Board Games in Business English: Using *The Settlers of Catan* to Teach Business Concepts in a Foreign Language

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Abstract: Successfully teaching business concepts such as trade relations, negotiation strategies, supply and demand, and resource management in a foreign language is necessarily dependent on the students' level of proficiency in the target language. Moreover, students' prior knowledge of the aforementioned concepts is rooted in their native language/culture which creates an obstacle to discussion from the foreign perspective provided by the target language/culture. Therefore, an effective method of instruction in a business oriented class conducted in a language which is not native to the students enrolled should provide concrete examples of each concept under discussion that do not solely rely on the students' knowledge of the target language or background knowledge of the target language's culture in order to be fully comprehended. This study examines how games can be used to accomplish the aforementioned pedagogical task of simplifying instruction linguistically and providing in-class examples for students with an imperfect knowledge of the target language/culture. Specifically, this study will summarize observations on the pedagogical effectiveness of using Klaus Teuber's *The Settlers of Catan* to provide both explicit and implicit instruction in an English as a foreign language (EFL) course for students in the Department of Business Administration at a private Japanese university.

Keywords: Game-Based Learning, Business English, The Settlers of Catan, Second Language Acquisition, Applied Linguistics

Games, when utilized effectively in a classroom setting, are not only a welcome change of pace that create a highly stimulating and motivating atmosphere conducive to learning, but can also be used to great effect in the second language acquisition (SLA) classroom. The very rules, underlying mechanics, and varying scenarios of a game serve to provide context for authentic target language forms (i.e. the same forms as would be used by native speakers)

（Ang et al., 2008），create task-based scenarios for said forms（i.e. actions to be completed to push the game forward）shown to be beneficial in SLA learning environments（Long, 2000; Ellis, 2009），and establish a common point of cultural reference with which to frame the concepts being taught in the target language（i.e. the scenario of the game in which the students are actively participating）（Holden & Sykes, 2011）. Other instructional materials such as textbooks, while certainly maintaining many beneficial features in SLA classrooms such as incremental form-focused instruction（Ellis, 2001）and vocabulary glossaries oftentimes printed in both the source language and the target language, all too often fail to recreate the authentic contexts and scenarios in which the target language is naturally used. The considerable pedagogical potential of games to not only motivate but to effectively instruct SLA students does come, however, with a considerable caveat, namely that instruction is limited to the content of the game itself.

The often predetermined context of many games creates a certain amount of inflexibility in their application in the classroom setting. Whereas a cooperative game such as Matt Leacock's *Forbidden Island* is outstandingly effective at eliciting conversation based lessons in a communicative EFL course（McGroarty, 1993），it would be difficult to incorporate any predetermined linguistic forms or vocabulary lists specific to the course that do not fit well within the rules, mechanics, and scenario of the game. It also certainly goes without saying that *Forbidden Island,* as effective as it might be in communicative contexts, is ineffectual in others such as TOEIC or reading and writing courses. In other words, lessons should be made to fit the context of the game and not the other way around. While the same may be said about course specific textbooks, most games are not specifically designed for use in EFL courses with specific aims, and therefore care must be taken when choosing a game to fit a course. Another inflexible feature that games exhibit are the limited number of players that can participate in the game at any one time. For courses with a handful of students, most gameplay mechanics pose no trouble, however when the number of students enrolled in a course balloons to double digits, the selection of games that can be effectively used during class becomes increasingly smaller. These pedagogically inflexible components to games may present unique difficulties to the instructor who wishes to incorporate game-based learning into the curriculum, namely what game to pick for which lessons and which classrooms.

The course that is presented in this study is an English reading course for Business Administration majors at a private Japanese university. With only five students enrolled in the

course at the start of the study coupled with the curriculum focus on Business Administration made this the ideal course to incorporate Klaus Teuber's *The Settlers of Catan* (henceforth, *Catan*). The game of *Catan* is a board game in which the players collect and trade resources to grow their settlement networks and collect victory points to win the game. Not only does *Catan* provide students with the opportunities to use a wide range of authentic linguistic forms in the context of trading and bargaining with other players for resources to accomplish specific tasks to build structures and expand their settlement networks, but it also introduces the students to a number of business related concepts including, but not limited to, trade relations, negotiation strategies, supply and demand, resource management, and general business/game strategy. This analysis will review how the aforementioned business concepts were taught during three gaming sessions of *Catan* in an English reading course for Business Administration students at a private Japanese university. Furthermore, this analysis will examine the effectiveness of explicit instruction (provided by the instructor) and implicit instruction (provided by the rules/mechanics of the game) of the abovementioned business related concepts as reflected in data collected through both instructor observations and qualitative data provided by post-game surveys.

