Social, Experiential and Psychological Factors Affecting L2 Dialect Acquisition

Wendy Baker
Brigham Young University

1 Introduction

Several factors influence whether or not second language (L2) learners are able to perceive and produce the L2 accurately. Some of these factors are experiential, such as the learner’s age at the time of L2 acquisition (Mackay, Flege, & Imai, 2006; Aoyama, Flege, Guion, Akahane-Yamada, & Yamada, 2002), length of residence in the target language and/or country (Flege & Liu, 2001; Flege, Bohn, & Jang, 1997), and amount of daily use of the L2 (Mackay, Meador, & Flege, 2001), to name just a few. While these factors most likely influence L2 learners of all ages, previous research suggests that amount of experience and amount of daily L2 use may influence adult L2 learners more than child L2 learners (Baker & Trofimovich, 2006a).

Moreover, other studies have examined the influence of psychological factors, such as the capacity of the learners’ working (O’Brien Segalowitz, Collentine, & Freed, 2006; van den Noort, Bosch, & Hugdahl, 2006), and phonological memory (i.e., the ability to recall nonsense syllables) (Baddeley, 2003; Cheung & Chen, 1998), although this factor has not been explored extensively in L2 pronunciation research. The only known study that looked at the influence of working memory on L2 pronunciation, also examined its effect on vocabulary and syntax (Ellis & Sinclair, 1996). Other researchers (Baker & Trofimovich, 2006b) have speculated that, as with first language acquisition (Ryalls & Pisoni, 1997; Kuhl & Metzoff, 1992), the ability to imitate may also play a role in accurate L2 perception and production.

All of these studies assume that the L2 learner’s goal is to produce and perceive the L2 like native speakers. However, recent research suggests that this may not be the goal of all L2 learners. For example, Gatboton, Trofimovich, & Magid (2004) found that adult native Chinese and French speakers learning English in Canada may retain a slight foreign accent in order to maintain group affiliation with their native language and culture. Studies like this suggest that social factors such as group identity or perception of the L2 language and culture may also influence L2 acquisition (Palfreyman, 2006). Other studies have shown that one’s degree of acculturation in the target culture may also affect pronunciation accuracy, at least for adult native English speakers living in Norway (Lybeck, 2003).

Similarly, recent research has demonstrated that acculturation may play a prominent role in child L2 learners’ language acquisition as well (Hamers, 1994; Jeuk, 2000; Fleck, 2004; He, 2006). However, past research for child language learners seems to be inconclusive, with some researchers demonstrating that attitudes towards the L2 society do affect L2 proficiency (Hamers, 1994; Toohey, 2001) while others have shown such attitudes do not affect L2 proficiency (Fleck, 2004). Perhaps the reasons for these discrepancies are differences in the participants’ native language (L1) and L2 (Hamers (1994) examined children of various L1s learning French and English in Canada, while Fleck (2004) examined native Spanish speakers learning English in California). Indeed, Norton & Toohey (2001) report that of 2 five-year olds learning English in Canada, the native Polish speaking child was better able to integrate into the L2 community than the native Punjabi speaker. While this research is suggestive that social factors may influence child L2 acquisition, it has not examined the specific effects of social identity on child language learners’ L2 pronunciation accuracy. Therefore, one of the main goals of this study is to provide further research on the influence of sociological factors on L2 acquisition, particularly if these factors affect L2 pronunciation.
Moreover, although past researchers have demonstrated that experiential, psychological, and social factors influence accurate L2 production, the relative importance of these three factors on L2 speech perception and production is not known. This is especially true for research on child L2 learners perhaps because it is sometimes assumed that these factors do not affect children’s L2 acquisition. In order to explore these factors’ relative importance on child L2 learners, the same learners must be tested on both psychological and sociological factors in the same study and the learners must also vary in their individual experience with the L2. To compare the relative importance of these factors is the second goal of this study.

One possible means for determining the importance of these factors on L2 learning is to examine whether or not L2 learners acquire a specific L2 dialect. Several studies have demonstrated that ethnically diverse populations often do not acquire the dialect of their region (Fought, 1999; Nguyen & Anderson, 2006), most likely due to their having different social networks (Milroy, 1987) or because they have sociological reasons for wanting to remain separate from the larger community (Labov, 1994). Thus, an important question in L2 speech learning research is to understand whether an L2 group would choose not to acquire a specific L2 dialect, especially if they belong to one of these ethnic groups (such as Hispanics learning English in the United States; Fought, 1999).

