Enhancing Control of the Abdominal Region to Address L2 English Learners' Segmental Pronunciation Problems

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Abstract

In L2 English pronunciation instruction at the segmental level, anatomically the emphasis has been almost exclusively on the learners' articulatory functions. However, an overlooked aspect of instruction is to also encourage learners, especially those with more syllable-based L1s, to use their abdominal region to assist them in pronouncing certain problematic sounds, particularly certain long vowel/diphthong sounds and voiced consonants. There appears to have been no research examining the effectiveness of such instruction incorporating abdominal control, so a study was conducted tracing the development of two learners, through case studies, when taught with this approach. The learners' progress was observed and chronicled by the researcher, and also quantified through the use of a reading aloud test administered pre- and post-instruction. The study found that the learners progressed with many of the problematic sounds (some, as observed by the researcher, instantaneously once shown how to use their abdomen to say the sounds), although slightly less so with others. Further, some of these gains were maintained in a final, delayed administration of the reading aloud test. The findings from this study flag the usefulness of further investigating the method in future on a larger scale, preferably through an experimental study.

Keywords: Enhanced abdominal control, English learners, Pronunciation instruction, Segmental sounds

Introduction

In English pronunciation instruction at the segmental level (i.e., where the focus is on the pronunciation of single sounds, or phonemes), anatomically the emphasis has been almost exclusively on the learners' articulatory functions (e.g., Celce-Murcia, Brinton & Goodwin, 1996, 2010; Richards, 2015). With the focus on these functions, second language (L2) learners of English are instructed through the use of explanations, diagrams and demonstrations of the various mouth, tongue and lip placements required for producing the different vowel and consonant sounds of the language (Kelly, 2000; Nation

& Newton, 2009).

Much of this is a useful endeavor as shown, for example, through meta-analyses of pronunciation studies by Lee, Jung and Plonsky (2015), and Saito (2012), of the benefits learners can gain from such explicit instruction. However, for many learners, instruction limited to just the articulatory functions is often not enough to overcome their difficulties in grappling with many aspects of spoken English (Messum, 2009). Being a stress-timed language, English is characterized by the distinct durational differences between its long and short vowel sounds (in vowels and diphthongs). To produce the longer sounds commonly requires control of the expiratory organs, through a measured contraction of the upper abdomen. This abdominal contraction then moves the diaphragm upwards in promoting a steady flow of air from the lungs to maintain the length of the sound. These longer sounds are especially challenging for learners from more syllable-timed L1s such as Mandarin, Cantonese, Thai, Vietnamese, Japanese and Spanish, where the vowels tend to be more equal in length (Chan & Li, 2000; Eastman, 1993). At the segmental level, this difficulty is particularly highlighted when these English sounds are positioned in closed syllables, with some common examples being in the vowels /i:/ as in *cheap* (often pronounced similarly to /ɪ/, as in *chip*), and /u:/ as in *moon* (with /u:/ shortened to /ʊ/, the vowel sound in words like *full*), and the diphthong /eɪ/[1], as in *Jane* (often said as /æ/, as in *Jan*) (Avery & Ehrlich, 1992; Axelrod, 1974; Chen, 2015; Chan & Li, 2000; Kelly, 2000; Kenworthy, 1987; Li & Sewell, 2012; Ohata, 2004). In such situations, much of the speaker's effort is expended on producing the syllable-initial consonant and being mindful of the need to yet produce another consonant in syllable-final position (coupled with the awareness of rapidly dwindling reserves of breath), the speaker often cuts the vowel/diphthong sound short for expediency; despite minor differences in vowel quality, the longer vowels then sound more like their shorter counterparts.

