physical quantities and their corresponding SI units. The player has two cups in front of them: One containing the names of physical variables and the other containing SI units made from colorful popsicle sticks, like the previous matching board game. The first player must choose a physical variable from the cup of physical quantities and place it on the game board as shown in Figure 9. After selecting the variable name, they must choose the SI unit name from the second cup in two attempts. If they correctly match the unit to the physical quantity on the first try, they earn two points. If they correctly match the units on the second try, they earn one point. If they are unable to find the correct match, they earn zero points and must move on to the next physical quantity. There are a total of twenty physical quantities, so a single player could earn a maximum of 40 points if they always make the correct match of physical quantity and SI unit on the first try. This game is a simple and creative way to practice matching, and it is enthusiastically played by students. It is also extremely useful for assessing content knowledge at the end of the semester.

Figure 9: Game board of match the physical variable with their SI units

The list of board games, their names, and their functions are shown in Table 2.

Table 2: List of board games, their names, and functions, and implementation time and method used as course materials for second-semester students

S.No	Board Game	Time	Function	Implementation
1	Conversational Snakes and Ladders Board game	At the start of the semester	Ice-breaking and conversation building function	Teacher with up to 6 students sitting together to play the game enabling conversations with the teacher and the other 5 students sitting around
2	English Vocabulary Building Board game	After the first quarter of the semester or 4 weeks after the start of the course	Language Assessment	Teachers with up to 6 students sitting together to play the game where the game winner gets maximum points and the other 5 players points can be calculated based on the number of correct answers.
3	Speak, Read and Write Physics Research	Exactly at midsemester after content and language inputs are given	Content Assessment language assessment and peer discussion	Teachers with one student alone can be used for content assessment. Teachers with up to 9 students making 3 groups of 3 each in the classroom can enable peer discussion between team members
4A	Matching Scientist Names with Physical Concepts	End-semester assessment of content alone	Content Assessment	Teaching assistants with one student alone can be used for content assessment
4B	Matching Physical Quantities with their SI Units	End-semester assessment of content alone	Content Assessment	Teaching assistants with one student alone can be used for content assessment

Results

The speaking, reading, and writing skills of the first batch of students of the EMI course without board games and with board games are shown in Figure 10.
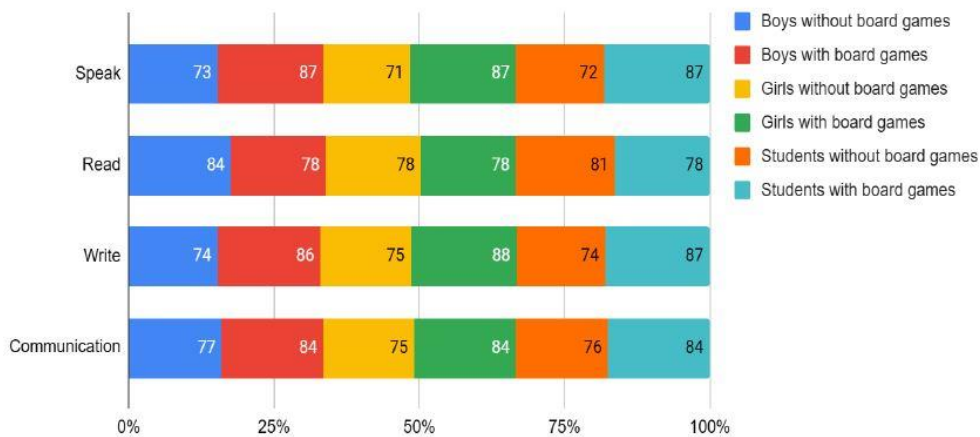

Figure 10: English speaking, reading, writing, and total communication skills of the first batch of students of the EMI course without the use of board games and with the use of board games

