

Replication of a Pilot Study of the Effectiveness of ESL for Adult Refugees Aided by MP3 Recordings of Lessons

Holly C. Bellah, LMSW

Dr. Beth Garcia, PhD

West Texas A&M University, United States

Abstract

Learning a second language at any age is a difficult feat; however, entering the United States as an adult refugee includes a host of affective factors that can impact second language acquisition from the onset. Such factors include time, opportunity, and motivation to learn English. Many adult learners fear ridicule or offending native speakers as they are learning a second language, so they may be more inhibited in their practice of it. To combat these fears an Mp3 intervention was initiated to allow a group of Karen speakers the opportunity to practice English in the safe environment of their homes on a daily basis. English lessons and their Karen translations were recorded onto Mp3 players that allowed the participants to hear correct pronunciations, vocabulary, and English syntax on a daily basis. This mixed methods case study considered data from a previous pilot study and its limitations, and then replicated the study attempting to resolve any issues found in the previous study. A certified administrator assessed each participant using the Best Plus Test to achieve an English proficiency baseline, a secondary test after ten weeks of no intervention, and then a final evaluation was assessed after a ten-week intervention using the Mp3 strategy. Researchers found that the Mp3 intervention had a significant impact on the number of Student Performance Levels (SPL) that a participant increased within the ten-week intervention. However, the most effective methodology was to couple this intervention with weekly ESL classes to reach the maximum number of participants.

Keywords: English as a Second Language (ESL), Best Plus, language intervention, English Language Learner (ELL), refugee.

Introduction

A refugee is defined by the Administration of Children and Families (2008) as “any person who is outside any country of such person's

nationality or, in the case of a person having no nationality, is outside any country in which such person last habitually resided, and who is unable or unwilling to return to, and is unable or unwilling to avail himself or herself of the protection of, that country because of persecution or a well-founded fear of persecution on account of race, religion, nationality, membership in a particular social group, or political opinion” (Who We Serve section, refugees definition, para. 1). Learning English has been found to be a necessity for successful acculturation and self-sufficiency of refugees emigrating to the United States (Mitschke, Mitschke, Slater, & Teboh, 2011; Tshabangu-Soko, & Caron, 2011). According to Tshabangu-Soko and Caron (2011), “language barriers lead to unemployment, poverty, diminished health status, and social isolation,” (p. 416).

There are many options for language learning on the market today for those who can afford such learning aids/software, and for those who speak more commonly used languages, resources are available with translation in the learner’s native tongue. Refugees often lack resources to afford such products, and even if resources are available, products with instruction in more obscure languages or dialects such as Karen, Chin, and Kirundi, are rarely available. The only tool available to most refugees are traditional ESL classes offered at churches, non-profits, and resettlement agencies. When working with refugees it becomes apparent that even though ESL is offered, most refugees are not conversant in English even years after arrival.

After interacting with refugee learners regarding their perspectives on what has made language learning more difficult, many barriers to learning English were discovered. Many felt that learning English without interpretation in their own language had hindered their progress. Also, many were so busy with work and family responsibilities that regular attendance in ESL classes had become difficult. The inability of the illiterate ESL students to write down words learned in class made remembering words and practicing the language at home too difficult. The result was that by the time he/she arrived at the next class what was learned during the last class had been forgotten. Progress was slow and painstaking and was a disincentive to continue the learning process.

The discovery of so many barriers to language learning with so few solutions being developed or tested made it imperative to find a better solution and test the effectiveness of it. The idea of using technology to bring lessons to each student’s home in the learner’s native tongue seemed like a cost effective solution to remove the identified barriers. This new intervention was developed and tested.

Literature Review

In a study conducted with Burundian refugees in the United States, Tshabangu-Soko and Caron (2011) found three factors that may hinder language acquisition through English as a foreign language classes. Those factors included lack of education provided by peers, insufficient duration of time that classes are offered, and illiteracy in the refugee's primary language.

Krashen (2003) also suggests that affective factors can hinder language learning when the learner experiences stress, lack of time, boredom, or fear. These factors cause the affective filter to rise, and learning is inhibited; thus, it is imperative to lower the affective filter and stressors to allow the flow of learning to resume. The use of the Mp3 players would effectively lower the affective filter due to the ability to use it from the comfort of the participants' homes, which would be considered safe learning environments (Krashen, 2003).

Cummins (2000) suggests educators should acknowledge the fundamental changes that information technology brings to society and seeks ways to use its power for transformative purposes. Such advances in technology could include iPod or Mp3 players as a learning tool. Students downloading information to their own iPod or Mp3 player could bring about several advantages to the students such as being able to repeat the lectures at their convenience which could assist in increasing comprehension (Gilroy, 2006).

