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Findings of the Action Research in ELICOS Program 2019

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Editorial

Welcome to issue 79 of *Research Notes*, in which we present six papers from the English Australia/ Cambridge Assessment English Action Research in ELICOS (English Language Intensive Courses for Overseas Students) program.

In her introductory article, Professor Anne Burns describes an emerging concept in educational literature: how the experience of confusion can lead to deeper learning. She relates this to the experiences of action researchers in this issue, who, prompted to take action to resolve a classroom dilemma, experienced unexpected benefits in their professional growth and understanding as a result of their inquiry.

This year's participants focus on the teaching and learning of pronunciation, an essential component of meaning-making for the second language learner. These teachers found a number of reasons why pronunciation is neglected in the EFL classroom, such as time constraints, rolling classes or lack of confidence. I must confess myself to being guilty of neglecting this aspect of teaching in my own early teaching career.

The action researchers adopted a variety of approaches to work on their students' pronunciation. Bardella and Lavis decided to integrate skills-based pronunciation practice into a news analysis program, while Howarth worked on developing his own methodology and cascading down his own learning to his colleagues. Morera and Vella, on the other hand, harnessed the students' love of technology and developed a smartphone app for pronunciation practice 'on the go'. Murphy took a more traditional approach and based activities on the phonemic chart, thus familiarising students with a tool for independent pronunciation practice. Constantin used video recordings for self-assessment, and finally, Pain focused on academic listening skills to deepen learners' understanding of key features of pronunciation. It is fascinating to see how this year's cohort of action researchers have drawn on traditional learning, learning-oriented techniques and the use of technology to help learners improve their pronunciation and achieve successful communication.

Embracing 'confusion' through action research

Anne Burns University of New South Wales

Introduction

This issue of *Research Notes* reports on the 2019 Action Research in ELICOS Program, an annual process of action research (AR) carried out by teachers of international students in Australia supported by English Australia and Cambridge Assessment English.

My writing of this short introduction coincides with the arrival of the COVID-19 pandemic, a world-shattering time that most of us in the language teaching world would hardly even have imagined experiencing a year ago when this program was being undertaken. Although the pandemic was not amongst us when the 2019 program was occurring, I had already begun to reflect on the concept of confusion as one that may be apt when considering the various complex experiences of what happens in AR. In the present pandemic circumstances, it seems to me to be an even more apt one to pursue.

The present article confines itself to examining the concept of confusion as it applies to teacher professional learning and, more specifically, learning through AR. The reporting of the 2020 Action Research in ELICOS Program, which is currently in process, is where the impact of the pandemic on the professional lives of the teachers concerned will be much more in evidence.

The concept of confusion

The term confusion refers to a state of uncertainty, unsureness, puzzlement or confliction about what is happening, intended or required. It relates to emotional experiences of indecision, hesitation, doubt and disequilibrium. Confusion is usually regarded unfavourably. However, recent work in relation to learning in educational settings is beginning to see confusion as a necessary trigger to forward movement in conceptualisation, thinking and knowledge development.

Lodge, Kennedy, Lockyer, Arguel and Pachman (2018) argue that learning inevitably involves confronting problems and uncertainty about new concepts. This confusion invokes an emotional response which plays a 'vital role in the integration of new knowledge with prior knowledge' (2018:1). They state that confusion has tended to be identified in educational research as a negative emotion, associated with 'being stuck' cognitively (Woolf et al 2009) and therefore to be avoided. They argue that although reaching a cognitive impasse can certainly lead to frustration, lack of motivation or even abandonment of learning, it can also contribute productively to deeper understanding.

A current body of literature in the field of education points to confusion as a combination of *both* cognition and emotion. As Lodge et al (2018:4) point out: 'confusion in learning needs to be *about* some educational material attempting to be understood by a student (Silvia 2010)'. Consequently, confusion is an affective response related to how a person comes to learn and know something, to which they may react in different ways. Thus, confusion can affect learning positively or negatively depending on the attributes of the learner and whether it is eventually

resolved. Providing learners with support and feedback at an optimal point in the process makes a difference to whether the confusion creates or inhibits learning.

Failure to learn something new means that the challenges encountered in learning may become undesirable difficulties, as when learners experience too much confusion for too long. In such a situation confusion can become insurmountable, lead to anxiety or boredom and thus be detrimental to learning. Desirable difficulties, on the other hand, cohere with the concept of 'productive failure' (Kapur 2015). Productive failure refers to how learning may be enhanced – not so much when learners are given substantial instruction on the content or material to be learned (didactic/top-down learning) – but when they are supported to familiarise themselves with a complex problem or issue through a structured and sequenced process of activities (problem-based/bottom-up learning). Productive failure requires being able to self-regulate and monitor one's own learning (Ohlsson 2011) within a framework of supportive feedback when impasses occur. Thus, as D'Mello and Graesser (2012) argue, in order to become beneficial to learning confusion must be resolved.

Lodge et al (2018) propose a framework that distinguishes states of productive confusion from those of unproductive confusion. In their framework, productive confusion is resolved when it is driven by a 'zone of optimal confusion' (ZOC). Productive confusion leads to a state of disequilibrium in thinking as the learner experiences an impasse in moving forward. However, if learners are then exposed to the kind of structured and supported learning events described above, the impasse and thus the disequilibrium are resolved, which leads to new and deeper learning. Unproductive learning, on the other hand, subjects the learner to a 'zone of sub-optimal confusion' (ZOSOC). Here, supportive learning events are absent, and the learner's disequilibrium results in persistent confusion, which ultimately leads to frustration and disengagement. The implication for teachers is that instruction needs to be contingent or 'just in time', fine-tuned to where learners are in their learning, and open-ended enough for learners to resolve their own problems.

AR and confusion

AR is equally a learning experience where teachers and their students go through a process of investigation and reflection which can lead to understanding teaching and learning in new ways. As the literature illustrates, teachers who engage in AR often experience considerable confusion and disequilibrium as their preconceptions about their research, themselves and their students are challenged. Various recent publications show how disequilibrium and the confusions that arise are productive in leading to deeper learning. Below I provide four examples from different parts of the world.

Talandis and Stout (2015:18), who conducted AR in Japan with low intermediate (CEFR A1) students in a speaking class, reflect on the confusions and challenges – the 'perception gap' – that arose for them in designing and analysing their research:

> At times it felt like nothing we did worked, as we kept seeing the same sorts of problems. The changes we made to our interventions were largely made with this group [of students] in mind. Nevertheless, from our point of view nothing significantly changed in the fall for most of these students. The new activities we tried were hit and miss, and there was no real feeling on our part that this group had gained anything from our efforts.

They go on to describe a process of self-regulating and monitoring their own learning about AR through consulting the literature, shifting their focus from theoretical concepts such as communicative competence onto 'pedagogical concerns' (2015:20) and therefore adjusting their data techniques, and resolving their conflicts 'between

simultaneously being a teacher and researcher' (2015:21). In relation to their own learning they conclude that 'conflict in teacher research has beneficial aspects. It requires us to examine our purpose, question our motives, and refine our methods as the research unfolds' (2015:24).

Yucel and Bos (2015), working with international students in Australia (see also Bos and Yucel 2013), needed to address the pronunciation problems of students at risk of failing their course. They explain how for them doing AR meant 'stepping out of the comfort zone' (2015:35) and re-evaluating their practices as teachers. They reflect on how 'it became evident to us just how ensconced we had become in the so-called comfort zone, and just how far we really did need to step out of it in order to become teacher researchers' (2015:35). They recount how keeping teacher journals as they did their research enabled them to mediate and confront the challenges to their comfort zone, including their collaboration with each other and their empowerment as teachers. The journals provided a reflective tool which became 'crucial in revealing the ways in which we had conceptualized our students, our classrooms and our own roles in conducting research' (2015:37). They reflect that their identities as teachers were transformed by 'investigating systematically, working closely with colleagues, reflecting on practice, coping with setbacks, achieving results and ultimately finding yourself as a teacher researcher attempting things you had never attempted as a teacher' (2015:44).

Uçar (2018) describes how, as a novice teacher in a practicum in Turkey, she struggled with anxiety over her interactions with her students. She was conscious that anxiety when teaching 'may have a debilitating effect on the teaching performance and the students' performance as well' (2018:89). She describes how her 'uneasiness' and lack of self-confidence led her to focus totally on her own emotions while starting a lesson. During the lesson she 'forgot how I had decided to do activities' (2018:91) and avoided giving students feedback on their learning. Her research, which involved peer observation, self-reflective notes, and video recordings led her to intervene in the extreme hesitation and uneasiness she felt in front of her students. She listed her feelings and behaviours at each of the pre-, post- and while-teaching stages and reflected on possible strategies she could use to focus more on her students:

> I practiced [speaking] while I was at home. I pretended that my room was the classroom and I talked to the walls and myself in front of the mirror … I thought that I could not speak English fluently, but my peers observed and commented that I spoke English fluently: this boosted my self-confidence (2018:91).