Also commonly problematic for learners from these more syllable-timed languages are many of the English voiced consonants, sounds which generally require a sharp burst of muscular effort from the abdomen/diaphragm. Underhill (2005) points out that this effort is needed to drive vibration of the larynx and also expel air from the mouth, both of which are required to make the voiced sound. Of course, the difficulty level of such sounds depends on various factors, especially including whether the sound is absent from, or present in, the learner's L1 (Best & Tyler, 2007; Flege, 1995). However – and using broad brush strokes here to account for the variety amongst learners' L1s, although with an emphasis on Mandarin, Cantonese, Thai and Vietnamese speaking learners – voiced consonants which cause difficulties for many learners from more syllable-timed L1s include the following voiced fricatives: (1) /ʒ/, in words such as *usually* and *genre* (commonly replaced by /dʒ/); (2) /z/, especially in syllable-initial position, in items such as *zoo* and *Zoe* (often replaced by /dʒ/, /r/ or /s/); and /ð/, in words like *the, that* and *brother* (replaced usually by /d/) (e.g., Avery & Ehrlich, 1992; Axelrod, 1974; Chan & Li, 2000;

[1] For Thai speakers, Wei and Zhou (2002) found /eɪ/ often pronounced as /e/.

Chen, 2015; Deterding, 2006; Kelly, 2000; Kenworthy, 1987; Li & Sewell, 2012; Patthamawadee & Bhornsawan, 2017; Wei & Zhou, 2002). Additionally, the unvoiced fricative /θ/, as in *thin* and *mouth* (often replaced by /f/ in word-initial position, and by /s/ in word-final position), commonly causes problems (Avery & Ehrlich, 1992; Chen, 2015; Deterding, 2006; Kelly, 2000), as it is absent from many learners' L1s, and it, too, relies heavily on the abdomen for a sudden expulsion of air. Also commonly problematic for learners who underuse their abdomen are syllable-final voiced consonant sounds, especially /n/ as in *nine*, /m/ as in jam, and /v/ as in *five*, which are often altered or dropped (Avery & Ehrlich, 1992; Chen, 2015; Chan & Li, 2000; Ohata, 2004; Patthamawadee & Bhornsawan, 2017; Wei & Zhou, 2002), particularly following a long vowel sound.

Cantonese and Thai speakers also tend to have problems with the voiced fricative /v/, as in *very*, Cantonese speakers often substituting it with /w/ (Chan & Li, 2000) and Thai speakers with /f/ (Wei & Zhou, 2002). Additionally, these learners, along with Vietnamese speakers, often face difficulties pronouncing consonant clusters (Chan & Li, 2000; Chen, 2015; Wei & Zhou, 2002) (again, brought on partially by the need for a sustained expiration of air), a problem exacerbated in words containing a number of syllables, words such as *prevent* and *protect* for Cantonese speakers, for example.[2]

Use of the Abdomen to Help Remediate Difficulties

One of the very few theorists to highlight the importance of the abdominal region in facilitating L2 English learner pronunciation is Messum (1998, 2009). Messum has talked about it in terms of improving learners' pronunciation in sentence stress, where in English, words are routinely stressed and unstressed. He has described a series of breathing exercises designed to help the learners produce the loudness required to stress syllables in sentences using "strong abdominal support" (Messum, 1998, p. 32), pointing out (Messum, 2009) that his work is based on that of L1 speech therapists from Scandinavia (Thyme-Frokjaer, 2001), Germany and the UK.

I realized the importance of using the abdomen and diaphragm to produce many English sounds in the early 1990s, chiefly from observing the difficulties by my L1 Mandarin speakers in Taiwan when saying certain English phonemes, and comparing the mechanics of how they were saying these sounds with how I was able to accomplish it. Consequently, I refined methods of teaching learners to produce these sounds, and also included relevant advice and activities in a number of English learning textbooks (e.g., Yeldham, 2000, 2004).

[2] As another example, there is a building where I work called the Knowles Building, and I've noticed that *Knowles* is virtually impossible for many non-native English speakers to intelligibly pronounce without sufficient abdominal control, as the consonant cluster follows a long vowel sound.

Since the early 1990s as a teacher in Taiwan, Australia and Hong Kong, I have addressed these difficulties in learners from various L1 backgrounds[3], and it has been clear that many learners show immediate improvement with the problematic sounds once they realize the need to enhance the use of their abdomen. The technique has also been fruitful for the students in my graduate phonology courses, when they have taught individuals with various pronunciation difficulties invited to our classes for practical teaching purposes, and also in class exercises where my graduate students diagnose and remediate each other's weaknesses.