The Basic English Test Plus (BEST Plus), published by the Center for Applied Linguistics, is a scripted oral interview to measure English proficiency in everyday communication. The BEST Plus test is intended to assess oral language proficiency of adult English language learners. Training is required for those who wish to administer the BEST Plus Test. The interview is scripted with score-based decisions made mid-interview and the scoring rubric used is simple, allowing individuals to administer and score the test, which generally takes about fifteen minutes. Raw scores are entered into a proprietary software program which scales all forms of the test onto a common scale and also reports band levels according to the National Reporting System (NRS) framework. The scoring provides the level of English language proficiency described in the Student Performance Levels (SPLs) which ranges from SPL 0-10. A limitation of the test is frequent testing could lead to questions being memorized (Center for Applied Linguistics, 2005).

Methodology

Developing the intervention

For decades the most pervasive approach to English language learning for newly arrived refugees has been face-to-face ESL classes. The discovery of barriers identified combined with the literature review made it imperative that an innovative, cost-effective approach using technology be developed.

The lessons would be written with the intention of teaching refugee learners how to interact with English speakers in the community using common conversations that refugees identified as necessary in their everyday lives. Examples of conversations identified include a phone call with the school nurse to learn that a child was ill, a conversation with medical workers who need basic information for forms, and telling a supervisor that vacation time was needed or that one needed to go home early because of illness. These conversations were simplified to exclude tenses in earlier lessons and to use mostly vocabulary that was on the list of the 100 most commonly spoken English words so that learners would not be simply prepared to have these conversations alone, but would be given transferable vocabulary and language skills to learn English wholly as a language and could be applied to other conversations refugees would need to have. Lessons comprised of interactive conversations, with some American cultural information added, would be written in the form of scripts with an instructor, who would provide instruction and interpretation of the English words and phrases in the learners' native tongue, and actors who were native English speakers performing the conversations. The instructor would be slowly replaced with an English speaking narrator so that eventually the learner would be able to respond solely to instructions given in English. The interactive portion of these lessons called upon learners to answer questions and take part in conversations after direct instruction and opportunity to practice new vocabulary and phrases. A written portion of each lesson was created to help learners learn basic letters and sounds, as well as recognize common words on forms and be able to fill out basic personal information. A binder with the materials needed for the written portions of the lessons was compiled and given to each learner.

The Karen refugee population, an ethnic minority from Burma, was chosen as the target audience for this pilot recording of lessons. After scripts were written, a Karen instructor/interpreter was hired along with students who would play the narrator, the female voice, and the male voice (all native English speakers) to record the thirty-five, approximately thirty minute lessons. These lessons were then loaded onto inexpensive Mp3 players that could be given to participants, along with the binder of materials comprising the written portions of the lessons. This concluded the intervention

development process. The next step was to study the effectiveness of the newly developed intervention.

It was determined that the effectiveness of this innovative approach to language learning for refugees would be measured using a mixed methods study. Each participant's oral English proficiency would be measured quantitatively. Demographics and open-ended questions to control for variables and learn more about what is helpful and why would be measured using a qualitative survey.

The Pilot Study

The pilot study was designed to include 4 groups of 5 participants each for a total of 20 participants. The intervention period was designed to be 10 weeks with pre- and post-intervention oral English proficiency testing, as well as a post-intervention qualitative survey. One group acted as the control group without participating in ESL classes or using the MP3 recordings. A second group used only the MP3 recordings to learn English. A third group attended at least one ESL class per week and had no access to the MP3 recordings. The fourth group was asked to use the MP3 recordings on a daily basis and attend at least one ESL class per week. Attendance at ESL meetings was tracked. Lessons were recorded in the Karen language and Karen interpreters were used each time participants interacted with researchers.

The results of the pilot study indicated a high degree of improvement in participants' English proficiency and comfort level conversing in English over the intervention period. However, the study had several limitations requiring a replication of the test for more reliable results.

The replication of the pilot study was not only an attempt to increase the number of completers, it was also an attempt to remove limitations observed while conducting the pilot study.

Limitations of the pilot study included losing contact with participants during the intervention period or participants moving to different cities before the completion of the study. Delays in finishing recordings of MP3 lessons extended the original intervention period of 10 weeks to almost eight months, part of which occurred during the summer months. The refugee population can be a transient population with frequent and abrupt moves and changes in contact information. Delays could be avoided in the test replication because the Mp3 recordings had already been finished and were loaded in their entirety onto Mp3 players before the intervention began. This reduced the total testing period to not exceed 20 weeks. The intervention was also planned to occur during a school year which is the least likely time of year for refugees to move.

Another primary limitation of the pilot study was that control group members did not have sufficient incentive to complete the test since there was no personal benefit from participating, and it did not control for each person's unique learning, speed, and trajectory. The replication of the test would not include a control group but would instead establish a baseline during a 10-week period in which no intervention was given and differences in English proficiency were compared to the same participant's scores on the Best Plus test after the 10-week period in which the intervention was given.

A final limitation of the pilot study was that many of the participants did not complete the activities they were assigned for their specific test groups. Therefore, during the replication, participants would be allowed to engage in any activities they wished to increase proficiency and self-reported which activities were completed during the baseline period and intervention period.