Uçar's account projects the considerable disequilibrium and confusion she experienced when embarking on her teaching career – her 'hesitation', 'anxieties', 'nervousness' and 'self-doubts' and her 'need to find a way to deal with them' (2018:89). Conducting AR provided a structured, problem-resolving tool which led to positive feedback that eventually helped her to improve her relationship with her students.

Finally, Banda (2009) shows how AR assists a teacher to gain deeper understanding of their students. He taught writing to a group of university students in South Africa. He was concerned about the students' low proficiency and especially perplexed about 'a particular group of students that kept doing badly' (2009:8), even though these students seemed to be supporting each other by working together. Analysing their writing and using individual interviews and focus groups, he learned a great deal about what was hindering his students' learning. He discovered that their previous school learning had focused on written translation of their ideas from their first language, isiXhosa, into English. Consequently, they had relied heavily on technical, and often misguided, use of dictionaries, and confused spoken forms of language with more formal written discourse. He comments that:

> Until this particular study, I did not appreciate the full extent to which the issue of informal speech versus formalized academic writing affected some of my students. Afterwards I became more sensitive to the academic writing problems black students experienced and the efforts they put in to try to alleviate them (2009:20).

Listening to his students enabled Banda to gain much deeper appreciation of his students' writing challenges, to adjust his preconceptions, and to see the problems from their perspectives. As a result, he reflected on how he could provide supportive and structured feedback to help them and introduced them to relevant strategies that improved their writing.

This issue

The teachers' research reported in this issue focuses on the teaching and learning of pronunciation. Each report reflects the dilemmas the teachers experienced in their classrooms and teaching centres as they researched this area. As in previous Action Research in ELICOS Programs, the teachers worked in a collaborative group, meeting face-to-face or virtually, and sharing their insights with me and each other along the way.

Carla Bardella and Shawna Lavis echoed their general concern at their teaching centre that students' pronunciation skills were being neglected and thus were hampering their intelligibility. They understood that many of their colleagues lacked confidence in teaching pronunciation, but that feedback from students indicated that this was a neglected area in the centre's program. This situation led them to learn more about pronunciation and trial classes that received highly positive student feedback. They comment that:

> Planning for and responding to this feedback has allowed us to learn more about effective teaching too. Ultimately, this program has helped us continue to grow as educators and integrate pronunciation practice into everyday lessons. (p.19)

Similarly, in David A Howarth's centre, teachers were not confident in teaching pronunciation. David adopted a two-pronged approach: experimenting with teaching activities that would be effective for students, and using what he learned to provide professional development for his colleagues. He summarises the impact the research had on his own learning:

> My AR has also significantly developed my own pronunciation methodology and practices. My classroom-based research and reflection on my teaching … has expanded my awareness of the constant evolution and development that an English language teacher embarks upon on a daily basis. (p.33)

Katie Morera and Jonathan Vella were conscious that smartphones were 'ever-present' in their students' lives. They aimed to build a self-study tool, PocketPron, that students could use for independent practice outside the classroom. Their challenges included creating a user-friendly site, sourcing images, and making activities accessible. They found their research 'stimulating and educational, inspiring us to try new and different teaching techniques in the future' (p.49).

Kelly Murphy's research was motivated by a puzzling exchange in her classroom with one of her students:

> To be honest, I had no idea what they were trying to express. I waited a moment for the student to self-correct or for another to provide some clarification. On this occasion, however, no such help was forthcoming. "How am I going to get out if this awkward situation?", I wondered. (p.56)

Kelly realised that her students needed help with intelligibility, and she experimented with numerous activities based on use of the phonemic chart. She concluded that the feedback provided by the AR program had enabled her to confront the challenges she experienced along the way:

> I believe that without the structure of this AR program, from the initial application through to the final report and presentation to my colleagues, I would not have completed the project or gained such invaluable professional insights. (p.61)

Renee Constantin was also concerned about her students' intelligibility. She decided to ask them to video-record and then self-assess themselves with a view to increasing their phonological awareness, which led to positive improvements. Renee felt that the program had stimulated her to 'teach in a more meaningful way and allowed me to constantly self-reflect' (p.74).

Ryan Pain focused on the receptive rather than the productive aspects of pronunciation. He believed that improved competence in listening could have an impact on his students' pronunciation. Although he found that focusing on explicit instruction in suprasegmental features led to mixed results in terms of scores, his students felt that they had improved their confidence in their own pronunciation and academic listening. Ryan concluded that: 'Overall, participating in this AR project was a thoroughly rewarding experience. It was devised in response to what I saw was a gap in both students' knowledge and in the curriculum of the centre in which I work' (p.87).

As mentioned earlier, I am concluding this article at a time when I am working with the 2020 cohort of teachers in the Action Research in ELICOS Program. A recent exchange with one of the participants offered a striking comment on how confusion, an emotion that necessarily permeates AR, is something to be welcomed rather than rejected as a means for new learning:

> Throughout my action research journey, I have encountered significant periods of confusion. At times [confusion] is just a fleeting thought as a student responds in an unexpected manner, but sometimes it is more fundamental. It can arise as a result of a misunderstanding, perhaps the linguistic meaning of a word, preconceived associations, or differences between general concepts [for teaching] and more specific observations and experiences.
>
> I believe that sometimes misguided teaching philosophies, routine practices and entrenched behaviours, that have helped us to cope with the complex nature of learning and teaching, lead to confusion. When we consider alternative perspectives, reflect on our professional practice and begin to think more critically about what we and our students are actually doing, saying and feeling, that confusion can transform into positive action. I find that aspect of action research most rewarding.

Conclusion

The literature reviewed above and comments from the teachers in this program, and from those in other years, lead to certain implications. In order to ensure that confusion is productive teachers need facilitative conditions for learning through AR. These may include:

- encouragement from management and colleagues (e.g. enthusiasm for a culture of research by teachers)
- access to structured activities that build upon each other (e.g. ongoing series of workshops face-to-face or online)
- availability of resources for doing research (e.g. technology, materials, literature, allocated time)
- collaboration with other teacher researchers (e.g. at their own schools or partner schools)
- autonomy to select their own issues and make independent decisions about their research (e.g. topics of relevance to the school and their personal interests, selection of research tools)
- access to 'just-in-time' support and feedback (e.g. from facilitators, teacher educators, or professional development supporters)

- recognition that their efforts are worthwhile (e.g. institutional opportunities to publicise and share their research, positive feedback on achievements)
- opportunities to write about and present their research (e.g. school newsletters, professional journals, school meetings, conferences).

Cognitive and emotional disequilibrium and constructive confusion are central to the process of language teacher professional growth through AR. Deep conceptual change requires productive affective states (Lane and Caldis 2018), as these states lead to a re-evaluation of existing mental structures and preconceptions that shape the way we understand the world. Confusion plays an important role as a potential route to learning new concepts and seeing things in a different way and, I would argue, is something to be embraced in teacher inquiry, such as AR.

Top: L-R Carla Bardella, David Howarth, Ryan Pain, Jonathan Vella, Shawna Lavis, Renee Constantin.
Bottom: L-R Kelly Murphy, Professor Anne Burns, Katie Morera, Sophie O'Keefe.

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News with (a) VUE

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Introduction

Although pronunciation is an integral part of English language communication, it can be neglected in ELICOS classrooms. In one Canadian study (N=99), as little as 6% of total teaching time was devoted to pronunciation (Foote, Holtby and Derwing 2011). In consequence, speaking assessments are often highly structured and lack integrated pronunciation-specific content and pronunciation evaluation. This is especially the case when preparing students for speaking assessments such as presentations that are routinely task-based (Breitkreutz, Derwing and Rossiter 2001). This tendency to neglect pronunciation in assessments is noted in research. Isaacs and Harding (2017) highlight that of the articles published over a 25-year period (1984–2009) in *Language Testing*, the longest-established journal on language assessment, only two were focused on pronunciation. The situation has improved somewhat in the years proceeding but is still inadequate (Isaacs and Harding 2017). Unfortunately, this neglect fails to realise opportunities to improve student intelligibility in everyday speech, which has implications not just for language proficiency but also for improved social integration – a very real consideration for many international students (Lear 2013). Indeed, Victoria University English (VUE) student surveys repeatedly indicate a perceived weakness in pronunciation and a significant demand for more pronunciation-focused activities together with increased contact with native speakers.