The key advice for producing long vowel sounds (elaborating on the description of this earlier in the article) is for the speaker to draw the upper part of the front section of the abdomen inwards and hold it in that position. Above this area of the abdomen is the diaphragm, the flat concave muscle that separates the abdominal cavity from the lungs, so drawing the abdomen inwards forces the diaphragm slowly upwards, thus regulating air flow from the lungs to allow the learner to sustain the sound for a long duration. To produce voiced consonant sounds requires brief inward movement of this same area of the abdomen, forcing a rush of air from the mouth and the larynx to vibrate. Relaxation of the shoulders is also required to free the airways for the air to readily escape. To heighten their own awareness of their performance, the teacher can direct the learners to feel the rush of air when articulating the voiced consonants by placing the back of their hand in front of their mouth. Also, to highlight to the learners their abdominal movements, for both consonants and long vowels, the students can place their hand on the top part of their abdomen to feel the various muscle contractions. Advice on articulatory movements in tandem with this guidance on abdominal control is also useful at this stage. One important piece of advice for the learners is to concentrate on allowing the long vowel sounds to run their course. If, for example, a learner has the tendency to cut short the /eɪ/ in a closed syllable word such as *plane*, it can help to encourage the learner to say the open syllable, *play*, letting the vowel sound /eɪ/ run its full length (which is easier to do with an open syllable), then almost as an afterthought, to casually add the /n/ consonant.

Note that prior to this demonstration stage of the instruction (which also ideally involves the learners listening to how the sounds are produced in words and sentences), it is advised to have the class chorally repeat words containing the sounds notoriously difficult for them to pronounce. In my classes, I choose words such as *cheap*, *Jane*, and *mother*. This preliminary stage serves as a general diagnosis of the class for the teacher. These choral repetitions also lead students with problems to notice these difficulties, mainly by comparing their performance with that of their more proficient classmates (Schmidt, 2001). I've also observed that if most, or all, of the students in the class get a sound wrong, they often notice it themselves en masse.

To reinforce learning after these initial stages of awareness raising, listening, and work on pronunciation mechanics, useful further pedagogical stages (e.g., Celce-Murcia, et

[3] Mainly Mandarin and Cantonese, but also notably Japanese, Vietnamese, Thai and Spanish.

al., 2010) involve controlled and guided use of the sounds, followed by communicative activities. Controlled/guided use of the sounds can involve minimal pairs exercises, and reciting sentences and engaging in dialogs containing the problematic sounds, followed by activities such as information gap. An excellent guided task for practicing multiple sounds reliant on adequate abdominal control, is pronunciation squares. An example of a more communicative task is a story telling activity from Celce-Murcia, et al. (1996), where different groups of learners in the class devise and tell a story drawn from a list of words, with each word from the list containing the phoneme sound or sounds being targeted. Note that theoretically, the movement through these various instructional stages, from noticing/demonstration, to controlled and guided use to more communicative use, echoes skill acquisition theory (Dekeyser, 2007), where the learning moves through stages from declarative knowledge ('knowing what') to procedural knowledge ('knowing how'). Appendix 1 demonstrates such a sequence of activities for learners to practice their discrimination of the vowel/diphthong sounds /eɪ/, /æ/ and /e/, and also /i:/ and /ɪ/, along with the final consonant /n/ (versus no final consonant). Activity 1, *Pronunciation of Sounds*, involves the recitation of words and sentences, along with a short minimal pairs exercise. Activity 2, a *Pronunciation Squares activity*, is then a guided task, and this is followed by a more communicative task, Activity 3, a *Story Telling activity*.

Currently little is known empirically of the benefits of teaching learners to use their abdomen to address segmental difficulties. Therefore, I undertook a small-scale study to investigate this.

The Study

This study, which constituted part of a larger research study, examined two learners through case studies as they were taught to enhance the use of their abdomen to produce many of the vowel/diphthong and consonant sounds outlined in the introduction section of this article. One of the learners was an L1Vietnamese speaker (Jenny) and the other an L1 Mandarin speaker (Frances). They were both graduate students in their early 20s enrolled in a voluntary summer pronunciation course of 18 learners at university in Hong Kong. I taught the course, which lasted for one week, Monday to Friday, for two and a half hours each morning.