Participants

Participants for both the pilot study and replication were Karen speaking adult refugees in the Amarillo area. Refugee Services of Texas in Amarillo became a partner agency offering researchers recruiting of Karen adult refugees from among the agency's recently resettled client population, paid translation, and Mp3 players for participants to use and, ultimately, keep.

Ideally, the replication of the pilot study was designed to include a larger sample size of about 40 participants with hopes of a higher completion rate. For the replication, Refugee Services of Texas' recruiting attempts yielded 21 participants and after a 20-week total baseline and intervention period, 7 completions. Both tests had low completion rates but with the two combined, patterns could be more easily recognized and confirmed.

Participants had to be willing to sign an informed consent form and make a commitment to fulfill requirements of the study which were to listen to lessons daily during the intervention period. The offer was extended to members of the refugee community that could commit to the project for a period of 20 weeks, including 10 weeks with no intervention to create a baseline followed by 10 weeks using the Mp3 recordings.

Maximum variation in the purposive sampling was utilized to ensure that a variety of genders, ages, and levels of literacy were represented.

The Replication of the Pilot Study: Research Design

The effectiveness of this innovative approach was again measured using a mixed methods case study. The quantitative part of the study included measuring English oral proficiency using a Best Plus test administered by Dr. Beth Garcia, who is a certified Best-Plus

Administrator. This test was given three times throughout the study. The first time at the very beginning of the study followed by a 10-week period in which the participant was instructed to continue to use any methods he/she would like to in order to learn English. In order to establish a baseline, after 10 weeks, the second Best Plus test was administered. At that point in the middle of the study, the intervention, the Mp3 English lessons, would be introduced. Each participant was given the Mp3 English language lessons that included teaching instruction in Karen. These were loaded on an Mp3 player which each participant was taught how to use. Participants were instructed to listen to one 30-40 minute lesson each day repeating each lesson twice over the following 10-week period. At the end of the intervention period the final Best Plus test was once again administered for the third time. The difference in level of proficiency was recorded and compared for the same participant from the 1st and 2nd test (which was calculated as the baseline since no intervention was applied) to the difference between the 2nd and 3rd test which was considered the post-intervention score.

Quantitative Data Collection:

1 st Best Plus test administered	10 week period	2 nd Best Plus test administered	10 week period	3 rd Best Plus test administered
	Baseline established – no MP3 intervention given	Difference in 1 st and 2 nd test scores calculated as baseline score	MP3 intervention given – “Intervention Period”	Difference in 2 nd and 3 rd test scores calculated as post-intervention score

(Bellah & Garcia, 2016).

To increase the reliability of the data, qualitative data was also collected and analyzed. The qualitative questionnaire with primarily open-ended questions was used to discover each participant’s subjective view of whether or not, during the baseline period or during the intervention period, his/her English proficiency improved and if that had an impact on each participant’s daily life. The qualitative survey also allowed researchers to collect demographic information to control for variables such as gender, age, and literacy level.

Qualitative Data Collection:

10 week period (baseline period)	1 st qualitative survey conducted	10 week period (intervention period)	2 nd qualitative survey conducted
	Used to measure increased comfort in speaking English and the subsequent impact on his/her life when each participant's usual methods for English language learning were utilized.		Used to measure increased comfort in speaking English and the subsequent impact on his/her life when each participant's usual methods for English language learning were utilized in addition to listening to MP3 lessons.

(Bellah & Garcia, 2016).

Replication of the Pilot Study: The Research Process

The requirements of the study were communicated to each participant in his/her native language during the informed consent form process. The informed consent form was written simply and very succinctly in English. The form was read in English, followed by Karen translation, to ensure that participants were receiving accurate information from a researcher but information that was also translated and explained in Karen to ensure understanding. All participants signed the form to indicate a full understanding of, and agreement with, the terms of the study. The informed consent forms for illiterate participants were also signed by the person who interpreted and that person also acted as a witness to that participants' agreement to the terms. After informed consent forms were signed, participants were given the 1st Best Plus assessment individually. Contact information was gathered from participants and a research assistant was assigned to each participant to offer bi-weekly visits to ensure contact was maintained. Participants could report a change in his/her contact information to research assistants during either 10-week period.

After the first 10-week period, participants were given the 2nd Best Plus test and the 1st qualitative survey. After these tests were given, 35 Mp3 lessons to be listened to for two days each, were distributed to participants along with a binder with the written components for each lesson. Once again, research assistants visited participants approximately every other week to ensure the equipment was functioning properly, participants felt comfortable using the lessons and charging the Mp3 players, and to maintain contact in case of periodic address or telephone number changes. After the 2nd 10-week

period, each participant was given the Best Plus test for a final time to compare the difference in scores. No direct observations were made of participants. Only self-reports of activities were collected. Participants were also either interviewed or filled out a 2nd qualitative survey. Participants' names were used on surveys and assessments so that they could be compared. However, the participants' names were not revealed to anyone who was not an investigator or research assistant for the study, and files with participants' names were locked and not accessible to anyone who was not an investigator for the study.

There were no potential risks anticipated for participants involved in this study. Confidentiality was maintained but even a breach of that confidentiality would not be expected to have any adverse effects on the participant other than the potential for embarrassment if the participant did not fulfill requirements or increase their English proficiency.