Thus, the purpose of this study is to examine to what degree L2 learners acquire specific features of the L2 dialect to which they are exposed and how experiential, psychological and social factors influence this ability. In particular, first this study examined whether social factors influence native Spanish speakers’ acquisition of features of Utah English (English spoken along the Wasatch Front between Logan and Provo Utah). Utah English was used because it has vowel mergers (explained below) that are especially difficult for native Spanish learners to acquire. It is also a stigmatized English dialect and therefore its learners may be reluctant to acquire it (Argyle, Baker, & Bowie, 2004). Furthermore, there is a large Hispanic population in this area, which allows for a group with diverse L2 experience. Second, this study examined the degree to which experiential, social, and psychological factors affect the production of dialect-specific characteristics of these same participants. The specific research questions of this study were the following:

1. Do social factors affect whether child native Spanish speakers acquire aspects of Utah English?
2. What factors play the greatest role in L2 production of dialect-specific characteristics: psychological (working memory, phonological working memory, ability to imitate), social (social networks, attitudes toward L1 and L2), or experiential factors (age of acquisition, amount of experience, amount of daily L2 use)?

These two questions will be answered in two experiments described below.

2 Experiment 1

The first experiment was conducted to answer the question, “Do social factors affect how child native Spanish speakers acquire aspects of Utah English?”

2.1 Participants

Participants were either native English speakers who had lived their entire lives in Utah or were native Spanish speakers who had moved to Utah between the ages of 2 and 14 (see Table 1). To be included in the study, all participants had to have been exposed to English only in Utah. Two of the participants did live in other states (one California, one Arizona) before moving to Utah, but since both were under the age of 2 and spent most of those two years at home with their mother who spoke only Spanish, it was therefore deemed that they had little if any exposure to English before coming to Utah.

The participants in this study differed from each other in 4 important ways. First the participants differed in their age of arrival (AOA) in the United States, ranging from 2 years to 14 years (average AOA: 7.2). Second, they differed in their amount of experience (AOE) with English, ranging from 2 years to 15 years (average AOE: 8.7 years). From the survey administered for the study (described below), participants were further divided into those with positive and negative attitudes towards learning English in Utah. A univariate analysis examining the difference between these two groups in
terms of age of acquisition, amount of experience, Spanish and English self-rating, attitudes towards Utah, attitudes about Spanish and amount of daily English use revealed that these two groups differed from each other only in their attitudes towards Utah and amount of daily English use ($F = 16.23$, $p < .001$).

Table 1: Demographic Information about participants

<table>
<thead>
<tr>
<th>Attitude about Utah</th>
<th>Attitude about Spanish</th>
<th>Daily English use</th>
<th>English Rating</th>
<th>Spanish Rating</th>
</tr>
</thead>
<tbody>
<tr>
<td>Positive Utah Attitude</td>
<td>14.63 (2.7)</td>
<td>3.81 (.53)</td>
<td>30.1% (16.03)</td>
<td>7.8 (.97)</td>
</tr>
<tr>
<td>Negative Utah Attitude</td>
<td>14.30 (3.57)</td>
<td>2.85 (.69)</td>
<td>57.7% (24.04)</td>
<td>7.1 (.87)</td>
</tr>
<tr>
<td>Native English Speakers</td>
<td>14.78 (2.36)</td>
<td>--</td>
<td>100%</td>
<td>10.0</td>
</tr>
</tbody>
</table>

CA = current age at testing; LOR = length of residence; Attitudes about Utah scored on a 5 point Likert scale; Standard deviations in parentheses