Reasons for this shortcoming include time limitations and teacher attitudes towards embedding pronunciation into their classes. The nature of English for Academic Purposes (EAP) courses, with rolling enrolments and short deliveries, can mean that task-based assessments take precedence over pronunciation practice. Importantly, many teachers may feel ill-equipped to include pronunciation as part of their speaking lessons. A study by Baker (2011) indicates that only a minority of teacher education programs offer specific training in teaching pronunciation. Adding to this reluctance is a lack of agreement on how to approach pronunciation and what the ultimate aim of pronunication practice should be. At present there is no definitive strategy for planning the content, timing and method of pronunciation instruction (Derwing and Foote, cited in Darcy, Ewert and Lidster 2012).This finding was also reflected in the results of an informal survey distributed to VUE teaching staff (N=15). While teachers acknowledged that integration of pronunciation practice into the curriculum was essential, only 25% felt confident teaching this skill. In accordance with Baker's findings, most stated that they had not received sufficient training to teach pronunciation. Teachers also felt that while there was currently a lack of integrated pronunciation practice in the curriculum, they accepted that it should be an essential component.

Our action research (AR) project aimed to address a number of these issues by incorporating skill-based pronunciation practice into a 4-week news analysis and production program called News with (a) VUE, which is assessed primarily on pronunciation. Three research aims were devised to help guide our News with (a) VUE AR:

- to design a syllabus that would increase student awareness of suprasegmental features
- to offer opportunities for students to analyse and use these features to reflect upon how meaning is crafted, and through production of their own news stories, develop their use of such features
- to evaluate whether the program could help raise student confidence in communicating with native speakers, and therefore, have positive implications for social integration.

Context

VUE delivers General English and EAP classes, with students on a pathway to diploma, undergraduate and postgraduate courses. The News with (a) VUE program was delivered initially as a pilot in the form of a voluntary extracurricular lunchtime class, and subsequently as part of an EAP class.

The pilot program was aimed at EAP classes: Levels 4, 5 and 6 (IELTS 5 and above). The response was overwhelmingly positive. Students were interviewed for a position on the program and asked to introduce themselves and propose an idea for a news story. Ten students were selected based on our assessment of their needs and the quality of their news story idea. The group consisted of one Taiwanese, two Colombians, three Japanese, two Vietnamese, one Ni-Vanuatu, and one Indian student, ranging in ages from 19 to 43. The participants' years of English tuition ranged between 2.5 and 10 years.

The second program was run as the speaking component of a Level 4 EAP Class (IELTS 5). The class was an ethnically diverse group of 11 students (one Thai, one Japanese, two Korean, one Saudi Arabian, one Nauruan, two Columbians, one Vietnamese, one Chinese and one Italian) ranging in age from 20 to 36 with the majority of students in their early 20s. Time spent studying English ranged from six months to 12 years.

The program

We began by holding two separate classes per week (Part 1 and Part 2). Part 1 classes, taught by Carla, drew awareness to a suprasegmental feature using various news stories. Part 2 classes, taught by Shawna, focused on scripting and filming. Each part is described below.

Part 1 Cycle 1

The Part 1 lunchtime class (45 minutes) was devoted to a single suprasegmental feature taught over a 2-week period (Weeks 1 and 2: chunking/Weeks 3 and 4: syllable and word stress/Weeks 4 and 6: intonation). News stories were sourced with the help of the VUE Library Acquisitions Team and selected based on suitability for each feature and accessibility for students (language and speed). Initially, the lessons lacked sufficient scaffolding, particularly around comprehension of the news story. Through careful reflection, this issue was addressed midway through Cycle 1 and all future classes adhered to the following general format:

1. Awareness-building Session (see Figure 1) – warmer to look at each feature generally and reflect on its function in creating meaning. Content was adapted from *English Pronunciation in Use Intermediate* (Hancock 2007) and *Pronunciation Games* (Hancock 1995).
2. News Pre-Listening Activities – vocabulary/focus questions to aid in comprehension of the news story (see Figure 2).
3. News Story Viewing – analysis of the feature with a model given to build knowledge around the feature being analysed.
4. Applying Knowledge – students used the knowledge acquired to unpack the feature in the next section of the news story.
5. Consolidation of Skills – in small groups, students were encouraged to practise the feature of pronunciation using the story transcripts.

News stories often have within them examples of good and bad pronunciation. Reporters are typically skilled in using suprasegmental features. However, people featured in news stories are often somewhat ineffective communicators. For example, one news story chosen to examine word stress, *Paraplegic Triumph* (Special Broadcasting Service, World News), reported on the extraordinary achievement of a paraplegic Australian mountaineer in reaching the base camp of Mount Everest. The reporter stressed keywords to communicate such an achievement, while the mountaineer himself spoke with little variation in pitch. The significance of his achievement was undermined by the sheer monotony of his delivery. This contrast was particularly useful in demonstrating to students how essential it is to stress keywords to add nuance, express mood and essentially deliver a clear message.

Cycle 1 participants were highly motivated and able to complete tasks well. However, since this was a voluntary lunchtime class, student commitment fluctuated depending on their main course requirements. On occasion, lunchtime duration was shortened with little notice, which meant that the News with (a) VUE classes were cancelled. Dividing each feature into two 45-minute lessons also created issues around continuity and coherence.

Part 1 Cycle 2

The same format was retained but wherever possible new stories were sourced to better align with the writing/reading component of the Upper-Intermediate EAP Class (memory/learning and relationship themed), to match the new cohort's level of ability (Upper-Intermediate) and to appeal to student interests. A greater variety of warmers was added to increase student speaking time (see Figure 1). Extra listening comprehension activities were designed to help students better understand the content of the news stories (Figure 2). With greater comprehension, students were more able to observe and reflect on how meaning is created with each of the suprasegmental features.

Figure 1: Students playing a game called Intonation Monopoly from *Pronunication Games* (Hancock 1995)

Figure 2: Students working together to reconstruct a news story chronologically

Carla visited class for two hours each week to present the awareness building content of the course. Each of Carla's sessions was dedicated to one of the suprasegmental features, which allowed for better coherence and pacing of activities from warmer through to consolidation of skills. Table 1 below shows the changes made from Cycle 1 to Cycle 2.

Table 1: Changes made from Cycle 1 to Cycle 2

Cycle 1: Suprasegmental feature and news story	*Positives*	*Negatives*	*Cycle 2: Adaptations and outcome*
Pausing *Work Conditions for Young* (Australian Broadcasting Corporation, 7.30)	Easy to connect with Good and bad models present	Fast speed of news story Students practise for too long and monotonous for others to listen to	**News story replaced with *Phone App Helping Refugees Speak English* (Australian Broadcasting Corporation, 7.30)** Better paced and content easier to understand for Upper-Intermediate students Connected to the writing/reading component of the course (memory and learning)
Sentence stress *Paraplegic Triumph* (Special Broadcasting Service, World News)	Good content for illustrating stress Good and bad models present	Time consuming	The 2-hour time slot was sufficient to cover all the content
Intonation – rising/falling/ rising and falling in questions/question tags Simpsons Pixel Art Interview (Channel 10, The Project)	Good and bad models present	Old segment (2015) Too many idioms used Content vocabulary too dense Questions were limited in range	**Segment replaced with a 2019 story *The Neighbour Who Became 'Yiayia' To Two Brothers After A Family Tragedy* (Channel 10, The Project)** Engaging content and range of question types used Connected to the writing/reading component of the course (relationships)

Part 2 Cycle 2

During Cycle 2, the opportunity to team-teach arose and sessions ran more fluently as a result. Shawna taught the class for two days per week (Thursday and Friday) as the speaking and listening teacher, and Carla taught a 2-hour session each Friday.

The lesson structure for Part 2 changed from Cycle 1 to Cycle 2. In Cycle 2 Week 1, the students were given the lead-in and sign-off parts of the scripts in the form of a gap-fill activity. Students were then able to use the activity to create their own lead-in and sign-off in subsequent weeks. In addition, the students were expected to produce a video every week rather than every second week. As the classroom teacher, Shawna had more time to run the program with the students. Time could be dedicated the day prior to the pronunciation input sessions to pre-teach vocabulary in the news item. Consequently, students were able to unpack the suprasegmental feature more successfully. Another positive impact of more face-to-face time was that students were able to concentrate on the finer points of interviewing such as framing questions and giving appropriate responses.

Once the tasks were understood to be an integral part of the core curriculum, and that the final video would count toward their overall course progress, students took tasks more seriously. They were assessed for progress on their final video in Week 5 (see Appendix 1) and Padlet software was used to store the videos (see Figure 6). As an extension activity, students watched their own videos and those of their peers to provide feedback using a peer-review feedback sheet (see Appendix 2). Students made four videos over the course of these sessions. The first video was a self-introduction, followed by an interview with another EAP4 student from a different class, then a member of the Victoria University staff (see Figures 3, 4 and 5), and finally a stranger. The students met each challenge and exceeded expectations. Choosing Padlet as the software component for Cycle 2 made a noticeable impact on student engagement with the software overall. We found that the students were logging in to Padlet to view their video submissions in their free time and were analysing their mistakes in order to improve their speaking skills.