Overview of the Rules and Mechanics of *The Settlers of Catan*

Klaus Teuber's *The Settlers of Catan,* as was previously mentioned, is a strategy board game that involves the players collecting and trading resources to expand upon their settlement networks and collect victory points to win the game. The following description of gameplay will be greatly simplified. For a complete overview of the rules and mechanics of the game, please visit www.catan.com. At the beginning of the game, two to four players establish two settlements and two roads upon the board representing the land of Catan. The board itself is comprised of 19 tiles, 18 of which produce one of five resources: three brick producing tiles, three ore producing tiles, four sheep producing tiles, four wood producing tiles, and four wheat producing tiles. The 19th tile is a desert tile which does not produce any resources and houses the robber piece which will be discussed in detail later. Upon each of the 18 resource producing tiles, there is a number tile ranging from 2 to 12 with the exception of the number 7 (one 2 tile, one 12 tile, and two tiles of every other number). These numbers correlate to the roll of two six-sided dice which occurs at the start of each player's turn. Any player, regardless of turn, who has a settlement adjacent to the resource producing tile with a number tile that matches

the dice roll receives one resource card for each settlement on that tile. Dice rolls of seven will introduce the robber piece into the game which, again, will be discussed in further detail later. With the resources received from the resource producing tiles, the players can build certain structures or buy certain abilities with specific combinations of resources. This analysis will not delve into all of the possible resource combinations, so suffice it to say that these resource combinations lead to new settlements (each settlement being the equivalent of one victory point) and other such items that increase the players victory points (usually through special ability cards known as "Development Cards"). The first player to reach 10 victory points is the winner.

As mentioned previously, at the start of each turn, the player must roll the dice after which all of the players with settlements adjacent to the resource tile with a number tile that matches the dice roll receive as many resource cards as they have settlements on said tile. However, players often find themselves lacking certain required resources needed to improve their chances of winning the game. This situation of being in a situation in which the player needs a resource they do not have is usually caused by one of two distinct scenarios: one, the number tile upon the required resource is not rolled with the dice, or two, the player does not have a settlement adjacent to the required resource producing tile(s). In order to solve these resource impasse scenarios that the players regularly find themselves in, they must rely on trading and bargaining with the other player(s) to procure their missing resources. Furthermore, due to the fact that all players are competing against one another, players may also regularly engage in dissuading opponents from trading with each other and in aggressive acts to forcefully take resources from opponents who do not wish to trade. It is also precisely in these scenarios in which players' game strategies deviate, and in which the bulk of the pedagogical potential of *Catan* lies. How does a player successfully create profitable trading relationships with the other players? How does a player go about trading for a required resource to increase their own chances of winning the game without giving their opponents the exact resources that they need to win the game? What are the most successful negotiation strategies that ensure the highest chance of success? How is the value of certain resources determined, and how does that value fluctuate throughout the game? Perhaps most importantly, how does a player navigate through all of these concepts in a foreign language? In the following sections, the methodology, the concepts of the game that were taught to the students explicitly (i.e. concepts that the students received specific instructions on before starting the game), and the

concepts that the students received practice in implicitly (i.e. concepts that received no direct instruction) will be discussed in further detail.

Methodology

Course Details

This study was conducted in an English reading course at a private Japanese university during the 2019 spring semester. The course meets once a week for 90 minutes, and the course aims to expose students to business related concepts in the English language and to improve their overall English proficiency for business related scenarios. There were five students enrolled in this course, and all students were majoring in Business Administration at the outset of this study. The students' total average TOEIC scores were less than 500, and their overall English ability could be described using the proficiency guidelines provided by the American Council on the Teaching of Foreign Languages (ACTFL) as being between intermediate low to intermediate mid for reading and writing and novice mid to novice high for speaking and listening (Breiner-Sanders et al., 2000). The students' limited proficiency in English, especially in the areas of speaking and listening, makes interacting with business related concepts in the English language quite challenging for them. Furthermore, many of these students became easily overwhelmed and quickly lost interest when interacting with news articles on business related topics which were presented to them regularly throughout the semester as a part of their standard course curriculum. The game of *Catan* was introduced to this class to attempt to teach specific business related concepts while at the same time motivating the students to actively participate in the lesson. No students indicated in pre-game interviews that they had had any previous experience playing *Catan* in either English or Japanese at the start of this study.