The learners took a pre-test near the beginning of lesson 1 of the course, where they read two passages with words and sentences containing many of the sounds targeted in the research (see Appendix 2). I then taught them how to say these sounds for approximately an hour and a half (a relatively short time because it was assumed they would improve almost instantaneously once shown how to produce the sounds). Then, towards the end of that lesson, they took a post-test, where they read the same two passages as in the pre-test. They received some further practice revising their use of these sounds during the remaining four days of the pronunciation course. Then finally, as a delayed post-test, they again read these two passages four days later, at the conclusion of the course.

The research questions guiding the study were:

1) Do the learners improve after a short period of intervention?

2) If the learners improve, in which sounds do they improve most?

3) Are any such improvements maintained by the learners? (i.e., in this study, maintained over the remainder of the pronunciation course where some limited revision work of the sounds also takes place.)

Data Dollection

Data was gathered through:

1) The pre-test, post-test, and final post-test reading tasks;

2) Researcher observation of the learners' progress, recorded in a researcher journal;

3) A final class evaluation sheet filled out by the learners (a requirement of the course) to glean their views on it.

Instruction of the Sounds

After the pre-test, the following sounds were taught in the first lesson of the course (and then included in the analysis, to see whether the learners had progressed in their use of them), in the following order: vowel/diphthong sounds /i:/ (as in *cheap),* /eɪ/ (*Jane*), and /u:/ (*moon*), particularly as used in syllable-medial position; and consonant sounds /ʒ/ (*usually*), /z/ (zoo), /ð/ (*brother*), /θ/ (*thin), /v/* (*vase*), and consonant clusters, especially word-initial /pl/ and /pr/.

Consistent with the procedures outlined in the literature review of this article, the learners were introduced to each sound by first saying sample words containing the sound, which commonly highlighted to them their difficulties in producing the sound. They were then instructed how to say the sound, in terms of mouth positioning, by the teacher drawing analogy to similar sounds used in different contexts and, most crucially, through how to correctly use their abdominal region. They then engaged in controlled practice of each sound, typically reciting words and sentences containing the sound then engaging further in dialogs and/or minimal pairs exercises. Typical exercises used are shown in Appendix 1, Activity 1.

After the post-test, there was approximately one hour of activities for the students to practice use of the sounds, spread over the remaining 10 hours of the course. In lesson 2, the students spent 20 minutes reviewing how to say the sounds, then 30 minutes doing a fluency square activity (see Appendix 1, Activity 2) chiefly practicing the sounds /i:/, /eɪ/ and /θ/. Then in lesson 4, they spent another 15 minutes reviewing the sounds through a minimal pairs activity (26 minimal pairs questions, some comparing two similar words and some comparing two similar phrases), where students, in pairs, took turns saying the word/phrase, with their partner then identifying which one they said. (Note that these final

four lessons also included learning various aspects of connected speech and intonation, practice in delivering a speech, and learning to perceive different accents of English.)

Data analysis

The relevant sounds were marked on the transcript of the texts (those taught in the course using the abdominal control method). A rater then analyzed the learners' pronunciation of the sounds guided by these markings of them on the transcript. Sounds were scored as one of three categories: (1) standard pronunciation, (2) slight deviation (i.e., from standard pronunciation), and (3) substantial deviation. After analyzing the two learners' performance for the pre-test, post-test and final post-test, a second rater also independently scored Frances' three tests; interrater reliability was found to be 84%, an acceptable figure.

For the qualitative data gathered, this was sorted and categorized into themes broadly relevant to the areas investigated in the research (Creswell, 2012).

Results

Research Questions 1 and 2

The most conspicuous result, from my observation of both learners (as noted in my researcher journal), was that for many of the sounds they tended to improve somewhat when shown how to articulate them (i.e., use correct mouth movements) – but that they then improved much more markedly once they were aware of the need to enhance the use of their abdomen to say the sounds (and used their abdomen in the way instructed). This was most apparent for both learners with the first two of the sounds taught, vowel /i:/ and diphthong /eɪ/. It was also very clear for the /z/ sound for Jenny, and for the voiced and unvoiced 'th' sounds, /ð/ and /θ/, for Frances.