There was no monetary compensation for this study. The compensation was the potential for acquiring increased English proficiency and participants were allowed to keep his/her MP3 player.

Replication of the Pilot Study: Demographics

Although only 7 total participants completed the entirety of the replication study including all 3 Best Plus tests and both qualitative surveys, 12 participants yielded useable data. Of those 12 participants, 3 participants were male, while 9 were female. Ages ranged from 28-67 years old. Participants had lived in the United States from a range of periods between 1 month to 5 years. 5 participants indicated that he/she was literate in at least one language at the beginning of the study, while 7 reported being illiterate at the time the study began (Bellah & Garcia, 2016).

Findings

Four themes emerged during the data analysis. The researchers found that logistics must be considered when using Mp3 players as a means of teaching a second language. The researchers had to consider what type of assessment was the most appropriate when evaluating linguistic growth and what significant growth might look like in the evaluation process. The researchers also found that second language learners are excellent mimics, and this must be taken into account when assessing progress and growth of the target language. Finally, motivation emerged as an unexpected theme that was a key indicator of language acquisition success.

Logistics

The logistics of this study were significant when considering impact using the Mp3 player intervention to teach English as a second language to

refugee populations. First, the attrition rates between both the pilot and replication studies were great. In both studies, two-thirds of the participants did not complete the study. This was due to the highly mobile nature of this population and work schedules that made it difficult for participants to attend testing sessions after jobs were acquired. The researchers found that it was difficult to follow up with participants or to even find them weeks after assessing initial English levels. Participants did not begin the study and then choose to leave due to feelings of discomfort created by the study; it merely became impossible to track refugee participants and to ensure their independent participation of coming to the assessments on specified dates.

The Center for Applied Linguistics (CAL) is the leading entity for second language learning and assessment of linguistics. Using their Best Plus evaluation tool to assess the Mp3 intervention, the researchers found a need to create a formula to assess growth within Student Performance Levels (SPL). CAL insists that significant growth only occurs once a second language learner moves from one SPL level to the next. Considering their in depth research, CAL has found that growth from one SPL level up to the next occurs in a minimum of 60 hours of English as a Second Language (ESL) instruction; however, this type of growth is more likely to occur between 80-100 hours (CAL, 2015). Due to the nature of this study and the high attrition rates expected by the researchers (Bellah & Garcia, 2016), participants were asked to review English lessons and the Karen translations on Mp3 players 7 days a week for only 10 weeks; the researchers believed they would be able to contact more participants in this shortened timeframe. Each lesson ranged from about 30-40 minutes. Therefore, the participants had about half of the suggested instruction with only about 30-40 hours of ESL intervention using the Mp3 players (Bellah & Garcia, 2016). The formula established by the researchers to illustrate growth within SPL levels is as follows:

$$((p - L) / h) \times 100 = g$$

Chart 1: Key to Math Equation

p=	Participant's score on test
L=	Lowest number in SPL level
h=	Highest number in SPL level minus lowest number in SPL level
g=	The percentage of growth within that SPL level

(Bellah, 2016)

A timeframe that included less than half of the suggested hours of instruction necessitated that the researchers also consider growth within SPL levels. Using the previous formula, the researchers found that it would be significant to attain at least 50% growth within an SPL level during the ten-week intervention understanding that achieving a full SPL level of growth

using any type of intervention would be unlikely. While this type of growth is not significant to move from one level to the next, it does illustrate improvement of English learning by using the Mp3 intervention. The researchers project that with more time and lessons, significant growth will be attained from using the Mp3 strategy. This finding is to be expected when one considers Cummins' (2008) research on BICS and CALP language skills. Cummins (2008) states that it takes 1-3 years to acquire the basic communication language while it may take 5-7 or more years to acquire academic language (Cummins, 2008). It would not be feasible for all participants to move up a complete level in only 10 weeks of intervention; however, growth in this amount of time was significant to exemplify the effectiveness of the Mp3 player intervention.

Technology was another logistical consideration that was unanticipated at the beginning of the research study. The researchers quickly found in the pilot study that some of the participants were unable to complete their lessons for a variety of technological reasons: 1) participants needing power cords to charge Mp3 players, 2) participants not remembering how to work Mp3 players, and 3) the issues of lost head phones or USB cords (Bellah & Garcia, 2016). It also became apparent that participants did not contact the researchers for assistance when they encountered technological difficulties; participants merely stopped listening to the lessons on the Mp3 players. To remedy this issue, the researchers employed graduate assistants to check in with participants on a bi-weekly basis. Assistants would call or physically visit each participant to ensure no necessary parts had been lost, Mp3 players were being charged, and that participants were using the technology correctly. In the initial pilot study, 28.5% of the participants who completed the study reported having some type of technological issues that prevented them from fully engaging with the Mp3 lessons (Bellah & Garcia, 2016). However, in the follow up replication study, only one of the participants reported any technological issues that prevented him from completing Mp3 English lessons stating, "I lost Mp3. I only listen twice [*sic*]" (Bellah & Garcia, 2016).