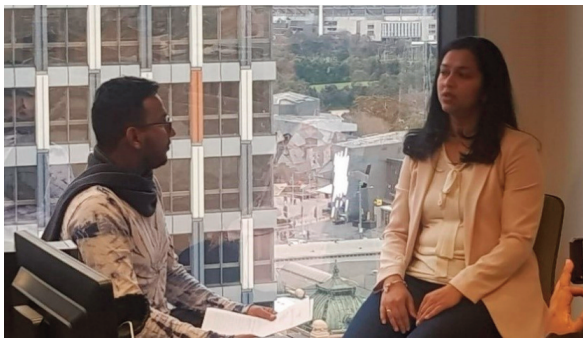


Figure 3: Student interview with VUE Administrative Officer, Netra Dave

Figure 4: Student interview with VUE General Manager, Dianne McKeagney

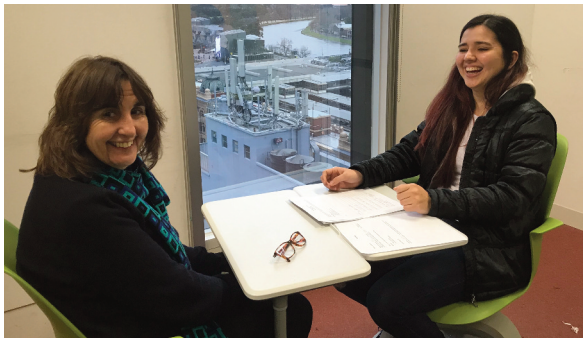
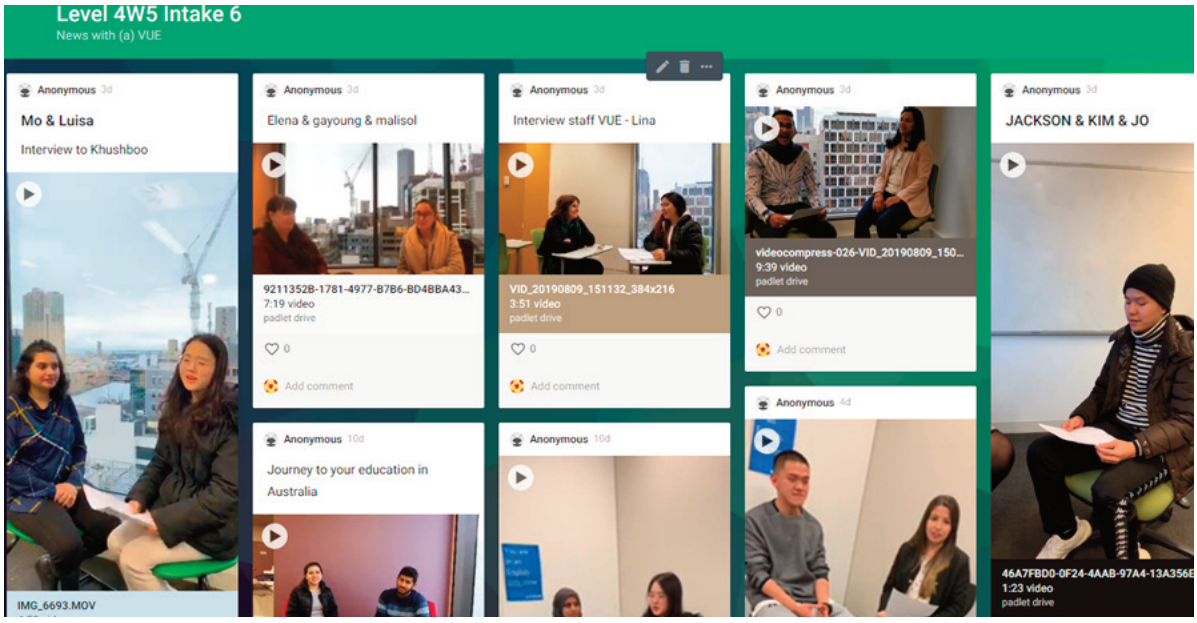


Figure 5 (left): Student interview with VUE Director of Studies, Nadia Chighine

Figure 6 (below): unit video display on Padlet (victoriauniversityau.padlet.org/e5103988/yw6eycyjjhzx)



Data collection

We used various data collection tools during our research, including surveys, videos and vlogs.

Cycle 1

Data was collected in three ways during Cycle 1.

Surveys

Firstly, the students were given a survey on their general knowledge of suprasegmental aspects of pronunciation and their confidence when speaking with a native English speaker. The software program used to create the surveys was SurveyMonkey. The surveys were administered in the first and final lessons of the course. The aim of the first survey was to see if the students were aware of the suprasegmental features we planned to introduce and the extent of their prior knowledge, if any. The exit survey posed the same questions to find out if the students could identify the features taught and provide a definition, and also to collect feedback about their learning experience and perceived level of confidence when speaking to native speakers upon completion of the course.

Vlogs

We attempted to collect student's film vlogs about their progress and perception of the course. It was thought that the vlogs would allow students a private space to talk about their feelings and attitudes towards the course. The majority of the students did not submit the videos requested. This outcome could possibly be attributed to the fact that it was a voluntary lunchtime program and the expected workload was excessive. As a consequence, the requirement for vlogs was eliminated for Cycle 2.

Videos

Finally, students from Cycle 1 were expected to submit three news story videos. The videos were submitted to Dropbox™. After the videos were submitted, they were viewed to see what progress students were making from week to week, and to see if they were able to incorporate any of the features taught in Part 1 of the lesson.

Cycle 2

We collected data using two methods for Cycle 2.

Surveys

We chose to use the survey method again as we found this was an effective way of determining students' knowledge both prior to the course and after the course had finished.

Videos

For Cycle 2, we decided to have the students produce four videos rather than three. This was better suited to the 5-week block of the main course and mimicked the assessment task schedule from the curriculum we were replacing with the AR project.

Incidental data

As part of the writing component of the Cycle 2 course, students are asked to reflect on any component of their learning. The majority of students chose to write about the News with (a) VUE program (Appendix 3).

Findings

Both quantitative and qualitative data were analysed to help us reflect on the outcomes of our research.

Quantitative data

The participants were asked to take part in a survey in the first and final week for each cycle of the project. Survey results from both cycles suggested that the students had gained more awareness of the suprasegmental features of pronunciation and felt more confident with pronunciation (see Figures. 7, 8 and 9).

One of the research aims was to see if the program could help raise students' confidence when communicating with native speakers. The survey results from Cycle 1 indicated that 50% of students felt confident with their pronunciation in Week 1 whereas 80% felt confident in Week 5. This increase of 30% was an encouraging result leading into Cycle 2.

Students were asked in the Week 1 and Week 5 survey whether or not they were familiar with chunking, word stress and question intonation. In Cycle 1 and Cycle 2, students were more aware of the suprasegmental features that we examined during the lessons at the end of course. Although results varied, understanding increased from the Week 1 to Week 5 survey for both Cycle 1 and Cycle 2 (See Figures 7 and 8).

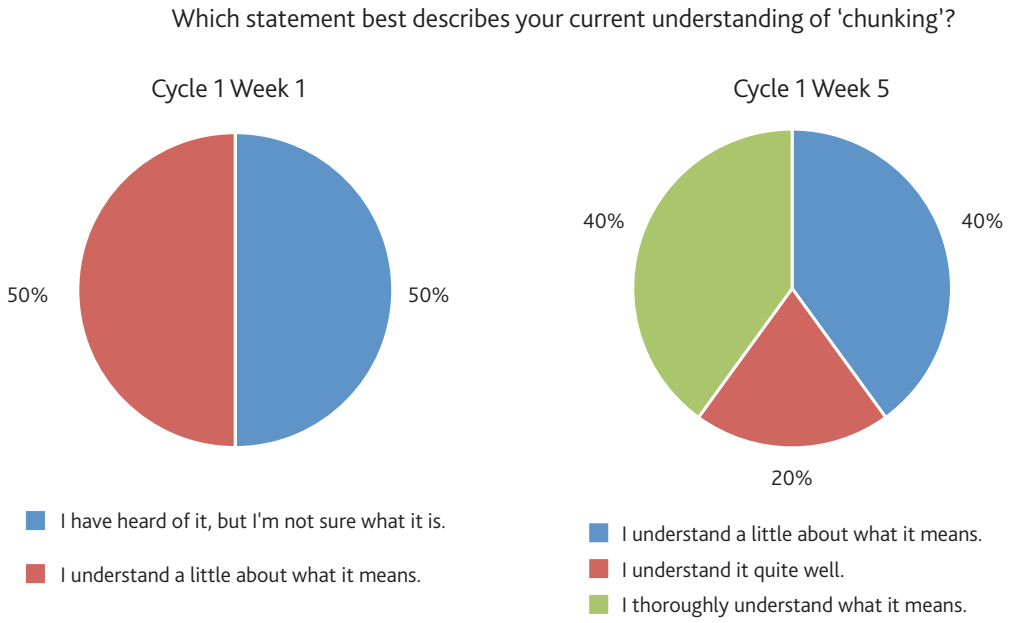


Figure 7: Student understanding of 'chunking'