2.2 Stimuli

Because this study examined whether native Spanish learners of English are able to acquire specific aspects of Utah English, the stimuli used in this study examined features that are unique to Utah English compared to other Western U.S. varieties of English, specifically vowel mergers before /l/ (Argyle, Baker, & Bowie, 2004; Di Paulo & Faber, 1990). In Utah English, tense vowels become lax before /l/ resulting in the merger of tense and lax vowels (feel and fill are both pronounced /fil/). Sociolinguistic research typically describe these mergers using minimal pairs, although these mergers apply to all tense vowels before /l/ in monosyllabic words (Labov, Boberg, & Ash, 2007). The three main mergers examined in this study were (1) the fail-fell merger (/e/ and /e/ both merging to /e/); (2) feel-fill merger (/i/ and /i/ to /i/); and (3) pool-pole-pull merger (/u/, /o/, /u/ merging to /o/). In addition, these vowel pairs are near mergers, meaning that they occur more in perception than in production (in other words, Utahans perceive some vowels as “merged” even though in production they are distinct) (see Di Paolo & Faber, 1990; Labov, Boberg, & Ash, 2007). Words containing these mergers were placed in sentences in both stressed (Her clothes are really cool) and unstressed position (The cool thing about Christmas is the presents). Table 2 lists the words used the study and the sentences containing these words are listed in Appendix 5.1.

Table 2: Stimulus words

<table>
<thead>
<tr>
<th>Feel-Fill Merger</th>
<th>Jail-Gel Merger</th>
<th>Cool-Cull-Coal Merger</th>
</tr>
</thead>
<tbody>
<tr>
<td>feel-fill</td>
<td>jail-gel</td>
<td>cool-cull-coal</td>
</tr>
<tr>
<td>deal-dill</td>
<td>sale-sell</td>
<td>ghoul-gull-goal</td>
</tr>
<tr>
<td>meal-mill</td>
<td>mail-Mel</td>
<td>fool-full-foal</td>
</tr>
<tr>
<td>heel-hill</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

These vowel mergers were examined because native Spanish speakers learning English as an L2 often merge these words in the opposite direction. Because Spanish has only tense vowels, Spanish speakers often produce lax vowels as tense (pronouncing fill as feel). Moreover, Hispanics in the United States may manifest a particular dialect that contains features neither of English or Spanish (Chicano English; Fought, 1999). In this variety of English, none of these mergers would occur (feel would be produced as /fil/ and fill as /fil/). Thus, there are three possible manifestations of tense and lax vowels before /l/:

1. Utah-accented: Tense and lax vowels (like heel/hill) merge toward lax vowels (hill)
2. Spanish-accented: Tense and lax vowels (like heel/hill) merge toward tense vowels (heel)
3. No merger: Tense and lax vowels do not merge

2.3 Procedure

To determine whether social factors affect the acquisition of an L2 dialect, the participants were asked to perform two tasks: a sentence production task and a sociolinguistic survey.

2.3.1 Sentence Production

Participants were tested one at a time in a quiet room and were randomly assigned the order of the tasks described in both Experiment 1 and 2. In order to determine participants’ production of dialect-specific characteristics, participants were asked to read sentences that contained the vowel mergers typical of Utah English (as described above). A CD Marantz recorder and microphone were used to record the sentences. The sentences were randomized and participants were asked to read each sentence twice with the second recording used for the analysis. The pronunciation of the vowel was analyzed in each production. The words were spliced from the sentences and three native speakers listened to the recorded words and were asked to identify the vowel in the word. Listeners were trained in phonetics and familiar with the types of vowel mergers found in Utah English. They were told to transcribe the vowel in the word. The dependent variables for Experiment 1 were the overall percentage of Utah mergers (percentage of tense vowels that were perceived as lax vowels), Spanish-accented mergers (percentage of lax vowels that were perceived as tense vowels) and no mergers (percentage of tense vowels perceived as tense, and lax vowels perceived as lax).