Game Procedure

There was a total of three gaming sessions carried out over a period of three weeks in a 15 week semester. At the start of each session, three business related concepts were introduced to the students: trade relations, negotiation strategies, and supply and demand. At the start of the first gaming session, a brief explanation (in both English and Japanese) was provided for each of these concepts, and a brief class discussion was held (in English) to test how well the students could articulate their thoughts on each of these subjects in the target language. After the discussion was finished, the game's rules were explained, after which the first gaming

session commenced in which one full game was played from start to finish. At the start of the second and third gaming sessions, discussions on the topics of trade relations, negotiation strategies, and supply and demand were once again held in English to test how well the students could articulate their thoughts on each of these subjects in the target language. After the discussions were ended, one full game was played in each respective gaming session. At the end of the third gaming session, the students were surveyed and asked to write down their thoughts on the business related concepts that were explicitly taught to them throughout the three gaming sessions (trade relations, negotiation strategies, and supply and demand), as well as two other concepts that the students were implicitly given instruction on through gameplay, namely resource management and business/game strategy.

Data Analysis Method

Data in this study were collected and analyzed through a mix of classroom observations made by the instructor and by the qualitative analysis of post-game surveys. Observations were specifically made on how motivating the game was and how effectively students were using linguistic forms provided by the instructor for negotiation purposes by recording the students' comments about the game during gameplay as well as tracking how the language during negotiations changed throughout the gaming sessions. Post-game surveys were employed to gauge how pedagogically effective *Catan* was at eliciting both explicit and implicit instruction on a number of business related concepts. In the post-game surveys, the students were asked to explain in English the concepts explicitly introduced before each gaming session as well as concepts the students implicitly learned about through gameplay.

Explicit Instruction

Trade Relations

The first business related concept explicitly introduced to the students at the beginning of this study was trade relations. As has been established, the game mechanics of *Catan* rely heavily on trading and bargaining with other players to acquire any missing resources necessary to construct or buy certain structures or abilities in order to collect enough victory points to win the game. The five resources in the game (brick, ore, wood, wheat, and sheep) therefore create a barter system whereby the value of each resource is determined through the negotiation process between two or more parties. The students were introduced to the concept of the barter system at the start of the first gaming session. Furthermore, the students were

introduced to the idea of how economic self-interest (i.e. wanting to be the first player to reach 10 victory points) creates artificial value for each resource which then establishes a micro economy. This concept of artificial valuation by way of economic self-interest generating economic systems was introduced with the concepts presented in Marcel Mauss' *The Gift.* The work of the sociologist Marcel Mauss suggests that before economic systems driven with valuated currency (whether barter or otherwise), exchanges operated on the principle of redistribution of resources and reciprocity (Mauss, 2002). The students were then asked to discuss (in English) how establishing value (and the idea of "winning") fundamentally alters how resources are exchanged and the relationships between all parties participating in these exchanges.

The Robber, Knights, and Trade Relations

A confounding element in *Catan's* trade relations is the simulation of conflict or crisis through the robber piece. As mentioned previously, the robber piece starts in the middle of the desert tile at the beginning of the game and is put into play by a dice roll of seven or by playing a knight card, a specific Development Card that players can purchase with certain resources. The player that rolls a seven has the option to place the robber piece on any resource producing tile and steal one resource card from any one player with a settlement adjacent to the resource producing tile that the robber piece was placed upon. The player who moves the robber piece with a knight card may accomplish the same task by revealing the knight card purchased from the Development Card deck during their turn. To add insult to injury, once the robber piece has been placed on a resource producing tile, that tile can no longer produce resources until the robber piece is moved again. When the robber piece is put into play, the player employing the robber piece has the option of returning the robber piece to the desert, thereby avoiding conflict. However, due to the economic incentive of receiving a resource card without having to trade for it (or for sheer revenge), most players decide to strain trade relations with the other players by introducing conflicts or crises into the game. Therefore, at the beginning of each gaming session, the students were asked to discuss how conflicts/crises affect trade relations.