The speaking skills of all students, including both boys and girls, improved significantly by an impressive 87% when board games were used as course materials. Comparatively, boys without board games had a speaking ability of 73%, girls without board games had a speaking ability of 71%, and the entire student population without board games had a speaking ability of 72%. By utilizing board games, students were able to speak the foreign language in a more relaxed atmosphere, which helped to alleviate their anxieties about speaking in front of the entire class. Girls without board games had the lowest speaking ability, likely due to their difficulty standing in front of the entire class to speak in a foreign language. Some of them even requested one-on-one speaking sessions with the foreign teacher. The reading skills of boys and overall students who used board games were lower at 78% compared to those who did not use board games, which had reading skills of 84% and 81% respectively. However, the reading skills of girls remained at 78%, regardless of whether they used board games or not. For the second iteration of the course with board games, book reading was recommended, and the reading exercises were more rigorous compared to the first iteration, which only focused on research paper reading. Overall, students' reading skills were higher than their speaking skills, especially for those who did not use board games. Most of the reading assignments were done one-on-one with the foreign teacher, either in the staff room or in the classroom. On the other hand, speaking assignments required students to speak in front of the entire class. Taiwanese students generally struggle with speaking English and dislike being seen as inferior by their peers. This perceived peer pressure hindered their performance in speaking tests before using board games. Additionally, most students did not see the need to speak English in Taiwan, so they didn't feel the need to develop proficiency, except for a few who aspired to study abroad. Despite the lack of emphasis on English speaking in schools and colleges in Taiwan, hardworking students managed to develop their communication skills. The graphs also reveal that girls performed better in writing, possibly because they had more time to think and were not required to speak in front of the class. However, when it came to speaking, boys were better due to their confidence and outgoing nature. The writing skills of boys, girls, and overall students without board games improved from 74%, 75%, and 74% to 86%, 88%, and 87% respectively, when board games were introduced as course material. The foreign teacher recognized the importance of improving reading skills to enhance writing skills, which led to

increased reading opportunities in the second iteration of the course. The communication skills in the foreign language of boys, girls, and all students improved after using board games as course materials. Before using board games, boys had a communication skills rate of 77%, girls had a rate of 75%, and overall students had a rate of 76%. After using board games, these rates increased to 84% for boys, girls, and all students. This indicates that board games were effective in improving foreign language skills in EFL classrooms. Figure 11 displays the attendance of two batches of students. The first batch did not use board games as course materials in their EMI course, while the second batch did.
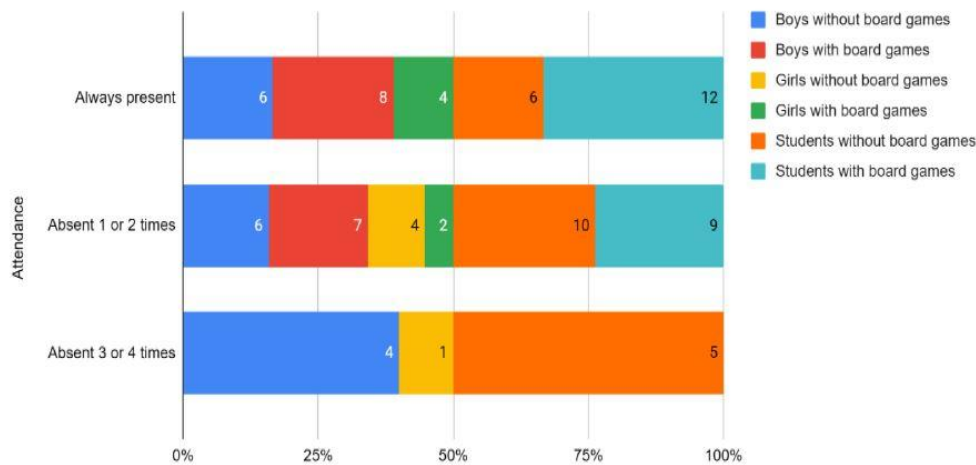

Figure 11: Attendance of boys, girls, and overall students in the EMI Physics class without board games and with the board games as course material is shown below

The attendance of students in the EMI classroom was satisfactory. The overall attendance of girls was more exemplary than that of boys, as the foreign teacher belonged to their gender and they enjoyed interacting with the teacher. They discussed vacation spots in Taiwan and Taiwanese dishes to help the teacher improve their Chinese speaking skills. They also enjoyed sharing cultural differences between countries in English. The 100% attendance rate for boys and overall students without board games increased from 6 to 8 boys and 12 overall students with board games, respectively. However, girls without board games never reached 100% attendance. With board games as course materials, 4 girls were able to achieve complete attendance. The absence rate for boys without board games increased from 6 to 7 when they had board games. For girls and overall students, without board games and with board games, there was a decrease in absences from 4 girls to 2 girls, and from 10 overall students to 9. It's important to note that when board games were used, neither boys, girls, or overall students were absent more than two times. Only 4 boys, 1 girl, and a total of 5 overall students were absent three or four times when board games were not used as course materials. The data on attendance before and after using board games demonstrates that all learners prefer participating in classes that incorporate board games. This preference stems from the positive reinforcement provided by the gameplay, as well as the students' increased comfort and ability to use the foreign language in a more relaxed and meaningful way. Figure 10 displays the teacher's assessment of planning, development, and results for students in the EMI Physics class, both with and without board games as course materials. In the initial iteration of the course without board games, the foreign teacher was unfamiliar with the students' content and language levels. However, a pre-course questionnaire was administered to the second group of students who used board games, which helped assess their levels. To address the foreign teacher's lack of first language skills in the first iteration, Teaching Assistants proficient in Mandarin Chinese were