As one of the research aims, we hoped to design a syllabus that would increase student awareness of suprasegmental features taught by Carla in Part 1 of the lesson. As can be noted from the survey results from Cycle 1, the respondents had a greater awareness of the suprasegmental features upon completion of the course. The results from the Week 5 survey indicated that 100% of the respondents had some understanding of what 'chunking' meant, which was a marked change from Week 1, where only 50% of the students understood a little about chunking. These results confirm that there was an increase in participants' awareness of chunking at the end of the course.

In the Cycle 2 Week 5 survey, 77.8% of students reported that they had gained awareness about suprasegmental features of pronunciation. The increased student awareness around suprasegmental features of pronunciation exceeded our expectations in regard to our first research aim to create a syllabus that would foster students' implicit knowledge of pronunciation (see Figures 8 and 9).

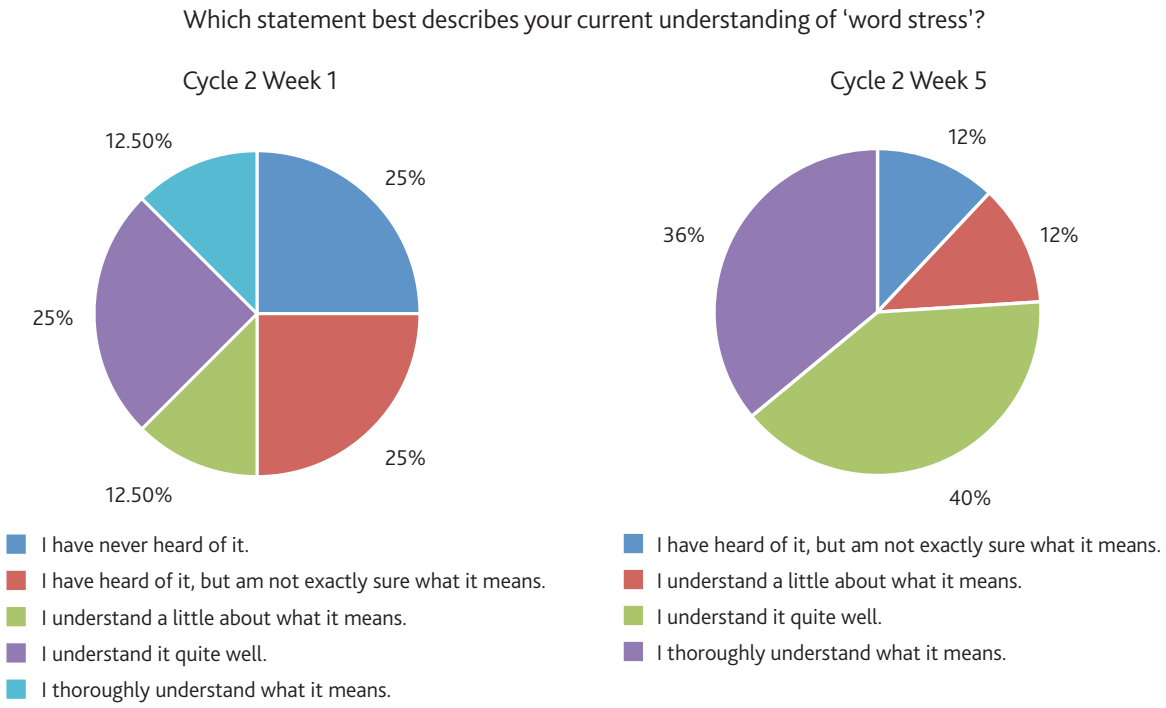


Figure 8: Student understanding of 'word stress'

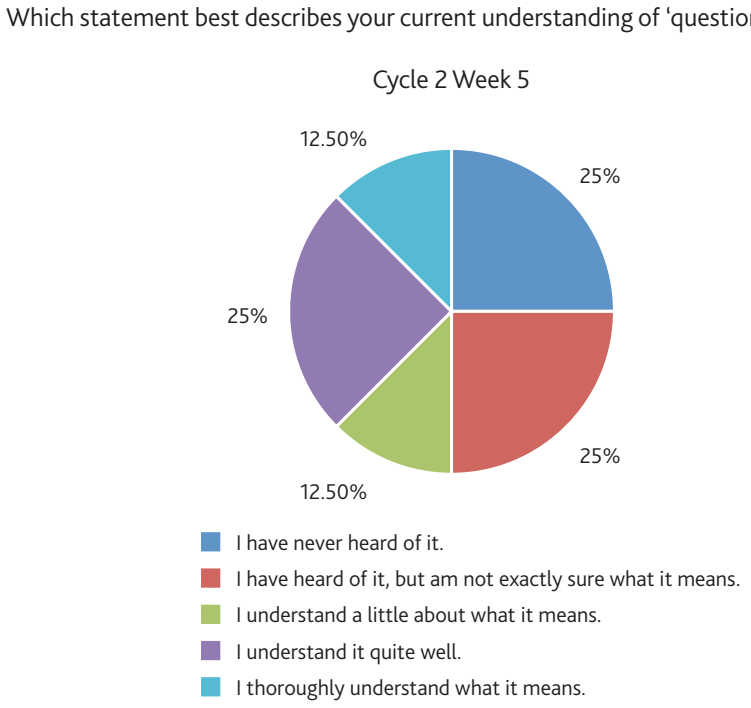


Figure 9: Student understanding of 'question intonation'

Qualitative data

In both surveys, the students were asked to offer definitions for each of the suprasegmental features of pronunciation. (Please note that the comments in this article are unedited to maintain authenticity). In the Cycle 2 Week 1 survey, one of the respondents defined word stress as 'your heart is pounding very high but your (sic) not running and your hands are sweating', which was a definition of an entirely different usage of 'stress'. In the Cycle 2 Week 5 survey most of the participants provided an excellent definition for the suprasegmental features. For example, one of the respondents defined word stress as 'it's when you pronounce in a different way the word means that that word is more important.' Another respondent defined chunking as 'linking some words or stopping appropriately.' It appears the project successfully assisted in raising awareness.

The journal entries also demonstrated that our three research aims had been met. More specifically, students used appropriate terms to describe suprasegmental features, which indicated that our intention to increase awareness of these features had been satisfied (see Appendix 3 Reflections 2 and 3). They also commented on the benefits of recording their news stories, which enabled deeper reflection on areas of weakness and strength so changes could be made to improve their pronunciation (See Appendix 3 Reflections 1, 2, 4 and 6). Most significantly, there was repeated reference to a growing confidence often in connection to interacting with native English speakers (See Appendix 3 Reflections 1, 2, 4, 5 and 6).

In relation to the videos, although the students seemed to have a greater of awareness of the suprasegmental areas of pronunciation, there was not enough evidence to show a progression in ability overall in both Cycle 1 and Cycle 2. Difficulties were encountered with respect to time management in the pilot program as the interviewees tended to speak more than the students. Thus it was difficult to assess the students' improvement from Video submission 1 to Video submission 3. In Cycle 2, more time was spent in class building competence questions and appropriate responses. As a result, the videos produced in Cycle 2 had a better balance of talk time between the student and their interviewee. Finally, participants in both cycles were strong speakers at the beginning of the project, so although they self-reported a degree of improvement in pronunciation, it was not sufficiently demonstrated in the videos to show explicit improvement.

Reflection

Learners were both curious and engaged in the course content and often challenged to deeply consider the mechanics of how meaning is refined and transmitted through the pronunciation features examined. As survey results confirmed, students did improve their awareness of suprasegmental terms in both cycles. This awareness was also evident in journal entries completed by the EAP4 class. Furthermore, most of those surveyed felt they had improved their pronunciation and confidence in speaking with native speakers (see Figure 7 and Appendix 3).