The analysis of the reading task from pre-test to post-test underscored most of these improvements specified above (see Tables 1 and 2). Both learners improved their use of /i:/ and /eɪ/. In particular here, for Frances' production of /i:/, on the pre-test she only had standard pronunciation for 14 of the 22 instances of this sound in the texts, with 6 slight deviations and 2 substantial deviations. On the post-test, though, she had 18 correct, with only 3 slight deviations and 1 substantial deviation. Francis also improved on both 'th' sounds in this reading task. However, there was no evidence of improvement in Jenny's production of /z/.[4]

Therefore, addressing Research Question 1, my researcher observations, along with the pre- to post-test results of these reading tests, indicated that both students benefitted from the main component of the segmentals course (the intensive one and a half hours of instruction in the first lesson), particularly the abdominal control aspect of it. These learner

[4] One further area of segmentals in the pronunciation course was consonant clusters. These are not included in the reading test results because neither student had difficulties with them (words such as *problem, prevent* and *pleasure*).

improvements were especially so in the sounds mentioned above (/i:/ and /eɪ/ for both learners, and /ð/ and /θ/ for Frances) – which addresses Research Question 2.[5] (Note that the learners did not improve in some of the sounds simply because these were not problematic for the learners in the pre-test, e.g., /u:/ and /v/ for both learners.)

Table 1: Jenny's results for the three reading tests

	/i:/	/eɪ/	/u:/	/z/	/ð/	/θ/	/v/	/ʒ/
Maximum score	22	11	21	32	17	3	12	2
Pre-test								
Standard pronunciation	18	8	20	27	16	1	12	1
Slight deviation	2	1	1	1	1	2	0	0
Substantial deviation	2	2	0	4	0	0	0	1
Post-test								
Standard pronunciation	18	**10**	20	27	16	1	*11*	1
Slight deviation	**4**	**0**	1	1	1	2	*1*	0
Substantial deviation	**0**	**1**	0	4	0	0	0	1
Final Post-test								
Standard pronunciation	18	10	20	**28**	16	1	**12**	1
Slight deviation	4	0	1	1	1	2	**0**	0
Substantial deviation	0	1	0	**3**	0	0	0	1

Improvements from preceding test shown in bold; areas of decline from preceding test shown in italics

[5] The students' course evaluations also endorsed the usefulness of learning the segmentals, although without specifying the benefits of learning the abdominal control (but which was probably the key aspect of that segmentals component). Jenny nominated the segmental pronunciation instruction as the most useful component of the course. Frances highlighted learning how to say the sounds as one of the three most useful components of the course (along with learning tones and to understand different English accents).

Table 2: Frances' results for the three reading tests

	/i:/	/eɪ/	/u:/	/z/	/ð/	/θ/	/v/	/ʒ/
Maximum score	22	11	21	32	17	3	12	2
Pre-test								
Standard pronunciation	14	10	21	31	11	0	12	0
Slight deviation	6	1	0	1	6	3	0	2
Substantial deviation	2	0	0	0	0	0	0	0
Post-test								
Standard pronunciation	**18**	**11**	21	**32**	**14**	**2**	12	0
Slight deviation	**3**	**0**	0	**0**	**3**	**1**	0	*1*
Substantial deviation	**1**	0	0	0	0	0	0	*1*
Final Post-test								
Standard pronunciation	*16*	*9*	21	*29*	14	2	12	**1**
Slight deviation	*5*	*1*	0	*3*	3	1	0	**1**
Substantial deviation	1	*1*	0	0	0	0	0	0

Improvements from preceding test shown in bold; areas of decline from preceding test shown in italics

It must be noted, however, that some of the learners' problems remained in the post-test. For example, Frances still had difficulties with /ʒ/, and Jenny's use of /z/ did not improve, as mentioned above – despite showing improvement (as noted in the researcher observation) when introduced to use of the abdomen. This lack of improvement in the post-test could have been because the reading forced her to attend to a large number of problematic areas at once, where her previous practice of this /z/ sound earlier in the lesson was in far more isolated fashion. The result could also have been because it would probably take time to entrench any improvements after likely years of difficulty saying the particular sound.