2.3.2 Survey

Next the participants were asked to fill out a brief sociolinguistic survey (see Appendix 5.2 for the complete survey). The first section of this survey asked 10 questions about the participants’ attitudes about living in Utah, e.g., “Sometimes I wish I lived somewhere else besides Utah,” “Out of all the states, Utah is the best,” and “The people in Utah are really friendly.” The second section included 10 questions about their attitudes toward Spanish and their affiliation with the Spanish community in Utah, e.g., “Sometimes I miss my home country,” “Speaking Spanish makes me feel special,” and “I like helping my parents when they can’t speak English.” Participants responded to each of these statements in section 1 and 2 by marking their agreement with them on a 5 point Likert scale where 1 indicated “I completely disagree with this statement” and 5 “I completely agree with the statement.” Answers to the 10 questions of the first section were averaged to a single score and the 10 questions of the second section were averaged to a single score. As noted above, the participants differed in their attitudes toward Utah; however, they did not differ in their attitudes toward Spanish. Participants were divided into two groups based on their average score on the section discussing attitudes towards Utah—there was an obvious difference between participants who viewed Utah positively (all their answers were mostly a 4 or 5 on the Likert scale) and those who viewed Utah negatively (all their answers were mostly 2 or 3 on the Likert scale). Thus, it was very simple process to distinguish between the two groups.

The final section asked the participants to detail their social networks and the languages they use with family and friends. In this section the participants were asked to name their three best friends and what language they speak with each. They were also asked to estimate how much time they spend with family and friends each week and how often they use both English and Spanish in several situations including using the language in school, home, and with friends.

2.4 Results

The first research question of this study was to determine whether social factors influence the production of an L2 dialect. To answer this question, two groups were formed: those whose average score on the “attitudes about Utah and learning English” was either “low” (average 2.85 on a 5 point scale) or “high” (average 3.87 or higher on a 5 point scale).
Next examined was whether these two groups and the native English speakers differed in their production of vowels before /l/. Three scores were used: the participants’ percentage of Utah vowel mergers (tense vowels merged to lax before /l/), percentage of no mergers, and percentage of Spanish-accented vowel mergers (lax vowels merged to tense before /l/). These three scores were submitted to a two-way ANOVA (group x type of merger) which revealed a significant effect of merger (F=181.53, p<.0001), no significant effect of group (F=.782, p=.462), but a significant group x merger interaction (F=3.133, p<.02). Further analyses revealed that the two native Spanish groups and the native English speakers differed in two merger types: Utah mergers and Spanish-accented mergers. In both cases, the two learner groups differed from each other as well as from the native English speakers (see Figure 1). Surprisingly, the participants with negative attitudes towards Utah were actually more likely to produce vowels with a Utah accent (tense vowels as lax before /l/) and less likely to produce Spanish-accented vowels (lax vowels as tense before /l/) than were the learners with positive attitudes toward Utah and English. Thus, these findings suggest that social attitudes toward the dialect are correlated with child learners’ acquisition of an L2 dialect, but that, at least for child Spanish learners acquiring English in Utah, learners with a negative attitude towards Utah were more likely to have aspects of Utah English in their speech.

Figure 1: Percentage of merger types for the three groups: (1) native English speakers, (2) those learners with positive, and (3) negative attitudes toward Utah English.

2.5 Conclusion

The results of the first experiment suggest that one’s attitudes toward the L2 dialect community may influence the degree to which the L2 dialect is acquired. In this experiment it was found that having a negative attitude towards the dialect may be related to having more features of the dialect.

At least two factors may explain the results. First, it is possible that negative attitudes towards the L2 dialect grow as more contact with native speakers of the dialect occur. In fact, the group with negative attitudes towards Utah were also those who spoke English more often and therefore were most likely those with more interaction with native English speakers. This would suggest that it is this interaction with native speakers that has caused these speakers to have more features of the dialect than the group with a positive attitude toward Utah. Although this may be true, there are cases of some of the learners, such as CG, who had positive attitudes towards Utah (rating of 4.25 on 5 point scale) and who also had some of the highest percentage of Utah English features (62%) or OS, who had the most negative attitude towards Utah (2.65 on 5 point scale) and also had few Utah mergers (5%). Thus the relationship between amount of daily English use and attitudes towards Utah is complex and needs to be examined in more detail.

Second, it is also possible that the two groups differed in their social networks—those with positive attitudes towards Utah may have had more Hispanic friends than those with negative attitudes towards Utah, and, therefore, may have heard less Utah-accented English. To determine whether this was the case, the number of best friends (out of three) that were Hispanic for each participant was
tallied and the two groups’ average number of best friends was compared. A t-test revealed that the two groups did not differ in their number of Hispanic best friends (p=.54). In other words, it was not the case that these two groups differed in the number of friends they had which spoke Utah English.