From our perspective as action researchers, we have had the valuable opportunity to carefully reflect on our teaching practice. Reflection is a key component of effective teaching. It allows educators to develop an awareness of students' needs and carefully adapt lessons to suit them. It allows for trialling of new ways of doing things while discarding less effective approaches and it keeps an educator engaged and committed to the process of education.

ELICOS is often characterised by rolling enrolments and short intakes with minimal breaks in between. Moving from class to class and often shifting focus to a different syllabus can mean that there is little time for teachers to commit to reflection. What has been so reinvigorating in this process is that through AR we have both formally structured reflection into our lessons and had the opportunity to refine our approach from lesson to lesson and from one cycle

to the next. Working closely with a colleague, dedicating time to sharing insights, and workshopping solutions to challenges has also been highly beneficial. Through the collection and analysis of data, we have gathered detailed feedback on the experience of our students within our classes. Planning for and responding to this feedback has allowed us to learn more about effective teaching too. Ultimately, this program has helped us continue to grow as educators and integrate pronunciation practice into everyday lessons.

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Appendix 1: Teacher feedback sheet

PROGRESS TASK 4: INTERVIEW A STRANGER

PRESENTER NAME	Student Number

PRESENTATION				
Pronunciation	**Not clear**	**Usually clear**	**Clear**	**Very clear**
Chunking	**Never**	**Sometimes**	**Good**	**Very good**
Word Stress	**No stress**		**Some stress**	**Very good**
Question Intonation	**No intonation**		**Some intonation**	**Very good**
Volume	**Too quiet**	**Too loud**	**OK**	**Just right**
Speed	**Too fast**	**Too slow**	**OK**	**Just right**
Looked at note cards		**Too much**		**Just right**
Looked at interviewee	**Never**	**Not enough**		**Just right**

GRAMMAR				
Spoke well and used correct tense	**Didn't use**	**Some errors**	**OK**	**Very good**

CONTENT		
News story contained a sign on and sign off	**No**	**Yes**
News story contained lead in	**No**	**Yes**

ORGANISATION				
Framed questions	**Needs improvement**	**OK**	**Good**	**Well Done**
Responded appropriately	**Needs improvement**	**OK**	**Good**	**Well Done**

Good Progress	
Progress Needs Improvement	

Teacher's Signature: _____

Appendix 2: Peer evaluation

REPORT PEER EVALUATION WEEK 2 VIDEO
'Your Journey to Australia'

PRESENTER NAME	PEER'S NAME

PRESENTATION				
Pronunciation	**Not clear**	**Usually clear**	**Clear**	**Very clear**
Chunking	**?**	**Some errors**	**OK**	**Very good**
Volume	**Too quiet**	**Too loud**	**OK**	**Just right**
Speed	**Too fast**	**Too slow**	**OK**	**Just right**
Looked at note cards	**Never**	**Too much**	**Not enough**	**Just right**
Looked at interviewee	**Never**	**Not enough**	**Didn't look at me!**	**Just right**

GRAMMAR				
Spoke well and used correct tense	**Didn't use**	**Some errors**	**OK**	**Very good**

CONTENT		
Asked about coming to Australia	**No**	**Yes**
Asked about challenges	**No**	**Yes**

ORGANISATION				
Introduced questions	**Needs improvement**	**OK**	**Good**	**Well Done**
Responded appropriately	**Needs improvement**	**OK**	**Good**	**Well Done**

Now write down some notes to prepare for giving oral feedback. What did the presenter do well? How do you think they could improve?

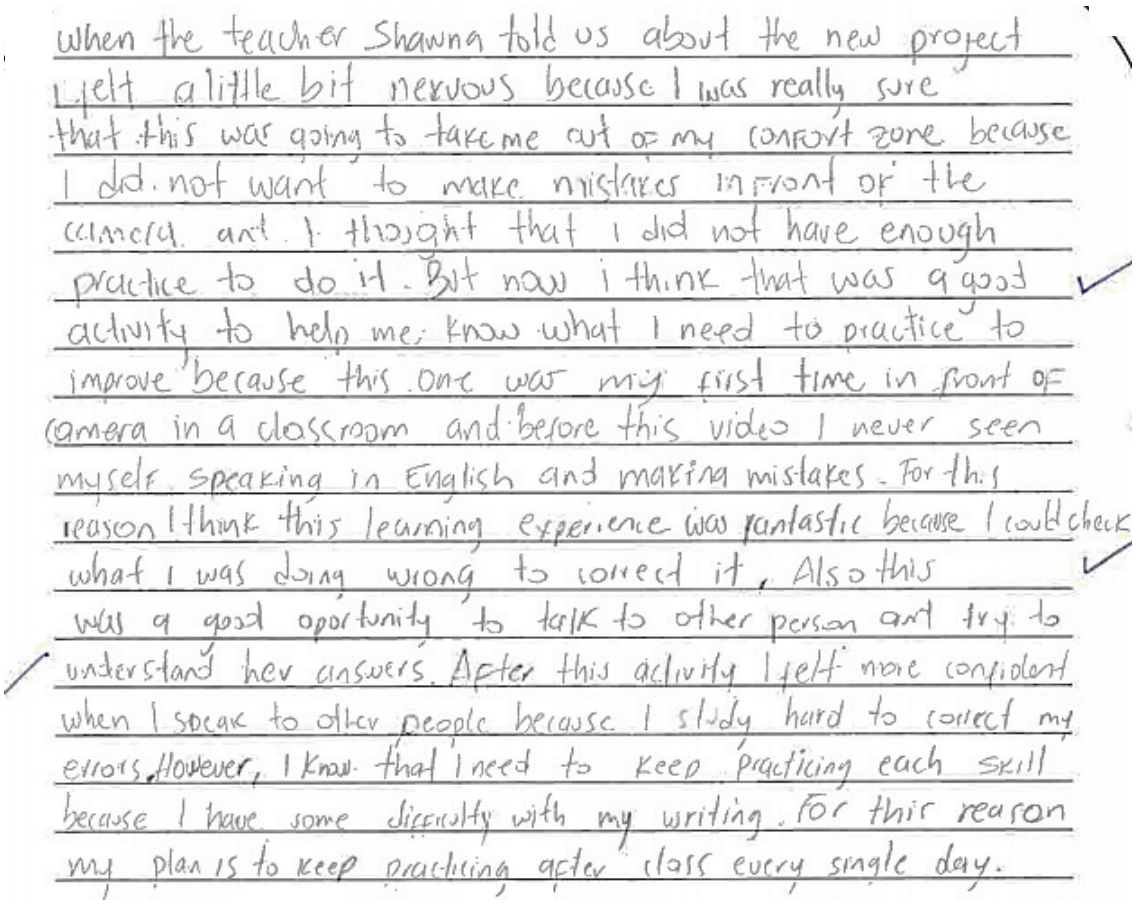
Appendix 3: Journal writing (student reflections)

EVALUATE THE EXPERIENCE

Answer the questions:

- What were your feelings? – What did you like/not like about the learning experience?
- Why was it difficult/easy/interesting/surprising etc... for you?
- What did I learn from this lesson? What is the value of this experience?
- What connections can you make with other learning experiences?
- How could the lesson have been improved?

Reflection 1:



when the teacher Shawna told us about the new project I felt a little bit nervous because I was really sure that this was going to take me out of my confort zone because I did not want to make mistakes in front of the camera. and I thought that I did not have enough practice to do it. But now i think that was a good activity to help me know what I need to practice to improve because this one was my first time in front of camera in a classroom and before this video I never seen myself speaking in English and making mistakes. For this reason I think this learning experience was fantastic because I could check what I was doing wrong to correct it. Also this was a good oportunity to talk to other person and try to understand her answers. After this activity I felt more confident when I speak to other people because I study hard to correct my errors. However, I know that I need to keep practicing each skill because I have some dificulty with my writing. For this reason my plan is to keep practicing after class every single day.

Reflection 2:

One particular learning experience I had during this time with my teacher is learning speaking skill by interviewing other people. At first, my teacher gave some topic and let me talk about that topic with my classmate for practising. Then the teacher gave an assignment interviewing the stuff that works at Victoric University and filmed the video while I was talking with her. Before doing that, the teacher taught me how to response other people when I have a conversation with them, learnt which syllable I have to emphasize, and learnt how to chunk the information when I speak too.

In my opinion, I really like the way my teacher taught me because I gained many experiences from that. That was the first time for me to study by performing like a reporter and interviewing a stranger. I think it was so hard for me, but it made me learn many things. Moreover, filming the video while I was speaking provided me many advantanges because I can turn back to watch my video and then compare my each videos. Therefore, I will be able to know that where I made the mistakes, I will be able to know which part I should practise more, and I will be able to know my speaking skill be better or the same as well. Futhermore, it made me feel more familiar to talk with other people by using English, and made me have more confidence too. I can adapt the things that I learnt to use in daily life easily. However, I think I still need to improve my accent, the way I chunck the sentenses, and my vocabulary. I plan to learn more vocabulary because

DESCRIBE WHAT HAPPENED
Answer the question: 'What did I do, read, see, hear, etc..?'