Research Question 3

In the final post-test, conducted four days later, Jenny's gains in /i:/ and /eɪ/ endured, and interestingly, she did make slight progress with /z/. By comparison, Frances slipped in some areas, notably the /i:/, /eɪ/ and /z/ sounds, indicating the fragility of her earlier gains in these sounds. For /i:/ her final post-test score still remained above that of her pre-test score, but for /z/ it fell below even her pre-test score, a trend which was similar, marginally, for /eɪ/. By comparison, she maintained her post-test gains for /ð/ and /θ/. So, for Research Question 3, Jenny's gains endured, but this applied to only some of Frances' gains.

Discussion and Conclusion

The study indicated that the segmental instruction, and especially the implementation of the abdominal control method as a key aspect of this instruction, appeared to benefit the two learners in the study in particular phonemic areas. These areas were especially the vowel /i:/ and the diphthong /eɪ/ for both learners, and the /ð/ and /θ for the second learner. These findings, though, are not comprehensive for the gamut of sounds examined because there were some sounds that were not problematic for the learners at the outset of the study. The study also indicated the maintenance of improvements by the first learner beyond the initial period of concentrated segmentals/abdominal control instruction (i.e., over the remainder of the course, when only a small amount of revision of the sounds took place), but a mixed outcome for the second learner over this period.

Obviously, this study was only a small-scale investigation into the effectiveness of teaching abdominal control. However, its results flag the usefulness of further investigating the method. The logical next step in this endeavor would be to greatly increase the sample of learners examined. This would preferably be through an experimental study comparing the progress of an experimental group – one taught segmentals incorporating abdominal control – against a control group taught segmentals in the same way, only minus the abdominal control aspect.

It would also be interesting to examine whether any progress by the experimental group in producing particular sounds endured through the use of a delayed post-test conducted a substantial time after the instruction course; in the current study this aspect was only investigated a short time after the instruction period. Particularly for adult learners, adopting a new set of muscular mechanics for a substantial period after being taught to do so would seem a major challenge. Another question might be whether instruction in abdominal control can bring about improvements – including sustained improvements – for relatively seamless use of these improved sounds in rather authentic speaking tasks. This study was limited not just by its small scale, but also by its use of its quite mechanical diagnostic test involving a structured reading task. A less-structured speaking task, such as having the students speak on a certain topic, could test their pronunciation in a more natural usage situation. Such a story-telling task, though, may reduce researcher control over the sounds being investigated. So perhaps a semi-structured task such as telling a story guided by cartoon pictures may be more suitable – more natural delivery of ideas than a reading task, yet somewhat more circumscribed by the sequence of pictures than free discussion about a certain topic.

Finally, in considering pedagogical priorities stemming from the findings from such research, other factors besides learners' ease of adopting the sounds may need to be taken into account. Jenkins (2000), for example, prioritizes core sounds that L2 users would likely need for mutual intelligibility when English is used as a lingua franca. Jenkins highlights, for example, the importance of correctly pronouncing the vowel /i:/ (as in *beans*), and various consonant clusters, but de-emphases /eɪ/ (as in *cake*) and the 'th' sounds /ð/and /θ/. (Richards, 2015, provides a concise overview of Jenkins' core sounds.)

Another consideration may the functional load of sounds (Catford, 1987; Derwing & Munro, 2015), which considers the potential confounding effect of mistaken phoneme contrasts on communication. For example, the number of words distinguished by the contrast /i:/ and /ɪ/ (e.g., beans/bins) is greater (i.e., higher functional load) than those distinguished by /u:/ and /ʊ/, (e.g., full/fool) (lower functional load). Thus, confusing /i:/ and /ɪ/ probably has a greater likelihood of impeding communication than confusing /u:/ and /ʊ/ (Brown, 1988). In summary then, it would make sense to teach first those relevant sounds which were more readily acquired by learners and which are additionally considered more important for communication, and then leave the other sounds till later.