The results of this study so far indicate that social factors can affect the pronunciation of child native Spanish speakers learning English in Utah, although their relative importance in relationship to other types of factors has not been determined. It is also unclear whether it is the learners’ attitudes towards Utah or their amount of daily English use that has determined whether or not they used features of Utah English. These two questions will be examined in Experiment 2.

3 Experiment 2

The results of Experiment 1 suggested that attitudes toward the L2 dialect may play a significant role in how child native Spanish speakers learn English in Utah. However, the relative importance of social factors on L2 production in comparison to psychological and experiential factors is still unknown. Thus, in order to determine which factors (psychological, social or experiential) play the greatest role in L2 production of dialect-specific characteristics, the same participants were also asked to complete psychological tasks and to document their experience with English. These tasks were then used as variables to predict the production of dialect-specific characteristics of the participants.

3.1 Psycholinguistic Tasks

The participants were asked to complete 3 psychological tasks which are explained in more detail below.

3.1.1 Working Memory Task

The first task that participants performed was a working memory digit span task. In this task, the participants heard a list of numbers and were asked to repeat them in the opposite order. For example, if participants heard “3, 5, 7” they repeated, “7, 5, 3.” The numbers started in groups of two (6, 1) and increased in number by 1 every trial. The task was terminated when the participant could not accurately repeat two number sequences in a row. Participants were given one point for each number sequence they could accurately repeat. There were 15 possible trials so participants could receive a score up to 15. The average score was 4.25.

3.1.2 Imitation Task

The imitation task was designed to determine the learner’s ability to imitate sounds not present in their native language or in their L2. Thus, participants heard Swedish words and were asked to repeat them exactly as they heard them (Ryalls & Pisoni, 1996). The Swedish words were one-, two- or three-syllable words that contained vowels not present in either English or Spanish: the front rounded tense /y/ and lax /Y/ vowels, unrounded mid front vowels (/œ/ and /ø/). Participants received a score of “1” for each imitation where they accurately repeated the word as determined by a trained phonetician. There were 15 Swedish words so participants could receive a score up to a possible 15. The average score was 4.32.

3.1.3 Phonological Memory Task

Based on Cheung & Chen (1998), this next task required the participants to repeat in the correct order nonce 2 syllable words which conformed to the phonotactics of English (tackler, dunblap). Each consecutive trial was increased by one nonce word and the participants were required to repeat the trials until they were no longer able to do so accurately over two trials. Participants were given one point for each trial they were able to complete accurately for a possible total of 12. The average score was 5.6.
3.2 Data Analysis

To understand the relative importance of experiential, social, and psychological factors in determining the degree to which child Spanish learners of English acquire L2 dialect features, the participants’ scores on the above tasks, as well as their age of acquisition, length of residence in Utah, amount of daily Spanish use, and their average score on the three parts of the social survey were used as predictor variables in a linear step-wise multiple regression analysis where the dependent variable was the percentage of Utah mergers in the participants’ speech (as determined in Experiment 1). The list of predictor variables is given in Table 3.

Table 3: List of factors used to predict L2 dialect production

<table>
<thead>
<tr>
<th>Experiential Factors</th>
<th>Psychological Factors</th>
<th>Social Factors</th>
</tr>
</thead>
<tbody>
<tr>
<td>Age of Acquisition (AOA)</td>
<td>Working memory capacity</td>
<td>Attitudes towards Utah</td>
</tr>
<tr>
<td>Amount of English Experience (AOE)</td>
<td>Phonological memory capacity</td>
<td>Attitudes towards Spanish</td>
</tr>
<tr>
<td>Amount of daily English use</td>
<td>Ability to imitate novel sounds</td>
<td>Number of Hispanic friends</td>
</tr>
</tbody>
</table>

3.3 Results

The results of the linear step-wise multiple regression analysis statistical analysis yielded the following results (see Table 4). The factor that predicted the most variability in the scores was the learner’s working memory score, which accounted for about 37% of the variation. In addition, the participants’ attitudes toward Utah score accounted for 34% of the variation. Two other factors, the number of Hispanic friends the participant had, as well as the ability to imitate novel sounds, also accounted for the variation in scores, although they accounted for little of the variation, 8% and 7%, respectively. These four factors combined accounted for 87% of the variation in scores.