Linguistic Growth

The Best Plus Test assesses linguistic growth using scaled scores that are equated to Student Performance Levels (SPLs), which are tied to National Reporting System (NRS) levels with qualitative descriptors that demonstrate English language ability within each NRS level.

Chart 2: Best Plus Levels and Descriptors

ESOL Speaking and Listening Correlations using Best Plus Test			
Scale Scores	Student Performance Levels (SPLs)	NRS Level	Qualitative Descriptor of Level
88-329	0	Beginning ESL Literacy	No ability
330-400	1	Beginning ESL Literacy	Understands only a few isolated words, and extremely simple learned phrases.
401-417	2	Low Beginning ESL	Understands a limited number of very simple learned phrases, spoken slowly with frequent repetitions
418-438	3	High Beginning ESL	Understands simple learned phrases, spoken slowly with frequent repetitions. Expresses immediate survival needs using simple learned phrases.
439-472	4	Low Intermediate ESL	Understands simple learned phrases easily, and some simple new phrases containing familiar vocabulary, spoken slowly with frequent repetitions.
473-506	5	High Intermediate ESL	Understands learned phrases easily and short new phrases containing familiar vocabulary spoken slowly with repetition. Has limited ability to understand on the telephone. Participates in basic conversations in a limited number of social situations.
507-540	6	Advanced ESL	Understands conversations containing some unfamiliar vocabulary on many everyday subjects. Relies less on learned phrases; speaks with creativity, but with hesitation.
541 and above	7	Exit Criteria	Exit Level

(CAL, 2015)

It was imperative to the research that participants establish a baseline between test 1 and 2, complete 10 weeks of intervention using the recorded lessons on the Mp3 players, and then be assessed a final time in test 3 to show growth. As previously mentioned in the logistics section, two-thirds of the participants in both the pilot and replication studies did not complete the intervention or did not take the final evaluation. However, the participants who did complete the study showed a variety of growth throughout the research study. The researchers found that motivation and taking face-to-face ESL classes did contribute to the growth factor among the participants, but

use of Mp3 players showed a significant growth among participants, decreased barriers to learning, and increased motivation to learn English.

Chart 3: Linguistic Growth of Participant Completers

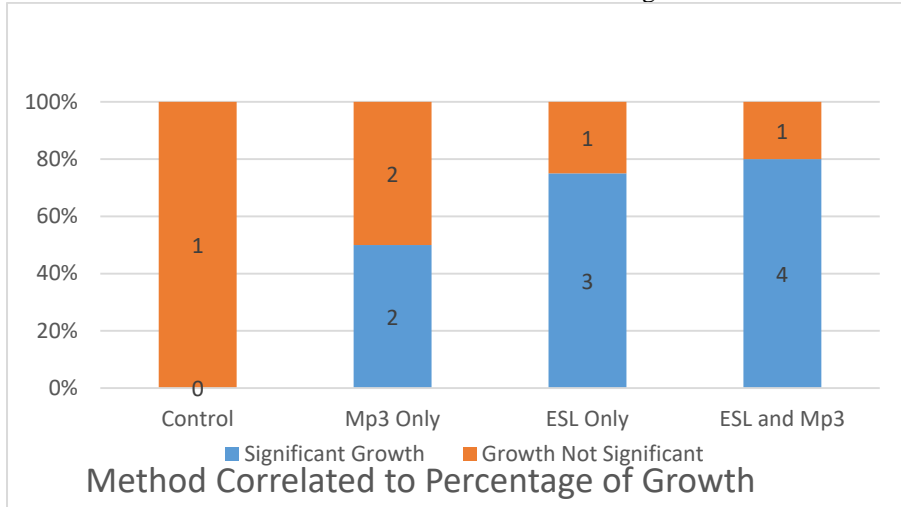
Participant #	Test 1 (SPL)	Growth (Test 1-2)	Test 2 (SPL)	Growth (Test 2-3)	Test 3 (SPL)	Total Growth	Note
4-Replication	315 (0)	1.66%	319 (0)	4 SPL Levels	457 (4)	4 SPL Levels	Mp3 Only
5- Replication	88 (0)	0%	88 (0)	46.47%	200 (0)	46.47%	Mp3 Only
7- Replication	297 (0)	1 SPL Level	340 (1)	1 SPL Level	----	1 SPL Level	ESL Only—No Intervention
9- Replication	253 (0)	1 SPL Level	338 (1)	1 SPL Level	----	1 SPL Level	ESL Only—No Intervention
13- Replication	88 (0)	0%	88 (0)	48.13%	204 (0)	48.13%	ESL & Mp3 Intervention
14- Replication	88 (0)	31.12%	163 (0)	19.09%	209 (0)	50.21%	ESL & Mp3 Intervention
20- Replication	195 (0)	41.49%	295 (0)	4 SPL Levels	465 (4)	4 SPL Levels	ESL & Mp3 Intervention
31-Pilot	204 (0)	----	----	0%	204 (0)	0%	Control—No Intervention
37-Pilot	363 (1)	----	----	7%	368 (1)	7%	ESL Only—No Intervention
38-Pilot	329 (0)	----	----	1 SPL Level	367 (1)	1 SPL Level	ESL Only—No Intervention
41-Pilot	273	----	----	12%	303	12%	Mp3 Only
44-Pilot	377 (1)	----	----	4 SPL Levels	471 (4)	4 SPL Levels	Mp3 Only
46-Pilot	337 (1)	----	----	76%	390 (1)	76%	ESL & Mp3 Intervention
47-Pilot	259 (0)	----	----	26%	322 (0)	26%	ESL & Mp3 Intervention