Negotiation Strategies

The second business related concept explicitly introduced to the students at the beginning of this study was negotiation strategies. Instruction on negotiation strategies was accomplished in two specific manners: linguistic forms for trading and linguistic forms for persuading/dissuading. First, due to the students' novice proficiency of spoken English, the students were

given specific linguistic forms to use in their trade negotiations during gameplay. These linguistic forms involved simple statements (e.g. “I need (resource).”), simple questions (e.g. “Does anyone have (resource)?”), simple proposition statements (e.g. “I will give (x) (resource(s).”) for (x) (resource(s).”), and counteroffer statements (e.g. “I don’t need (resource A). How about (resource B) instead?”). For a complete list of linguistic forms used for trading, refer to Appendix A. Second, the students were given two specific negotiation strategies based on the research regarding the effectiveness of the following negotiation techniques in complex games in which the ultimate outcomes of negotiations are “incomplete, uncertain, and dynamic” (Guhe, Markus, & Lascarides, 2014): persuading for more trades and dissuading opponents from making trades with each other. These negotiation strategies were also given to the students as linguistic forms by way of simple persuasive statements (e.g. “If I give you (resource), you can build (structure).”), and simple dissuasive statements (e.g. “Don’t trade with (player), because (reason).”). For a complete list of linguistic forms used for instructing the students on negotiation strategies, refer to Appendix B. At the start of each gaming session, the students were asked to discuss which negotiation strategy they think is the most effective and at what point in the game it is most effective.

Supply and Demand

The third business related concept explicitly introduced to the students at the beginning of this study was supply and demand. When the success of your enterprise (or settlements) depends on the value of the resources that you are producing, predicting how demand will shift throughout the game will greatly affect the strategy you employ. The structure of supply and demand in *Catan*, however, is further complicated by the fact that, unlike in most businesses, the supply of any one resource is left to chance and controlled almost exclusively (with the exception of the robber piece and a few Development Cards) with rolls of the dice. The valuation of resources through supply and demand in *Catan* is even further complicated by the possibility of competition from opponents who may outproduce you in any given resource and hence devaluate a potentially strategic resource. Further yet still, the demand for certain resources shifts as the game evolves. For example, brick (one of the two rarer resources) is *usually* highly valued in the beginning game due to its use in building roads to expand settlement networks, whereas ore (the other of the two rarer resources) is *usually* highly valued in the end game due to its use in constructing cities from pre-existing settlements along the established settlement network. The students were therefore introduced to the idea of predicting demand

to adjust supply in dynamic marketplaces affected by incalculable elements such as increasing production speed and global competition with the article *Making Supply Meet Demand in an Uncertain World* (Fisher, Marshall, et al., 1994). At the start of each gaming session, the students were asked to predict which of the five resources they thought was going to be in highest demand and least in supply (therefore achieving the highest value as negotiation leverage), and how they thought the demand for these resources would shift from the beginning of the game to the end.

Implicit Instruction

Resource Management

The first business related concept that was not explicitly discussed with the students prior to the commencement of gameplay, but which the students were nevertheless required to comment on in the post-game surveys, was resource management. This means that the answers to the survey question regarding their opinions on effective methods of resource management were influenced by either the students' prior knowledge of the subject, or by what they had learned implicitly through the three gaming sessions of *Catan*. Even without explicit instruction regarding the subject of effective resource management, *Catan* creates naturally, through its gameplay mechanics, many unique learning experiences on the dynamic processes related to effective resource management. As was mentioned previously, demand for specific resources will shift in predicable ways throughout the game. At the beginning of the game, brick and wood are usually more valuable (i.e. in higher demand) due to the fact that both of these resources are needed to build roads. Roads are particularly necessary at the beginning of the game, because they are required in order to build new settlements and secure new resources. However, towards the end of the game, after settlement networks have already been established, demand for brick and wood fall sharply. In their place, resources such as ore and wheat soar in value/demand due to their specific application in converting settlements to cities (which offer double the victory points and resource producing capabilities compared to normal settlements). These gameplay mechanics offer unique learning experiences regarding effective strategies to manage resources in dynamic markets.

While still being at the mercy of chance due to resource production being determined by dice rolls, players do have a certain amount of control over how they manage the supply of these resources. First, players have a certain level of control (albeit it limited by competition from

opponents in a game with limited board space) over where they build their settlements and thus over what resources they acquire. Furthermore, players have some control over where they choose to start from and where they choose to expand into as the game progresses, thus players can control their resource supply to meet demand as it fluctuates throughout the game. Second, players take an active role in determining the value of their own resources through negotiations with opponents. Due to the fact that all trade negotiations over resources in the game are conducted in natural language with no set exchange rates, the value of resources can be influenced by the persuasiveness of the trading agents as well as attentiveness to how supply and demand is shifting in the game. Therefore, all players take an active role in maximizing the value of their own resources through the process of negotiation.