In summary, this study has signaled (albeit in modest terms) the likely importance of pronunciation instruction incorporating abdominal control into segmental pronunciation instruction. This approach appears to have the potential to enhance English pronunciation instruction in future. Consequently, further investigation of the approach is warranted.

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Appendix 1: Some activities to practice abdominal control

1. Pronunciation of Sounds

A. Sounds /eɪ/, /æ/ and /e/:

Practice saying these words:

Jane Jan Jen sail Sal sell sand send waist west tail tell

Practice saying these sentences:

1) The rain in Spain spans the plains and wrecks one's plans.

2) Nate and Nat made a net to play a set of tennis.

B. Sounds /i:/ and /ɪ/, and /n/ versus no /n/:

Practice saying these sentences:

1) I like to sleep in the cheap seats on the ship.

2) I slipped near the thirteen sheep.

3) Let's meet at two fifteen, not two fifty or three fifteen.

Take turns with a partner saying one word (in questions 1, 2, 3, 4), with your partner identifying the word each time:

1. a) thirteen b) thirty 2. a) slipper b) sleeper

3. a) fifteen b) fifty 4. a) bin b) bean

2. Pronunciation Squares Activity (based on Yeldham, 2000)

This activity will help you practice the sounds/eɪ/ and /æ/; /i:/ and /ɪ/; and final /n/(versus no final /n/).

The table shows how much Jane and Jan won at a casino, and how old they were at the time.

Jane won $15 when she was 13 (years old) (Square 1), and $50 when she was 30 (Square 2).

Jan won $50 when she was 13 (Square 3), and $15 when she was 30 (Square 4).

	13	30
Jane	1 $15	2 $50
Jan	3 $50	4 $15

Take turns with your partner asking each other these questions (in random order):

1. Who won 15/50 dollars when she was 13/30?
2. How old was Jane/Jan when she won 15/50 dollars?

3. How much money did Jane/Jan win when she was 13/30?
4. Did Jane/Jan win 15/50 dollars when she was 13/30?

For example:

Student 1: Who won 15 dollars when she was 13?

Student 2: Jane.

Student 1: Yes, that's right.

Student 2: Who won 50 dollars when she was 13?

Student 1: Jane.

Student 2: No, it was Jan – square 3.

3. Story Telling Activity (Based on Celce-Murcia, et al., 1996)

This activity will help you practice the sounds/eɪ/, /æ/ and /e/.

Form groups of four. In your group choose 10-12 words from the lists below, and create a story using these words in any order. Then read your story to other groups.

/eɪ/	/æ/	/e/
Jane	Jan	Jen
bait	bat	bet
sailing	sat	selling
rain	ran	set
main	man	men
may	mat	met
say	sat	set
same	Sam	send
game	sand	lend
wait	land	wet
whale	bake	back
drain	accept	except

For example:

Student 1: Last week, before I went **sailing,** I **met** a woman named **Jane**.

Student 2: She was **selling** mats at a market with her sister, **Jen**.

Student 3: **Jane** and **Jen** were twins and looked almost the **same**.

Student 4: I also **met** their brother, **Sam**. Then we **ran** to our boat as it started to **rain**.

Appendix 2: The reading test used in the research

Directions: Please read these passages aloud into the recording device.

My name is (*say your name*) _____.

1. Zac, Jack and Jake have all been disappointed lately. Zac is very keen to get a job as a zookeeper. He likes zoos because they help to protect animals. However, he's finding it impossible to get a job in one. That's because he wants to work in Hong Kong, but the only jobs for zookeepers are overseas. Jack can't find a job, either. He's a baker, and bakers have to get up at 3 in the morning to bake their cakes. But Jack's too lazy to wake up that early. Jake's problem is worse. He's always very late for work, and he's been fired from a lot of jobs recently because of it. That almost prevents him from finding the job he really wants. If he finds it, he'll really be over the moon.

2. My brother, James, and I usually put on our boots at night and go outside into our yard. We put some cheap sheets on the ground, and lie down and look up at the moon. Sometimes a third person, my mother Jane, comes along with us, and looking up into the night sky gives us a lot of pleasure. We plan to do it thousands of times in the future. It very much helps to protect our family values.