Reflection 3

During four weeks. the most memorial learning experience is speaking activity with Shawna. She intended to make the video by ourselves everyweek. I heard about some skills that is needed for speaking every week. For example, Shawna taught us about chunking 2 weeks ago, and last week, I heard about stress ful syllable. Then, we have to interview someone with different subjects every week. After filming video, we evaluate other's video with checking creteria. When I learned about chunking and strecsful syllable, I saw video which I can practice these skills. After practising skills, I made a plan for interview, and practised speaking with others. Finally, I filmed the video that I interviewed someone.
In conclusion, from learning some skills to filming video, I learned speaking through the whole process for interviewing others.

During the whole proces of speaking experience with Shawna. I faced a lot of difficulties in every steps. When I learned some speaking skills. It was difficult to understand exact method of using those skills. plus. using by myself was really hard. Making questions for interview was quite simple, but real interview with my question was more hard than ever. I have a lot of things to do during the interview. I have to keep remember the next questions, pay attention to answer of interviewee, and respond well to their answers. From this process, I felt which part I need to improve exactly. I fell am not good at chunking, and I feel much responsible for response to others. This experience showed me which points I have well to improve and gave me the chance for thinking about the way to study more

Reflection 4:

I did not want to make mistakes in front of the camera and I thought that I did not have enough practice to do it. But now I think that was a good activity to help me know what I need to practice to improve because this one was my first time in front of camera in a classroom and before this video I never seen myself speaking in English and making mistakes. For this reason I think this learning experience was fantastic because I could check what I was doing wrong to correct it, Also this was a good opportunity to talk to other person and try to understand her answers. After this activity I felt more confident when I speak to other people because I study hard to correct my errors. However, I know that I need to keep practicing each skill

Reflection 5:

good experience. Moreover it was an excellent speaking practice also because, we interviewed a member of the VU English Staff. In addition I enjoyed this experience because the interviewee ~~was~~ is ~~an~~ australian, for this reason she speaks perfectly english, in fact it was a perfect exercise for improve my English.

Reflection 6:

gives us a task every week. She asks us to take a ~~vedi~~ video about our speaking and before the task she will teach us the new knowledge like ~~w~~ where to stop when you speak a long ~~sse~~ sentences, how to speak to different people or occasion and to interview a stranger in the street. This is very interesting and useful way to improve the student's speaking. ~~I think~~ It can also help the student to be confident to speak English and through the video the students can see how ~~their~~ their speaking improve every week. However ~~the~~ other parts are also

Increasing students' intelligibility and teacher knowledge

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Context and participants

Personal teaching experience and dialogue with colleagues opened up curiosity about our overall teacher knowledge and individual confidence to deliver pronunciation to non-native English speakers. The Communicative Learning Teaching (CLT) approach used in classrooms at Kaplan mainly focuses on fluency to achieve positive learning outcomes for students. However, for students to attain oral intelligibility 'current instructional ESL resources must be supplemented to facilitate the effective development of learners' oral fluency' (Rossiter 2010:583). Similarly, the ever-changing business needs of the ELICOS industry, with constant rolling intakes and looming grammar and vocabulary tests, tends to take away the pedagogical focus on addressing pronunciation accuracy and individual student needs. There is therefore a need 'for means by which to gauge second language development, apart from the use of lengthy standardised proficiency tests, which serve other purposes' (Larsen-Freeman 2009:579) that can be to the detriment of pronunciation accuracy.

Furthermore, there seems to be little or limited pre-service training in pronunciation. 'Unlike grammar and literacy skills, pronunciation appears to be rarely or only partially taught in L2 learning experiences of teachers; thus, many teachers may have neither adequate knowledge about English pronunciation nor sufficient knowledge of how to teach it' (Baker 2011:92). Therefore, the question is raised as to how teachers can be more effective in terms of improving pronunciation accuracy.

My aim was to research some effective pedagogical methods that could then be shared with my 14 colleagues for professional development. My action research (AR) project involved students enrolled in a speaking and pronunciation class at Kaplan International Languages, Melbourne. To carry out the research I offered the students an opportunity to take an additional elective pronunciation class. There were 30 adult students from 12 different countries namely, Korea, Japan, Thailand, Cambodia, Laos, Vietnam, China, Brazil, Columbia, Chile, Saudi Arabia and Malaysia. Out of the 30 lower intermediate research participants, 14 had been studying at Kaplan for less than six months and 16 for only a few weeks. The 30 students had previously studied English for 1 to 12 years in their home country. These classes were three hours in duration and delivered twice per week, with a 10-week rolling weekly intake. The curriculum implemented for the specific elective pronunciation class initially focused on segmental features, with suprasegmental features receiving limited attention because of insufficient training and teacher confidence. At the start of the research project, I introduced individual phonemic sounds to the learners and then expanded the activities to include more complex sounds. The project then evolved to focus specifically on speaking intelligibility through the effective understanding and use of prosodic features.

Research focus

I assumed that once teachers and learners began working on developing their pronunciation knowledge, increased motivation to continue learning would become evident, and this inclination was noticed during class. I believed that

both learners and educators would empower themselves through a transition to greater independence and self-discovery, which would lead to increased learner autonomy outside the classroom. My research project therefore had two main aims:

1. To increase student speaking intelligibility by developing knowledge of segmental and suprasegmental features.
2. To assess other teachers' perceived knowledge of pronunciation before any professional development was provided and to note any changes in their classroom pedagogy after training.

The project focused on discovering methods to change thinking about learning and teaching pronunciation and aimed to research:

- effective methods for teachers to learn the elements of pronunciation
- effective methods for teachers to teach the elements of pronunciation
- approaches to embed pronunciation into an ELICOS lesson that kept in line with the syllabus
- ways to supplement the current curriculum with the teaching of suprasegmental features with the goal of increasing speaking intelligibility.

Research process

The research process included 4-weekly AR cycles within a 10-week class, following the AR sequence of planning, action, observation, and reflection (Burns 2010). Each cycle is described below.

Cycle 1

Students

In the classroom, I utilised an existing speaking and pronunciation curriculum focusing on segmental (combined with stand-alone suprasegmental) awareness exercises that I developed.

Teachers

I also invited teachers to attend two professional development workshops on segmental and suprasegmental pronunciation knowledge. The teachers were then invited to embed techniques from the workshops in their own classes.

Cycle 2

Students

After reflection on the effectiveness of the introduction of suprasegmental features in Cycle 1, I made adjustments to the existing curriculum to enhance student comprehension and application in oral production.

Teachers

Teachers attended a third workshop on segmental teaching activities and how to combine suprasegmental methods that would embed textbook vocabulary into lessons.

Cycle 3

Students

My target for Cycle 3 was student engagement with the curriculum. I introduced vocabulary and sentences from the main class textbooks to highlight segmental features. Once students were comfortable with this, suprasegmental features were embedded into sentence structures. Quick Response (QR) codes were introduced to highlight and engage students with segmental features and extend suprasegmental features of syllables, word stress and connected speech. Using smartphones in the learning process was an immediate success, as it employed kinaesthetic strategies that students embraced. Siri and Google Translate voice recognition technology was incorporated into the QR code format to provide immediate checks of students' pronunciation accuracy. It was the immediate feedback that students appreciated, as it provided confidence and highlighted where correction was required.

Teachers

Colleagues who had attended the workshops continued to experiment with some of the ideas we had discussed, and I was able to discuss their informal feedback with them.

Cycle 4

Students

I expanded the QR code format (Appendix 1) to present vocabulary in phonemic script, in addition to suprasegmental features within written sentences. In order to check their pronunciation of the script, students continued to use Siri and Google Translate voice recognition software to check and self-correct pronunciation. Sentences using varying prosodic features were practised, recorded and uploaded on to the LINE Group Call messaging application. Students then listened to classmates' recordings to identify the target features within the recorded sentences and provided peer feedback. Two focus groups of nine and five students were conducted to assess their perceived changes in speaking intelligibility.

Teachers

To assist teachers in their personal learning of pronunciation techniques, I presented the QR code learning format in a professional development workshop. This presentation covered techniques trialled in Cycles 1, 2, 3 and 4 and discussed ways of embedding pronunciation into the class syllabus through the use of the main textbook vocabulary.