Table 4: Factors affecting L2 production

<table>
<thead>
<tr>
<th>Factor</th>
<th>$r^2$</th>
<th>F statistic</th>
<th>p value</th>
</tr>
</thead>
<tbody>
<tr>
<td>Working memory</td>
<td>.37</td>
<td>10.867</td>
<td>.006</td>
</tr>
<tr>
<td>Attitude toward Utah</td>
<td>.34</td>
<td>9.802</td>
<td>.003</td>
</tr>
<tr>
<td>Number of Hispanic friends</td>
<td>.08</td>
<td>5.108</td>
<td>.016</td>
</tr>
<tr>
<td>Ability to imitate</td>
<td>.07</td>
<td>4.82</td>
<td>.048</td>
</tr>
<tr>
<td>Total</td>
<td>.87</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

3.4 Conclusion

The findings of Experiment 2 suggest, first of all, that both social and psychological factors influence the degree to which child L2 learners acquire aspects of a L2 dialect. From these results, it appears that working memory accounts for more of the variance in production scores (whether or not learners acquire features of the L2 dialect) than any other factor—those with a larger working memory capacity being more likely to acquire features of Utah English. This suggests that psychological factors influence child L2 learners’ acquisition not only of a L2, but also of a L2 dialect.

However, participants’ attitudes towards Utah also accounted for a significant amount of the variation in L2 production scores, suggesting that social factors also may dictate the degree to which child L2 learners acquire aspects of an L2 dialect. Interestingly, amount of daily use was not a predictor variable of the production scores.

4 General Conclusion

The results of this study indicate the relative role of social, experiential, and psychological factors on child L2 learners’ acquisition of L2 dialect production. The first goal of this study was to
determine whether and what types of social factors influence L2 dialect production. Two factors accounted for L2 dialect production: attitudes toward the local community (Utah) and number of friends from the learners’ ethnic or L1 group.

A surprising finding of this study was that participants with negative attitudes toward the local community were actually more likely to have features of the L2 dialect. In particular the child native speakers of Spanish were more likely to merge tense vowels to lax vowels (as happens in Utah) when they had negative attitudes towards the dialect. This seems counter-intuitive—past research has demonstrated that ethnic groups often do not acquire features of the local dialect, even if they were born and raised in this community (Nygen & Anderson, 2006). One reason that the child L2 learners have negative attitudes toward Utah may be that they are experiencing or have experienced culture shock, which usually results in negative attitudes towards the L2 community (Brown, 1980). What this finding may suggest is that the negative attitudes may more accurately indicate the learner’s stage in culture shock or their amount of experience with the L2 community. If this is the case, then this would suggest that experiential factors (the amount of exposure to the L2 community) not social factors (attitudes toward the L2 community) affect the amount to which features of the L2 dialect are acquired. Thus, further research in this area is needed to tease apart the relative importance of these factors.

It is also possible that learners had negative attitudes towards Utah English because it is a stigmatized dialect, often seen as a “hick” or uneducated variety of English (Brickey & Sarver, 2004). Learners may have adopted these attitudes towards Utah with more experience with the dialect and its speakers. More research is needed to understand whether learners of more prestigious varieties of English also have negative attitudes toward these dialects and whether such attitudes affect L2 dialect acquisition.

Another social factor that seemed to influence L2 dialect production was the number of Hispanic friends each learner had. This factor reflects the social networks to which each participant belonged and may be related to the participants’ attitudes toward the L2 community. Those learners with fewer Hispanic friends were also more likely to have features of Utah English, suggesting that those with less input of the L2 dialect would have less features of the dialect in their own production. Such findings emphasize the importance of social networks on both attitudes toward and use of the L2.

In addition, psychological factors, such as a learner’s working memory capacity also influenced L2 dialect production. One reason that working memory may play a role in the acquisition of L2 dialect features is that being able to hear the slight differences in Utah English and acquire these rules (especially since they are near mergers and therefore not present in every instance of vowels before /l/ (Di Paolo & Faber, 1990)) requires a larger working memory. Examining whether working memory affects all aspects of L2 production of dialect-specific characteristics is an important next step in this research. Although several studies (O’Brien et al., 2006; van den Noort et al., 2006) have shown the influence of working memory on L2 acquisition, its importance in L2 perception and production has not been studied in detail, leaving fertile ground for further research on this topic.