employed to explain the assessment method to the second group of students, who utilized board games as course materials. Figure 12 showcases the teacher's assessment of planning, development, and results for the Books and Newspaper course, both with and without board games as course materials. In the Books and Newspaper course without board games, the girls reported 100% satisfaction in all three areas. This satisfaction was attributed to the foreign teacher having more time for individual interactions with the girls. However, when board games were introduced, the teacher-student interaction time decreased, while board game and learning time increased. As a result, satisfaction levels dropped to 90%. On the other hand, the boys in the Books and Newspaper course without board games expressed less satisfaction, as their oral presentations were unrelated to their physics research topics and instead focused on general subjects such as vacations and notable figures in business. However, in the second iteration of the course with board games, the boys exhibited a 95% increase in satisfaction compared to the previous group of students.
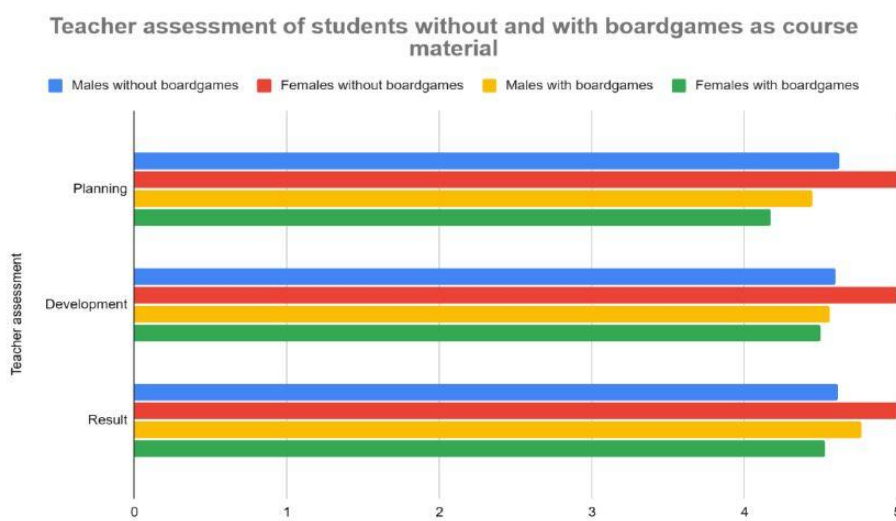

Figure 12: Teacher assessment under planning, development, and result by students of the EMI Physics class without board games and with board games as course materials are shown below