(Bellah & Garcia, 2016)

Analyzing the Linguistic Growth Chart, the researchers found that two types of language learning methods were successful for significant growth even in a short amount of time for both the pilot and replications studies. ESL classes showed significant growth for 75% of the participants; those who attended only ESL classes in the ten-week period achieved 1 full SPL level (Bellah & Garcia, 2016). For the participants who completed the study, using the Mp3 intervention in conjunction with ESL classes exhibited the most significant growth. 80% of the participants who used the intervention and attended ESL classes attained a significant percentage of growth within their initial SPL levels where 25% of these participants increased by 4 SPL levels and 75% of the participants increased by a significant percentage within their initial SPL level (Bellah & Garcia, 2016).

For the participants who only utilized the Mp3 intervention, 50% of the participants showed significant growth and increased by 4 SPL levels within the ten-week intervention while 50% of these participants did not have significant linguistic growth in ten weeks (Bellah & Garcia, 2016).

Chart 4: Method Correlated to Percentage of Growth



(Bellah & Garcia, 2016)

Mimicry

When considering language learning, mimicry is a natural part of the language learning process. Young children mimic their parents as they acquire their first language. Second language learners too mimic language and look to more capable peers for support when they are asked questions in the L2. This revelation became quite apparent in the replication study between the first and second Best Plus test administrations. Due to space limitations and availability of participants, the researchers chose to deliver the first Best Plus evaluation in one of the participant’s apartments. This was necessary as the participants lived in the same apartment community and did not have transportation to alternative locations. As one researcher attained demographic and qualitative information from the participants, the certified Best Plus evaluator assessed participants using the Best Plus Language Assessment. Due to lack of space, both of these activities took place in the same room. However, when the researchers gave test 2, all of the participants were not in the same room. One person came in at a time, and the researchers had to go find several of the participants in the living community, so the environment was the same with the exception of testing the participants in the same room as others awaited their turn.

After administering test 2, the researchers found that one-third of the participants scored significantly lower on test 2 than they did on test 1.

Initially this baffled the researchers, until they assessed the environment and qualitative data (Bellah & Garcia, 2016). The researchers found that in test one, participants were able to listen to the Best Plus assessment as it was given to previous participants. The first six questions are the same on each exam to establish a baseline, so the participants were able to listen and mimic answers provided by those who took the oral exam before they did. This invalidated the baseline previously established for three of the participants. The researchers found their second test to be a valid baseline as they tested without hearing previous participants and had not engaged in the intervention at that time.

Chart 5: Invalid Baseline Test

Participant #	Test 1	Growth (Test 1-2)	Test 2	Growth (Test 2-3)	Test 3	Total Growth within same SPL Level	Note
1	163	0%	88	34.02%	170	34.02%	Invalid Baseline 1-- Decrease from Test 1-2
3	204	0%	88	--	No Show	0%	Invalid Baseline 1-- Decrease from Test 1-2
6	204	0%	88	76.76%	273	76.76%	Invalid Baseline 1-- Decrease from Test 1-2

(Bellah & Garcia , 2016)

Of the three participants who had an initial invalid baseline assessment, 66.66% did not show significant growth after the Mp3 intervention (Bellah & Garcia, 2016). Participant 1 did show 34.02% overall growth within SPL level 0; however, this would not be considered significant based on the researchers' formula for significant growth within an SPL level (Bellah & Garcia, 2016). Participant 3 did not complete the intervention or final assessment to show overall growth, but participant 6 did show significant growth within the same SPL level based on the established formula. Although this participant indicated that she mimicked answers on

the initial baseline assessment (Test 1), she did show growth from the more valid baseline in test 2 to her overall growth after the ten week Mp3 intervention. While she still did not achieve a full SPL level of linguistic growth, she did show significant gains in the lowest level of beginning ESL ratings (Bellah & Garcia, 2016). With continued intervention, the researchers predict that she could attain an SPL level of growth with at least another 10 weeks of Mp3 lessons, which would be more consistent with CAL's (2015) suggested guidelines of 80-100 hours of language learning.