Moreover, the results of this study suggest that the ability to imitate may also play a role in L2 dialect production. Because little if any research has explored its relative importance to L2 acquisition, these results provide a greater impetus for further study. It may be that the ability to imitate is tied to both phonological and general working memory, since accurate imitation requires a learner to hear a word, record its production in memory and then compare this accurate production with his or her own production of the sound in order to accurately produce the imitation. Further research would benefit from a greater examination of this factor.

Surprisingly absent from the findings was the importance of experiential factors, such as amount of experience with the L2 and age of L2 acquisition. As discussed above, this may be because most of the learners acquired English at a young age (most before the age of 7) and because amount of experience seems to play less of a role with child than adult L2 learners (Baker & Trofimovich, 2006a). It may also be that learning the rules of an L2 dialect is more dependent on psychological factors and social factors than on experiential factors.

Perhaps the most important finding of this study is that merely examining a learner’s social attitudes, experiential factors, or memory abilities does not provide the whole picture of how accurately the learner produces the L2. More research is needed to understand how all these factors interact to influence L2 acquisition.
5 Appendices
5.1 Sentences used in Production Task

Feel-Fill Merger
1. Let me know when you’ve eaten your fill.
2. Will you take the car in and fill it up and get the oil changed?
3. I don’t know how you feel.
4. I feel like it’s too late to go.
5. I have to say that my favorite herb is not dill.
6. Do you like dill or sweet pickles?
7. So, did you get a pretty sweet deal?
8. I really don’t understand what the big deal is.
9. My cousin used to live there on that hill.
10. His band is called Scotty and the Hill Men.
11. Last night when I was running I think I hurt my heel.
12. My sore heel won’t be too bad tonight.
13. Are you going to move into Glenwood or Old Mill?
14. My grandfather’s flour mill produced enough to feed an entire town.
15. Sometimes when I’m working really hard on something, I’ll skip a meal.
16. You can tell she’s a freshman because she has a meal plan and lives on campus.

Jail-Gel merger
17. Did you know how to spell “jail”?
18. His jail sentence was shortened because of his good behavior.
19. Your topic is interesting, but the argument doesn’t gel.
20. I have to pick up some hair gel and toothpaste at WalMart.
21. I love shopping the day after Christmas, when everything is on sale.
22. Are you having the yard sale on Saturday or Sunday?
23. We weren’t sure if the house was ever going to sell.
24. Companies ask people to sell their products door to door
25. Will you run out and check the mail?
26. My roommate had to air mail three boxes of her stuff back home.
27. My best friend’s name is Mel.
28. Mel Brooks is the voice of Bugs Bunny.

Coal-Cull-Coal Merger
29. Is it true that a fool and his money are soon parted?
30. You’d be an absolute fool to let him leave.
31. Every time I go to campus, all the lots are full.
32. She says her boss is kind of full of it.
33. A baby horse is called a foal.
34. You think life is all foals frolicking in grassy meadows?
35. For Halloween are you going to be a ghoul or a goblin?
36. My fifth grade teacher was so mean, he was really a ghoulish of a man.
37. He looked like a gull, or maybe a crow.
38. Is there a reason the sea gull is the state bird?
39. When making foreign policy, you have to consider the ultimate goal.
40. She made a field goal in the first five minutes of the game.
41. Her clothes are really cool.
42. She looked cool even though it was 100 degrees outside.
43. From literature, we can cull great truth.
44. How can you expect to cull any meaning from this text?
45. Did you get candy in your stocking, or coal?
46. Our snowman has coal eyes and a carrot nose.
5.2 Sociolinguistic Survey

1. Background Questions
   What is your birthday? (month, day, year) __________________________
   Where were you born? __________________________________________
   When did you move to Utah? ______________________________________
   How long have you lived in Utah? _____________________________
   Have you lived in any other states besides Utah? ___________________
   Where was your mom born? _______________________________________
   Where was your dad born? _________________________________________
   What grade are you in? __________________________________________
   Where do you go to school? _______________________________________