The private university management implemented the learning effectiveness questionnaire to evaluate the impact of their grant. The results, depicted in Figure 13, indicate that 97% of students believed that incorporating board games into the course enabled them to develop new ways of thinking. Similarly, 96% of students noted that the course became more challenging and interesting compared to previous methods, allowing them to gain new perspectives. Additionally, 95% of students found that board games facilitated their ability to recognize differences in various learning approaches. Moreover, 94% of students felt that board games helped them identify distinctive characteristics and acquire knowledge. Lastly, 93% of students expressed that board games neither made the learning content overly simplistic nor overly difficult, but rather aided in their comprehension of the material.
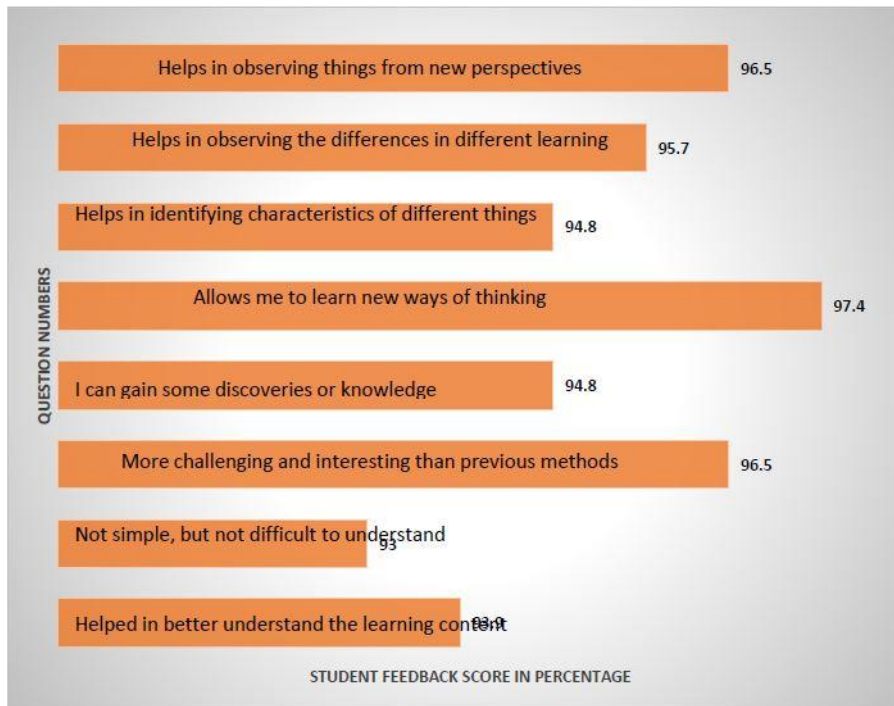
Figure 13: The learning effectiveness questionnaire implemented by the private university

Conclusion

The study was carried out to examine the assessment of content separately and language separately in CLIL courses. The research investigated the use of board games as course materials and assessment tools to measure content and language separately for such CLIL courses. Board games have proven to be effective as course materials and assessment tools in CLIL courses. They assess both content knowledge and language knowledge to varying degrees. By creating challenging environments, board games help learners improve their L2 language skills and perform better in a positive and vibrant atmosphere. These games are designed to cater to different proficiency levels in foreign language skills.

The following points are to be noted when implementing these board games for CLIL courses:
• Board games are excellent materials for EMI courses. They should be used in conjunction with pre-course and post-course questionnaires, as well as an L1 teaching assistant, to better achieve course objectives.
• Teachers of EMI courses can customize these four board games to meet their specific content and language needs. Individual board games can be used for assessment, while group board games can promote effective peer interaction and group learning.
• In the future, online versions of these board games could be developed specifically for individual assessment, allowing for immediate scoring or assessment of student performance. Online board games can be used for individual assessment, while offline versions can be used for icebreaking, building group learning, and facilitating peer interaction among learners.
• The introduction of board games as course materials significantly reduced the fear perceived by Taiwanese students. During the ice-breaking board games, many of them were able to attempt speaking in English. The positive reinforcement from the game dynamics, along with the presence of the board games during group activities, facilitated much-needed peer discussions.

• Speaking, reading, and writing in English should be made mandatory in Taiwanese educational institutions at both the high school and university levels. This will encourage students to aspire to improve their English communication skills.

• The CLIL course with board games can be used for learners with different L1 backgrounds, as well as for learners aiming to achieve proficiency in a different target language or L2.

Generally, Taiwanese students face difficulties in speaking English and often fear making mistakes in front of their peers. This fear hampers their speaking performance. Before the use of board games, this perceived peer pressure harmed their speaking tests. Many students in Taiwan feel that there is no need for them to speak English, resulting in a neglect of their English-speaking skills. However, there are a few ambitious students who aspire to study abroad and therefore make extra efforts to improve their English-speaking abilities. Despite English not being a mandatory subject in Taiwanese schools and colleges, some motivated students have independently developed their English communication skills.

To reduce academic demotivation and achieve course objectives, it is essential for institutions that teach the English Language to provide relevant assessment techniques that enhance student learning effectiveness. Reliable CLIL courses rely not only on engaged learners and enthusiastic teachers but also on effective assessment tools that provide positive reinforcement and facilitate English learning. Implementing proper assessment techniques in English Language classrooms can significantly improve teacher performance and the achievement of teaching objectives, ultimately ensuring successful learning and education.

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