Motivation—The “Moo Say” Effect

Krashen's (1981) affective filter hypothesis states that for language learning to occur, motivation and self-efficacy levels must be high while anxiety remains low. This lowers the affective filter and allows learning in to the learner. However, if motivation is low and anxiety is high, the block goes up, and learning does not occur (Krashen, 1981). In this current study, the researchers found this theoretical frame to be very significant concerning participant language growth in a short ten-week period. The theme of motivation emerged from the qualitative data collected in both the pilot and replication studies. Participants shared that they felt more comfortable listening to the lessons on the Mp3 player and practicing English at home. Then when they attended ESL classes or practiced English in public, they had more confidence and attempted to use the language more. Participants 3, 4, 5, and 6 indicated that they learned a great deal from listening to the Mp3 players and gained confidence throughout the ten-week intervention. Participant 13 had difficulty understanding the English portions of the recorded lessons, and Participant 20 indicated that he did not have anyone with whom to practice English and felt this would be more beneficial after listening to the Mp3 lessons.

In the Pilot study, 'Moo Say' (alias) began with a baseline Best Plus score of 377 (SPL 1) (Bellah & Garcia, 2016). During her ten-week intervention, she did not attend ESL classes or engage in any other type of language learning beyond using the Mp3 strategy. After the intervention, 'Moo Say's' ending score on the Best Plus test was 471 (SPL 4) (Bellah & Garcia, 2016). Her score increased 3 SPL levels in a mere 10 weeks. While the researchers found that ten weeks is a short period to make significant language gains using any intervention, 28.6% of the participants in both the pilot study and the replication study showed significant growth by moving up one or more SPL levels from the baseline to the post test (Bellah & Garcia, 2016). After analyzing the qualitative observations and participant comments, the researchers found that this increase has a direct correlation to increased confidence of the participant (Bellah & Garcia, 2016). It is not that the baseline score is invalid; this effect was caused by participants not

feeling confident in answering questions in English and their affective filters being raised by stress and anxiety levels (Bellah & Garcia, 2016). Using the Mp3 players in the privacy and comfort of their own homes, the participants were able to listen to English and practice the language in a stress-free environment where making mistakes was an acceptable part of the learning process. Participants who moved up 3-4 SPL levels in ten weeks may have had more background knowledge than even they realized; however, going through the Mp3 intervention unlocked the English the participants knew while simultaneously lowering their affective filters. The researchers coined this the 'Moo Say' effect after analyzing the event and observing it happen to 28.6% of the participants in both the pilot and replications studies.

Implications

Logistics

When considering the most appropriate assessment to rate linguistic proficiency for adult second language learners, the Best Plus Test is reliable and valid; however, the researchers found limitations concerning the Student Performance Level (SPL) indicators. While CAL (2015) only recognizes full levels of growth as significant after a minimum of 60 hours of instruction, the researchers in this study needed to consider what significant growth looked like for a ten-week intervention. This necessitated the creation of a mathematical equation to illustrate growth within SPL levels as significant for the abbreviated exposure to the intervention.

Additionally, working with refugee populations entails a high rate of mobility and attrition within the research study. Even using an abbreviated period of data collection, observations, intervention, and testing resulted in high attrition rates. In both the pilot and replication studies two-thirds of the original participants did not complete the study (Bellah & Garcia, 2016). The researchers found that checking in with participants bi-weekly did not affect attrition rate from the first study to the second. Therefore, using this demographic of participants may result in smaller numbers to consider within future or similar studies.

Technology is also an area of logistical consideration. Since the ESL intervention required participants to use Mp3 players to learn English, the researchers had to frequently check in with participants to ensure that the technology was working, components were not lost, participants were able to use and charge the devices each week. While the use of the technology offers more availability and breadth to reach adults learning English, there must be a support system in place to ensure technological issues can be taken care of in a timely manner so that the language learning is not interrupted.

Linguistic Growth

The focus of this research endeavor was to look at the effectiveness of specifically using Mp3 recordings to teach English to adult second language learners. Inevitably, other methods were included as the participants naturally engaged in ESL classes. The researchers did not want to bar participants from engaging in these classes as this could have been detrimental to the learning process. Ultimately, the researchers found that a combination of using the Mp3 intervention along with ESL classes made the most significant impact in language proficiency growth (Bellah & Garcia, 2016). When considering the next best option, it is important to note that even though more of the participants who attended ESL classes only showed growth, the level of growth was much greater in the group who used only the Mp3 intervention (Bellah & Garcia, 2016). All of the participants who showed growth using ~~the~~ only the Mp3 intervention advanced 3-4 SPL levels in a ten-week period, which illustrates the level of impact the Mp3 intervention had for these participants. The participants who showed growth in the ESL classes group showed 25% more of the students attained growth to another SPL level, which is substantial growth, but the impact was significantly lower than the Mp3 group as each participant only went up one SPL level (Bellah & Garcia, 2016).

Using a formula created by the investigators, the researchers were able to show significant growth within the same SPL level. While not every participant can achieve a full SPL level of growth in a given period, it is important to understand what growth within a level means. The researchers established that 50% growth within an SPL level was significant when they considered the timeframe of the intervention; 60% of the participants who utilized both ESL classes and the Mp3 intervention showed significant growth within their initial SPL level even though they did not attain the next SPL level during this period (Bellah & Garcia, 2016). This indicates that with more time and opportunity these participants would also be successful in attaining a higher SPL level and continuing to improve their English language skills.