2. Language Use:
   Please decide how much English and Spanish you use in the following situations:

   1. Talking to my friends
      English: 10%  20%  30%  40%  50%  60%  70%  80%  90%  100%
      Spanish: 10%  20%  30%  40%  50%  60%  70%  80%  90%  100%

   2. Talking to my parents
      English: 10%  20%  30%  40%  50%  60%  70%  80%  90%  100%
      Spanish: 10%  20%  30%  40%  50%  60%  70%  80%  90%  100%

   3. Talking to my brothers and sisters:
      English: 10%  20%  30%  40%  50%  60%  70%  80%  90%  100%
      Spanish: 10%  20%  30%  40%  50%  60%  70%  80%  90%  100%

   4. Talking in class at school
      English: 10%  20%  30%  40%  50%  60%  70%  80%  90%  100%
      Spanish: 10%  20%  30%  40%  50%  60%  70%  80%  90%  100%

   5. Talking before and after classes at school
      English: 10%  20%  30%  40%  50%  60%  70%  80%  90%  100%
      Spanish: 10%  20%  30%  40%  50%  60%  70%  80%  90%  100%

   6. Talking at family parties and activities
      English: 10%  20%  30%  40%  50%  60%  70%  80%  90%  100%
      Spanish: 10%  20%  30%  40%  50%  60%  70%  80%  90%  100%

   7. Talking at church
      English: 10%  20%  30%  40%  50%  60%  70%  80%  90%  100%
      Spanish: 10%  20%  30%  40%  50%  60%  70%  80%  90%  100%

   8. Talking at school activities
      English: 10%  20%  30%  40%  50%  60%  70%  80%  90%  100%
      Spanish: 10%  20%  30%  40%  50%  60%  70%  80%  90%  100%

   9. Talking at sport or other community activities (like if you are on a city soft ball team)
      English: 10%  20%  30%  40%  50%  60%  70%  80%  90%  100%
      Spanish: 10%  20%  30%  40%  50%  60%  70%  80%  90%  100%

   10. Talking at church activities or with church leaders
      English: 10%  20%  30%  40%  50%  60%  70%  80%  90%  100%
      Spanish: 10%  20%  30%  40%  50%  60%  70%  80%  90%  100%

3. Language Rating
   Rate your ability to speak Spanish on a scale from “1” (I can’t speak Spanish at all) to “10” I speak Spanish like a native speaker.
   1  2  3  4  5  6  7  8  9  10
   Rate your ability to speak English on a scale from “1” (I can’t speak English at all) to “10” I speak English like a native speaker.
   1  2  3  4  5  6  7  8  9  10
4. Thoughts about Spanish and English: Rate the following on a 5 point scale where “1” means “I don’t agree at all” and “5” means “I completely agree with that”

1. I like speaking Spanish with my friends
2. I like speaking Spanish with my parents
3. Sometimes I am embarrassed to speak Spanish with my parents in stores
4. I like that I can speak Spanish and people can’t understand what I’m saying
5. Being able to speak Spanish make me feel special
6. I sometimes speak Spanish so I can say things my teachers can’t understand:
7. I like speaking English with my friends
8. I like helping my parents when they can’t understand English
9. I like living in a place where I can learn English
10. I like that I can speak Spanish and English

5. Thoughts about Utah and the United States: Rate the following on a 5 point scale where “1” means “I don’t agree at all” and “5” means “I completely agree with that”

1. I like living in Utah
2. The people in Utah are really friendly
3. Out of all the states, I think Utah is the best
4. The people in Utah speak English really well
5. Most of my friends are Latino
6. Most of my friends are not Latino
7. Sometimes I feel left out at school
8. Sometimes I miss my home country
9. I hang out mostly with my family
10. I wish I could live somewhere else

6. Friends and family

1. Name your three best friends: 1. _______ 2. __________ 3. ___________
2. Are you related to any of them? If so, how?
3. How many days a week do you hang out with your friends? _
4. How many hours after school do you hang out with your friends?
5. Do you speak English or Spanish with them?
6. How many days a week do you hang out with members of your family? (cousins, aunts, uncles, brothers, sisters, grandma, grandpa—anyone)?
7. How many hours after school do you hang out with your family?
8. Do you speak English or Spanish with them?

References