The Robber and Resource Management

Another element of implicit instruction the students received through the natural gameplay mechanics of *Catan* is with the rules regarding a dice roll of seven. As mentioned previously, dice rolls of seven put the robber piece into play, whereby the player who rolled the seven has the option of placing the robber piece on a resource producing tile, stopping future resource production on the tile upon which it is placed until moved again and stealing one resource card from any one player with a settlement adjacent to the resource producing tile upon which it is placed. Another rule regarding the robber piece, however, is that any player with more than seven resource cards in their possession at the time the seven is rolled must select half (rounded down for odd numbers) of their resources to be discarded. This rule prevents players from holding on to too many resources for too long as seven is the most probable number to be rolled with two six-sided dice. This "use it or lose it" mechanism may also serve to educate the students on the idea that resources are a means to an end, not a means unto themselves, and that collecting/producing resources ultimately means nothing if the end result is not a net gain in capital (or victory points).

Business/Game Strategy

The second business related concept that was not explicitly discussed with the students prior to the commencement of gameplay, but which the students were nevertheless required to comment on in the post-game surveys, was business/game strategy. This means that the answers to the survey question regarding their opinions on effective business/game strategy were influenced by either the students' prior knowledge of the subject, or by what they had learned implicitly through the three gaming sessions of *Catan*. Obviously, through three gaming sessions,

the strategies that the students used to attempt to win the game evolved and were refined with each gaming session. Within the game mechanics of *Catan*, there are a number of strategies that players can employ in order to win the game. These strategies include, but are not limited to, creating as expansive of a settlement network as possible to collect a variety of all five resources, creating pockets of smaller city networks to focus in on a number of key resources, and focusing on the resources wheat, ore, and sheep to buy Development Cards for abilities and victory points. Obviously, no one strategy is inherently superior to the others as the game mechanics of *Catan* are undetermined and dynamic. Much more important than the specific strategy employed is the effective use of negotiation and resource management to carry out the desired strategy (and of course, a little luck).

Results and Discussion

Observations on Motivation

The most readily discernible effect, as can be garnered by instructor observation, of using *Catan* as a medium of instruction for business related concepts in a foreign language is its effect on the motivation level of students during instruction, or in this case, during gameplay. During other lessons in the same class in which this study was conducted, student reaction to the course materials (namely business related news articles) and how these articles were instructed in class (namely through group reading and discussion) was sometimes lackluster. Students regularly battled sleepiness, struggled to keep up with the reading as they slyly asked the neighboring student what paragraph to read when called upon to read aloud, and more often than not responded with, "I don't know," or with outright silence when asked to provide a response in English to a discussion question. Although these symptoms of seeming disinterest and exhaustion in the students are not unique to foreign language classes, anyone who has studied a foreign language knows that understanding the material being discussed and discussing the material at hand are two very different subjects. When so much of the students' working memory is being spent on low-level cognitive processing such as the grammar, vocabulary, and syntax of the target language, very little working memory can be devoted to high-level cognitive processing such as formulating responses regarding the content of the articles themselves (Engle, 2002). In other words, it is difficult to intellectually engage with the content of an article when your intellectual processing power is being used up just trying to understand what the article is talking about in the first place. This is, however, where games differ quite

a lot as pedagogical tools in the language class.

Using games as a pedagogical tool differs from using textbooks/articles mainly in the sense that games are a collection of straightforward rules or operating principles that the players can sufficiently learn in one gaming session (with the obvious exception of some exceedingly difficult games such as the game of Go). Foreign language textbooks and articles, on the other hand, are collections of grammatical rules, vocabulary, and syntax of natural language that take users decades to master fully. This means that once the rules for games such as *Catan* are sufficiently learned, players can focus their working memory on the intricacies of gameplay and on using the L2 during gameplay instead of figuring out how the game is to be played in the first place. With this in mind, what one should see when implementing a game such as *Catan* as a pedagogical tool in the SLA classroom is a period of low motivation at the start of the game when the students are using most of their working memory to figuring out how the game is played with increasing motivation as the game progresses. After the rules have been sufficiently learned to facilitate smooth gameplay, one would also expect to see an increase in interest in the content and outcome of the game depending on how entertaining the students find the game. This is exactly what was observed during this study.