Mimicry

The implications concerning mimicry are complex. Due to space availability and needing a centralized location that all participants could reach within walking distance, the researchers had very limited space to meet with and gather data from the participants. This allowed participants to hear others before them answer questions on Test 1 and mimic responses on their exam. As the research progressed, the investigators found it necessary to make accommodations for this irregularity, and it was an easy solution to fix the issue of participants being able to mimic answers on evaluations.

However, this posed the much more intricate issue of using mimicry as a language learning tool. Practicing aloud with the Mp3 recording and mimicking the lessons was the initial and first step of participants to using the correct English phonology and being able to construct sentences. Without realizing this component when the Mp3 intervention was created, the researchers were including a tool that the participants naturally identified with and used in the second language acquisition process, which is similar to the natural process of first language acquisition. Just as infants imitate sounds and then progress to repeating words their parents say in context, so too did the participants in this study demonstrate the value and their need to mimic language before acquisition and growth in linguistic proficiency.

Motivation—The ‘Moo Say’ Effect

The key to second language learning is being able to use the language communicatively and for a purpose in an authentic context. Following the theoretical frame of Krashen (1981), the researchers found that learning language using the Mp3 intervention greatly reduced the levels of anxiety English Language Learners (ELLs) experience as they attempt to learn English as a second language thus lowering the affective filter and allowing knowledge to reach the learner. The ‘Moo Say’ effect illustrates that many ELLs have more background knowledge and English vocabulary than they realize, or they may have raised affective filters that inhibits them from utilizing the language skills that they have acquired. The Mp3 intervention to teach English honored the participants’ silent period and allowed them to practice in a safe environment thus lowering the affective filter (Krashen, 1981). Additionally, where ELLs may go to an ESL class once or twice a week and not engage in language learning other than those few hours, the Mp3 intervention allowed participants to practice language whenever it was convenient and on a more consistent basis. Second language learners no longer had to practice words learned in class from memory but could listen to the correct pronunciations and continuously improve instead of risking learning the word incorrectly. The safety of using the Mp3 player at home and its level of availability increased participant motivation and confidence, which, in turn, led to impactful gains in SPL levels for 50% of the participants using only the Mp3 intervention and 80% of the participants who coupled the intervention with ESL classes. In total, 42.9% of all participants who used the Mp3 intervention and completed the study showed significant linguistic gains in a ten-week period, which indicates that this method is effective and can be replicated in other language learning programs.

Limitations

As is often the case when using technology, glitches can arise. After uploading the 35 lessons to the MP3 players, the researchers discovered that on a few participants' players, the first 8 lessons were missing. The Graduate Assistant returned a week later to upload the missing 8 lessons causing some participants to have to use lessons out of order initially.

The ability to use technology, with minimal support, was a necessity for participant's daily participation. Some were more reluctant than others to use it or were forced to take breaks from daily listening because of a misplaced player. As a result, it was apparent that not all participants who completed the study used the MP3 lessons daily. In fact, one man told researchers that he lost the player after two days and never used it again. Perhaps it was misplaced, or perhaps the participant just did not want to use the lessons. Either way, the question of if the MP3 player was used, and how often during the intervention period it was used, was something that was not added to the qualitative survey. Researchers only had minimal knowledge that this was happening when a participant would make an impromptu remark.

Because mimicking by some participants skewed test 1 results, future studies of this nature will require participants to be tested alone in a room where no other test takers are present.

During test 2 an interpreter was hired to aid researchers in collecting information for the qualitative survey. It was later discovered through another interpreter used in test 3, that the interpreter for test 2 was speaking to participants in Burmese, and not in Karen. This leaves open the possibility that participants in test 2 did not fully understand the questions asked in the qualitative survey which could have skewed the qualitative data collected.

The qualitative surveys originally included Likert scales with smiley faces and frowning faces to better indicate to participants what each number signified. These smiley and frowning faces were left off of the survey copies that were used with participants by mistake. It was clear by the confusing data that was collected that participants did not fully understand the Likert scales and did not rate his/her experiences accurately.

Despite efforts to increase the number of participants that were recruited and completed the study, the number of completions still remained at 7, with 14 total in the combined pilot and replication studies. This number is still not sufficient to create data that is as reliable and generalizable as is ideal.

Conclusion

In summation, the Mp3 intervention was highly effective for adult second language learners to increase their linguistic proficiency in a short period of time. While there are logistical considerations to implementing this method, the benefits of using this technology as a continuous language support greatly outweigh any negative factors. Using recorded English lessons with native language translations on an Mp3 player allows adults to learn English in a safe environment at their own pace; combined with ESL classes, the learners are able to make significant gains in short amounts of time. Consistent use of the Mp3 intervention increases confidence and lowers the affective filter, both of which unlock the English language for adults who fear ridicule and have little time to devote to language learning. This intervention was found to be a valuable support to adult second language acquisition.

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