Acquisition of Japanese as a Foreign Language Through a Baseball Video Game

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Abstract: Video games have become increasingly more popular and more technologically advanced. This one-month study used interview, observation, self-report, and reading and listening test data to demonstrate and investigate how one intermediate Japanese-as-a-foreign-language (JFL) student improved his listening comprehension and kanji character recognition by playing a Japanese baseball video game. It is suggested that language acquisition was facilitated by the subject being able to control the video game's repetitive, highly contextualized, and simultaneously presented aural and textual language. Limitations of the study and implications for the foreign language teacher are briefly discussed.

Key words: JFL (Japanese-as-a-foreign-language, video game, case study, listening, reading)

Language: Japanese

Background

Video games have grown increasingly more popular; hundreds of millions of video games are sold each year, and Phillips, Rolls, Rouse, and Griffiths (1995) studied 816 11- to 16-year olds and found that over 75% of them played video games, with many playing 30 minutes to an hour every day. Video games have also advanced technologically; modern sports games feature true-to-life graphics and celebrity play-by-play announcers that make them almost indistinguishable from the real games on Saturday afternoon television. Is it possible that video games may not only entertain, but also serve in the process of language acquisition? Although material authenticity has been found to be beneficial (Peacock, 1997; Thanajaro, 2000), and instrumental motivation can play a large role in language learning (Van Aacken, 1999), the fact that nearly all commercial video games are designed for native speakers (Japanese and American games are often translated for distribution in other countries) and are highly motivating does not mean that games will guarantee the acquisition of language. Additional support is needed before video games are used to enhance certain areas of formal language education for motivated individuals.

First, because video games are quite repetitious (batting in a baseball game or navigating menus in a simulation game may be the game's most integral and enjoyable aspect), they may prolong time on task and allow for increased familiarity of unknown language in video games. Gass and Selinker (2001) advanced the idea that language learners are able to unravel new language based on its context, and because a video game player already understands the setting of repetitive language used in a game, he/she may be able to decode first semantic and then lexical and/or syntactic items (“bootstrap”), or vice versa, thereby building receptive comprehension skills that may later be transferred to more productive usage.

Second, although the question of control is complex and largely unexplored (see Skehan, 1989, for a discussion of locus of control and its effects on individual motivation), a player's control of a video game's language may facilitate acquisition. A player can affect the audio com-

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mentary and textual dialogues of a video game much more than they can influence a conversation, radio broadcast, television show, or movie. While each of the latter mediums can be recorded and examined more closely, this procedure may be much more arduous than playing a video game that might naturally facilitate exposure to or acquisition of lexicon and phonology naturally interwoven with game play. Indeed, a language learner curious about a particular string of language may choose to either repeat an action in a video game and listen more attentively to particular lexical or syntactic items, or pause the game to consider what he/she has been exposed to. Many video games allow the player to decide when events or conversations take place, thereby giving a language learner even more control over the game’s language. Being in control may increase a language learner’s level of involvement, a factor that Hulstijn and Laufer (2001) emphasized as being important in language acquisition. However, the effect of control on language learning, especially in media environments, is an area that requires further study.

Furthermore, many video games present extensive aural and textual information simultaneously. Reading while listening is often used in grade schools to help children match new written words with the sounds of words they already know. Bergman (1999) found that children learning to read in their first language (L1) who were able to control the speed of the audio input performed better with regards to reading comprehension than children who were not able to control its speed. While first and foreign language acquisition vary greatly, it may be true that beginning learners of a foreign language can benefit from video games rich in aural and textual information because it is possible for them to pause or slow the game down while they consider new language. Logographic languages such as Japanese and Chinese are more difficult for language learners, and the audio in video games may allow learners to match pronunciation to new logographs. However, Brett (2001) found that combining too many media (video, subtitles, and tasks) in multimedia computer software had a negative impact on recall, and he surmised that the subjects experienced cognitive overload due to too many processing channels being used. Because of the amount of input via two or more channels, language learners who play video games may find themselves overwhelmed and unable to simultaneously play a video game and learn its language.

The Study

Research Questions
As a preliminary investigation into the potential effectiveness of video games in foreign language acquisition, one Japanese as a Foreign Language (JFL) student was studied as he played a Japanese baseball video game for one month. The questions for the study were:

1. Is it difficult for a particular JFL student to balance game play and language learning while playing a Japanese baseball video game?
2. Can a particular JFL student improve his listening comprehension by playing a Japanese baseball video game?
3. Can a particular JFL student improve his reading comprehension by playing a Japanese baseball video game?
4. How does a particular JFL student use a baseball game’s repetition, contextual clues, controllability, and simultaneously presented aural and textual language to learn language?

Participant
The subject was a 27-year-old American male who worked in a factory and went to college part-time. He had taken seven semesters of college Japanese, but had not formally studied Japanese for one year before this study. He had been to Japan once, for 2 weeks, almost 3 years prior to the study. He had been a friend of the researcher’s for about 4 years. The subject had played video games for about 15 years, and enjoyed sports video games.