At the start of the study, the students did not show much interest in playing the game at all. One student even commented that he, "hates board games." During the initial discussion about the concepts that would be discussed in the game, the linguistic forms that would be used in the game, and the rules of the game, the students also showed little motivation. When asked to discuss the concepts of explicit instruction (trade relations, negotiation strategies, and supply and demand) in English, the students were unable to provide a response outside of a simple statement that "trade" could be translated as "交換" in Japanese. During the first couple of rounds of the initial gaming session, the students, again, showed very little motivation to continue playing the game. However, by the third or fourth round, as the students' comprehension of the rules of the game became much more automated, much more of their working memory could be shifted to the content and outcome of the game. By the end of the first gaming session, the students were so absorbed in the game that they ended up staying 15 minutes after class had officially ended in order to finish the first game. At the beginning of the second and third gaming sessions, the students were also quick to point out many examples from the game to discuss the ideas of trade relations, negotiation strategies, and supply and demand, all in English. The ability for games to quickly regulate working memory to automatic cognitive

processing was observed to motivate students to engage with the content and outcome of the game much more effectively than textbooks or articles. While it remains outside the scope of this particular study to comment on whether games are objectively more effective pedagogical tools in SLA classrooms than more traditional pedagogical tools such as L2 textbooks and articles written in the target language, the oft-observed positive effect of motivation on L2 acquisition (Dörnyei, 1994) coupled with the observable impact on students' motivation to engage with business related concepts in the target language in this particular study definitely suggest that games such as *Catan* would be a valuable addition to the pedagogical strategies employed by instructors in SLA classrooms.

Qualitative Analysis

The qualitative data gathered by means of post-game surveys also point to the pedagogical effectiveness of *Catan* to both explicitly and implicitly provide instruction on a wide range of business related topics in the target language. As mentioned previously, students were introduced to and asked to discuss the concepts of explicit instruction (trade relations, negotiation strategies, and supply and demand) before each of the three gaming sessions. The concepts of implicit instruction were only addressed in the post-game surveys. As was hypothesized at the start of this study, using the game of *Catan* as a pedagogical tool to provide students with instruction on business related concepts in a foreign language gave the students concrete examples with which they could leverage to discuss said concepts in the target language. The students who participated in this study gave a number of truly outstanding answers and provided evidence from the game to describe the concepts under discussion. One response from each of the five students has been chosen to represent student responses for each of the five questions from the post-game survey. The responses are edited from the original English so as to be able to be read naturally. In the case of a major reediting of a student response, the student's desired response was confirmed in Japanese before rewriting the response in natural English. The following sections will give specific examples of student answers to the concepts of explicit and implicit instruction respectively.

Question 1 (Explicit Instruction): What are trade relations and how do they influence success in business?

Student Response: "Trade relations are how well you can successfully cooperate with others. These relations are sometimes very complicated, because you always want to get more resources than the opponent. This can sometimes make your opponent angry with you, and they

won't trade with you anymore. However, if I need resources to win the game, then sometimes I will have to attack the opponent aggressively to take what I need. However, when I attack, they might attack me again, and so a vicious circle can happen very easily. Ultimately, competitors are unreliable, so it is best to get all of your resources by yourself, if you can."

Question 2（Explicit Instruction）: What are some effective negotiation strategies in trading scenarios?

Student Response: "It is very important to be very clear in what you want to have and what you want to give when negotiating. When I only ask, 'Do you have wheat?' the opponent might not know if I want wheat, or if I want to give wheat, so they might lie and say, 'no wheat,' even if they have wheat, because they might think that I want wheat when I actually want to give wheat. It is better to say, 'I will give you wheat if you give me brick.'"

Question 3（Explicit Instruction）: What is supply and demand? How does it affect the value of resources?

Student Response: "Value rises when supply is low and demand is high. When there is only one brick card, and all players want to have brick, you can trade the brick card for two or sometimes three other resources. When you have a valuable resource, other players might attack you, so sometimes it is better to keep your resources secret."

Question 4（Implicit Instruction）: What is an effective strategy for resource management?

Student Response: "If you can use resources to earn points, it is better to use them fast. Other players will steal your resources or you will throw away cards if you have too many and you don't use your resources fast."

Question 5（Implicit Instruction）: What is an effective business/game strategy?