The subject believed that his weakest area in Japanese was listening. He tried to watch at least one Japanese movie per week in order to improve this skill, and expressed a great desire to improve his listening comprehension. He believed his strongest skill was reading, and said that he used to know 200 to 300 Kanji (Chinese characters).

Instruments and Procedure
Jiikyoo Powafuru Pro Yakkyu 6 [Announcing Powerful Pro Baseball 6] was the Nintendo 64 video game used in the study because of its popularity, rich authentic language, and the fact that the subject had never played it. With cartoon-like graphics, the game very closely mimics Japanese baseball with true-to-life stadiums, audiences, and player statistics and abilities. Three native Japanese announcers are featured in the game: a male umpire who calls the pitches and outs, a male play-by-play announcer, and a female stadium announcer who announces each batter when they come to the plate. None of the announcers’ words are displayed on the screen, but the female announcer discusses the batter’s name and statistics that are displayed on the batting screen. The announcers talk constantly, often simultaneously, about the game or the players.

It is important to note that Japanese baseball, and Japanese video games, contain a large number of English loanwords such as “batter,” “runner,” “strike,” “foul,” “out,” “safe,” “hit,” and “home run.” While English loanwords are some of the most common and salient vocabulary in this study’s video game, one cannot ignore the abundance of standard Japanese used by the announcers. A
Playing the game requires a great deal of skill and concentration. On offense, players control batting stances, swinging and base running. On defense, players control batting stances, the number and positions of runners on base, batting stance and abilities, the pitcher's number of balls, strikes and outs, the number and positions of fielders.

Playing the game requires a great deal of skill and concentration. On offense, players control batting stances, swinging and base running. On defense, players choose and control pitches and infield and outfield fielding. The game screen contains many windows that show the score, number of balls, strikes and outs, the number and positions of runners on base, batting stance and abilities, the pitcher's abilities and position of fielders.

Data Collection
Initially, a Kanji pretest composed of 55 Kanji characters (the roster of one team selected at random) was administered to the subject. He was asked to write the pronunciations of the characters he knew. Next, 47 common words and expressions from the game (compiled and verified by a native speaker of Japanese) were read to the subject by the same native speaker of Japanese, and the subject orally translated them as best he could. This task was taperecorded. After that, the subject was videotaped playing the Japanese baseball video game for one hour. He was instructed to play and react and ask questions (in English) about the game and its language. The researcher also prompted the subject with questions. He was allowed to play with any team, though remarkably, he never played with the team used for the Kanji test. After the hour of playing, consisting of mostly trial and error batting and fielding, a short interview targeted the subject's opinions of the game and its language.

Next, for one month, the subject played the game in his home. He was free to play the game as often as he liked, but was asked to play for at least 30 minutes twice a week. Each time he played the game, he completed a game log that included questions about new language he learned or had questions about, as well as about his attitudes towards the game. The subject played for approximately an hour once or twice each week, and e-mailed a total of seven game logs to the researcher.

Finally, after one month, the same Kanji test was given to the subject, followed by the same aural translation task. The subject played the game again for one hour while asking the researcher questions. After the game, another interview took place. These tasks were recorded in the same fashion as the initial session.

Results
Is it difficult for a particular JFL student to balance game play and language learning while playing a Japanese baseball video game?
The subject stated that his attention was divided between playing the game and listening and reading the Japanese, and could not focus on both at the same time (“I can hear them talking, but I'm concentrating on hitting the ball—I'm not listening to them” and “I'm trying to listen [to what the announcers are saying]-I'm not paying attention to pitching.”). These results support Brett’s (2001) findings. However, the subject also believed “the more I play, the more I'll be comfortable with [the game's language].” He thought that it was easier to understand the language with the game on an easier setting (the game's language does not change based on level).

It is also important to note that, in general, the subject enjoyed playing the game and improved with time. During the first videotaped game playing session, he was unable to hit, control pitches or field very well, but performed much better (i.e., hit a higher percentage of pitches, and let balls go past the batter instead of swinging at them) during the second session. He played on increasingly harder levels the longer he played. The subject still had difficulty fielding and running the bases after the month of playing (“It's not ingrained in my head”) but commented in Log 6 that “Even when I get frustrated controlling my players I'm still having fun” and in the second interview stated “it was fun and interesting playing a game in a completely other language.”

Can a particular JFL student improve his listening comprehension by playing a Japanese baseball video game?
The subject’s listening comprehension improved with time; seven additional expressions were correctly translated on the second aural test, with two more partially translated. While most of the translated expressions on the first test had English origins (e.g., “play ball,” “home run,” “hit,” and “runner”) and none included “unborrowed” language, the subject was able to translate more completely Japanese vocabulary on the second test, such as “good hit,” “a pitch right down the center,” “a fly into center field” and “There is a foul ball. Please be careful.” He was able to translate more verbs, although not always in the correct tense, and was also able to translate expressions that contained easier Japanese vocabulary, for example, “low,” “number three,” “please” and “hit.” By the end of the study, the subject...
believed he understood almost all of what the female stadium announcer said and about half of what the male play-by-play announcer said. He said that he felt his listening comprehension improved by playing the game.

Interestingly, the subject changed the focus of his listening over time. He first focused on English loanwords (Log 1: “strike”, “ball”, “out”, and “safe”), but his later logs showed a focus on Japanese pragmatics (Log 3: “The lady was using the masu [polite] form when talking to the audience” and Log 4: “Sometimes the male announcer . . . uses both polite and plain speech.”). Later logs focused on less salient, completely Japanese expressions in the game, for example, in Log 7: “Gomannaka (actually Domannaka) I know mannaka means center, maybe ‘go’ is just honorific, the announcer says it when a pitch is thrown down the middle.” It may be possible that the game’s significant amount of English loanwords (30% of the game’s language) served as a springboard, allowing the subject to use bootstrapping techniques more effectively than if he had played a video game without any borrowed English vocabulary. This is an area that seems to merit further study.

Can a particular JFL student improve his reading comprehension by playing a Japanese baseball video game? The subject’s reading comprehension also improved. On the second Kanji test, he was able to give the pronunciation of 12 more individual Kanji (4 were duplicates, meaning that they appeared twice on the test, in two different names, and the subject wrote the correct pronunciation twice) than on the initial Kanji test. He was able to complete five more names and made only two more mistakes. Included in the category of “incorrect pronunciations” were answers that were contrasts of the correct pronunciation of that word is. It makes it slightly easier to figure out what he already understand it and am not trying to figure out what that word is. It makes it slightly easier to figure out what he is in general saying.” The repetition of the game’s closed system of utterances allowed the subject to piece together meaning from repeatedly heard lexicon.

Contextual clues. The subject was able to learn most of the language he did from context. For example, with “shorto torimashita” [the short stop caught the ball], he said “you know [the ball] is going to the short stop so you know what’s going to happen so it’s easy to figure out.” In the first interview, the subject stated he knew the announcers were describing the actions in the game. The subject was attentive to the language used in the game and its circumstances (Log 3: “[a certain Kanji character] must mean versus because it’s between the two teams’ names before playing.”). He also deduced the Japanese expression for “right down the middle” from context, and tried to learn the Kanji representing batting statistics by remembering what the batters had done the last time they were at the plate.

Controllability. The subject believed that video games were different than movies in that they can be paused and analyzed with more ease. He remarked that the greater control over the game allowed him to learn the language he did (“I can’t read the names with the game on pause in real life.”).
Simultaneously presented aural and textual language. Although the subject’s attention was divided between the game and the language, because the language was both spoken and written in the game, he was able to figure out language (especially name Kanji) and remember it. (Log 4: “The things I read and hear and understand I usually remember” and “the pronunciations of the players names are harder to remember unless I hear them every game.”)

Limitations of the Study
The study was limited in several ways:
1. Only one subject was studied. Although the subject's experiences and impressions of playing the game and learning language were investigated to some depth, the same results cannot be expected of students of different proficiencies or backgrounds. Further studies might be conducted to analyze the game's effect on a larger population, and to compare the game's effectiveness to that of other media (live or recorded television baseball games) and methodologies (explicit instruction of baseball-related vocabulary, for example).
2. The subject spent too much time learning how to play the game. The subject should have played the game for a few hours with the sound off to focus more on learning how to play the game. After he became comfortable with the game, the sound could have been turned on and language development could have been seen more clearly through the various instruments and analyses.
3. Much of the data used in the study is self-report data. Ideally, the subject should have been videotaped each time he played the game in order to get a richer idea of how language development occurred. At least another videotaped session should have been conducted in the middle of the study to see how the subject started to develop after learning to play the game.
4. The game may have activated the subject’s passive knowledge of various language elements, in which case the results of the various instruments may not be entirely accurate.
5. The same tests were used initially and finally. Although the subject was not told the answers to the tests, just taking the test again may have influenced his scores. An additional test composed of more, and varied items might have yielded different results.
6. The game logs were submitted to the researcher via email. The subject had the ability to type in Japanese, so he could have learned or practiced some Kanji by typing the Romanized pronunciation of a player’s name and choosing between the Kanji the computer offered for use.

Implications for the Foreign Language Teacher
Although the largely anecdotal evidence in this study showed how one subject was able to learn some Japanese from a baseball video game, it cannot be assumed that all students will benefit equally well from this game or other video games. However, teachers of Japanese and other foreign languages may find uses for video games.

Video games may be an interesting activity for a “game day” or class party (many video games allow several people to play simultaneously). Students may find interacting with the game and their classmates an interesting and authentic application of their linguistic and cultural knowledge. It is not recommended that JFL teachers extensively use the baseball video game used in this study, but rather select a video game that suits their students’ interests and backgrounds.

Video games may also be a useful resource for a language lab, or for a particular student to use at home. If a language teacher wants to suggest a video game to a lab or student, he/she is advised to take into account how the JFL student in this study used the baseball video game to learn language; the recommended game should contain repetitive and controllable simultaneously presented aural and textual language. Sports, action, puzzle, or simulation games may work better than role-playing games, as the latter often allow a player only partial control over gameplay.

References