Student Response: "Having a goal and doing something to achieve the goal is a good strategy. If I have a plan, then I know how to use my resources and how I should trade with other players."

As can be seen in the student responses to questions 1-3, the students were quite able to take the information garnered from the pre-gaming session discussions on the concepts with explicit instruction and apply them to concrete examples from the game. Moreover, the students also were quite adept at applying their experiences from gameplay to questions 4-5, those that they had no instruction on prior to the three gaming sessions. These responses suggest that *Catan* is not only effective at illustrating concrete examples of business related

concepts to explicitly taught material, but also that it is quite capable of serving as the primary instructional tool without specific instructional priming save for the rules of the game.

Future Investigations

This initial study demonstrated the ability of Klaus Teuber's *The Settlers of Catan* to be a highly motivating and pedagogically effective SLA tool to illustrate concrete examples of business related concepts such as trade relations, negotiation strategies, supply and demand, resource management, and general business/game strategy in an English reading class designed for students majoring in Business Administration. With that being said, there are still many lines of enquiry open to testing how *The Settlers of Catan* may be effectively used as a pedagogical tool in the SLA classroom, and this study remains limited in terms of sample size, data collected, and overall study length. Future lines of enquiry should therefore aim to increase sample size, vary the amount of data collected, and lengthen the overall study period. One manner in which this may be accomplished is through the use of the smartphone game application for *The Settlers of Catan.* Not only can the smartphone application be utilized in larger scale classes by dividing students into pockets of players, but the internet capable game application has the potential to put EFL learners into contact with native English speakers and to vary the type of data collected through the implementation of specific chat features used for trade negotiations. Games, with their easy to learn mechanics and interactive content, are both motivating and intellectually stimulating when wielded effectively in the SLA classroom. While games such as *The Settlers of Catan* cannot completely replace traditional teaching materials in business oriented EFL classes, they are certainly effective tools that can be used in conjunction with such teaching materials and which deserve further rigorous investigation into their most effective pedagogical applications.

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Appendix A

Linguistic Forms for Trade Negotiations

1. **Simple Statements**
   - **a.** I need (resource). → I need ***wheat.***
   - **b.** I'm looking for (resource). → I'm looking for ***brick.***
   - **c.** I want to have (resource). → I want to have ***ore.***

2. **Simple Questions**
   - **a.** Does anyone have (resource)? → Does anyone have ***sheep***?
   - **b.** Can you give me (resource)? → Can you give me ***wood***?
   - **c.** Will you trade (resource) for (resource)? → Will you trade ***wheat*** for ***ore***?

3. **Simple Proposition Statements**
   - **a.** I will give you (x) (resource(s)) for (x) (resource(s))
     → I will give you ***1 brick*** for ***2 ore.***
   - **b.** If you trade me (x) (resource(s)), I will give you (x) (resource(s))
     → If you trade me ***1 sheep***, I will give you ***1 wood.***
   - **c.** What will you give me for (resource)? → What will you give me for ***ore***?

4. **Counteroffer Statements**
   - **a.** I don't need (resource A). How about (resource B) instead?

→ I don't need ***brick***. How about ***wood*** instead?

b. I don't have (resource A). I will only trade (resource B).

→ I don't have ***sheep***. I will only trade ***wheat***.

c. (x) (resource A) is not enough. I will trade with you if you give me (x) (resource A).

→ ***1 wood*** is not enough. I will trade with you if you give me ***2 wood***.

Appendix B

Linguistic Forms for Negotiation Strategies

1. Persuasive Statements (for more trades)

a. If I give you (resource), you can build (structure).

→ If I give you ***brick***, you can build ***a road***.

b. If you trade me (resource A) for (resource B), I won't attack you for (x) turns.

→ If you trade me ***wood*** for ***ore***, I won't attack you for ***two*** turns.

c. If you give me (resource A) now, I will give you (x) (resource B) when I get it.

→ If you give me ***ore*** now, I will give you ***2 sheep*** when I get it.

2. Dissuasive Statements (for fewer opponent trades)

a. Don't trade with (player), because (reason).

→ Don't trade with ***Taro***, because ***he has 8 victory points already***.

b. If you give (player) (resource), he will build/buy (structure).

→ If you give ***Taro ore***, he will buy a ***Development Card***.

c. Don't give (player) (x) (resource(s)), I will trade with you for (less).

→ Don't give ***Taro 2 wheat***, I will trade with you for ***1 wheat***.