Data collection

I adopted a mixture of quantitative and qualitative methods to collect data, which included student and teacher surveys, focus groups and observing changes in student pronunciation abilities after the teaching of segmental and suprasegmental features in the curriculum. The questions created in the surveys related to:

1. Student understanding of pronunciation
2. Student knowledge of segmental and suprasegmental pronunciation features
3. Student confidence in learning
4. Individual student pronunciation targets
5. Teacher understanding of pronunciation teaching

Students

Students completed a survey at the beginning of Cycle 1. The purpose was to measure their understanding about pronunciation in reference to segmental and suprasegmental features. For a majority of students, their knowledge of segmental and suprasegmental features was limited, or they had never previously encountered these pronunciation features.

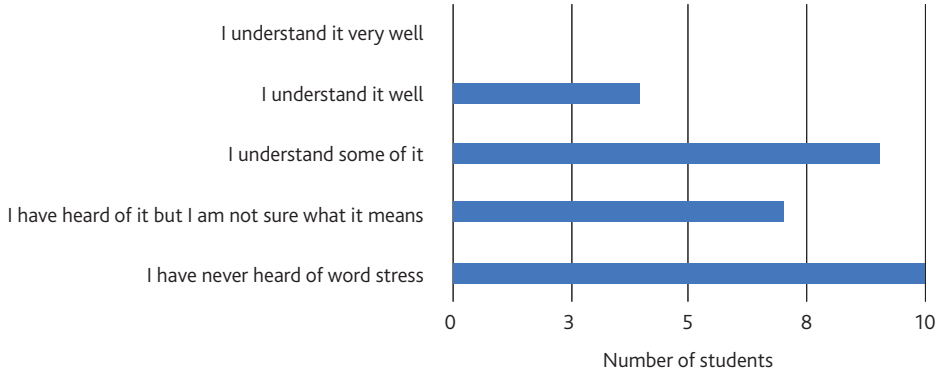

Figure 1: Word stress knowledge

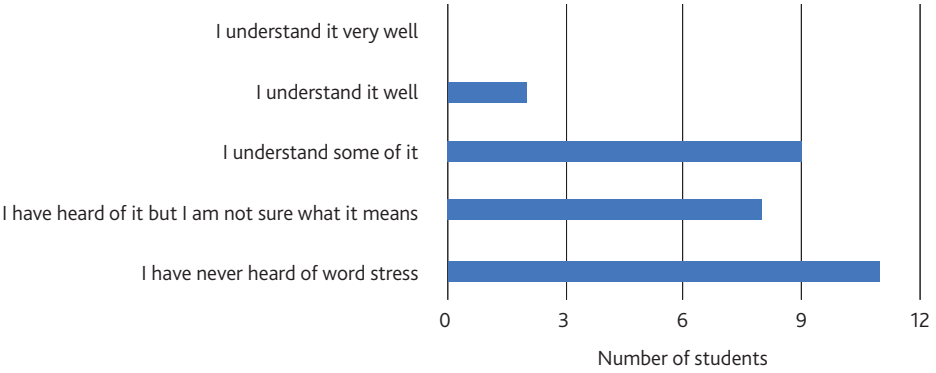

Figure 2: Connected speech knowledge

Furthermore, many students noted they had difficulties communicating with people outside the school.

The final student survey and focus group questions (Appendix 2 and 3), asked students whether they noticed changes in their communication inside and outside the classroom in real-world situations, because initially many students had noted difficulties in these areas.

Students also recorded their pronunciation of vocabulary and sentences in each elective class and posted on social media platforms where suprasegmental features were assessed by their classmates. This was implemented to provide feedback on where they had achieved accurate production and intelligibility.

After Cycle 4, I interviewed students to evaluate changes in their awareness and comprehension of segmental features but principally to focus on the development of suprasegmental features use in oral production. The aim was not to ascertain students' perceived changes in their pronunciation knowledge but to examine changes in their pronunciation abilities. The interview included asking about how their speech had changed and if they had noticed changes outside the classroom when communicating in real-world situations.

Teachers

Two mechanisms were administered to identify changes in teachers' pronunciation methodologies: surveys and interviews.

The goal was to investigate changes in their classroom pronunciation methodologies following the professional development workshops as well as in assessing student engagement and spoken intelligibility.

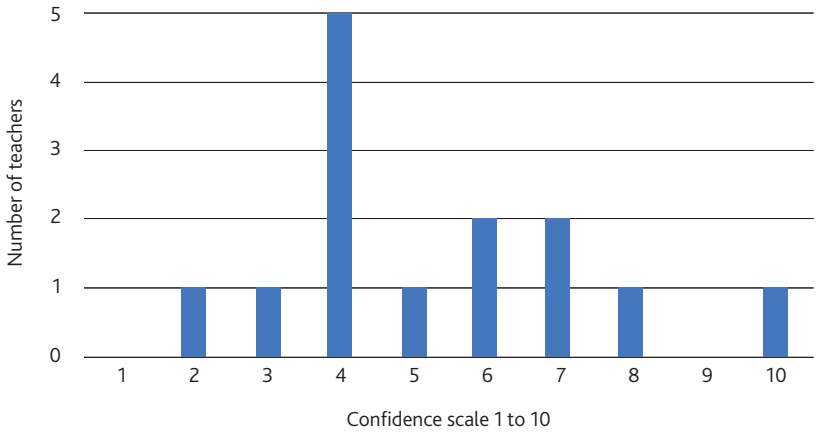

Figure 3: Changes in pronunciation knowledge after PD workshops

Findings

Students

Students in both focus groups advised that their knowledge of segmental and suprasegmental pronunciation features had increased to the point where they currently understood them quite well or very well. The final student survey also confirmed this finding (see Appendices 2 and 3).

> *'Yes, I understand segmental and suprasegmental pronunciation features now. When I speak English, sometimes people can't understand because my pronunciation is not good. I must study English pronunciation.''They helped me understand how I can say words correctly. It is useful and helps a lot.'*

They indicated that the use of technology increased their engagement in the learning cycle, and most had used Siri outside of the classroom to check their pronunciation.

> *'Siri judges my pronunciation accurately. Using QR Codes is like a game. I really enjoy it'.*
>
> *'I enjoy to the QR Code process because it helps me practice outside the classroom and I use Siri when I go shopping'.*

All students in the final survey of the speaking and pronunciation class agreed that their speaking abilities outside the classroom had increased slightly, to some extent or significantly.

> *'The pronunciation class has helped speaking with people when I go shopping and to a restaurant. They can now understand what I am asking for and saying'.*

It was observed during class that student's intelligibility had increased by varying degrees.

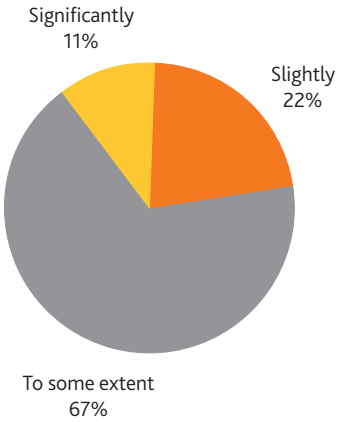

Figure 4: Changes in student speaking intelligibility as a result of the speaking and pronunciation class

All students in the final survey confirmed overwhelmingly that they would recommend students to take a speaking and pronunciation class that embedded vocabulary from their General English class.

> *'I would recommend all students take a speaking and pronunciation class. The class has helped me in my General English class at Kaplan'.*

Teachers

Three teachers volunteered to be interviewed to expand their answers from the final teacher survey. Each of the teachers interviewed confirmed that their prior pronunciation knowledge had not equipped them to feel confident in teaching either segmental or suprasegmental features in their General English classes. The teachers agreed that after the professional development workshops their pronunciation methodology and abilities to teach segmental and suprasegmental pronunciation features had expanded.

One of the interviewed teachers stated: 'I acquired more knowledge of pronunciation teaching after the professional development workshops. Now in the classroom, I am able to teach pronunciation with confidence'.

The responses from the final teacher surveys also concluded that all teachers to some extent or significantly had developed effective methods to embed pronunciation within their General English lessons from the pronunciation workshops.

Three teachers believed that changes in their pronunciation knowledge of segmental and suprasegmental features would increase their future employment opportunities considerably and five to some extent.

Reflections

IIntroducing technology into pronunciation teaching suggests that students became more receptive and independent in their own learning. Many young adults are now more familiar with swiping across a screen than turning pages in a book and educators across all disciplines need to refine their teaching to recognise this change in student behaviour. My research showed that when interactive international phonemic alphabet (IPA) tools were introduced in the classroom, students (and teachers) became more motivated. Upon reflection, I could have enhanced this research further by utilising more technology during the elective speaking and pronunciation lessons. I now believe that if more advanced tools were introduced that tapped into technology, student and teacher engagement would become more pronounced. If this research were to move into a new cycle, the introduction of more innovative and up to date technology to improve student intelligibility could be considered.

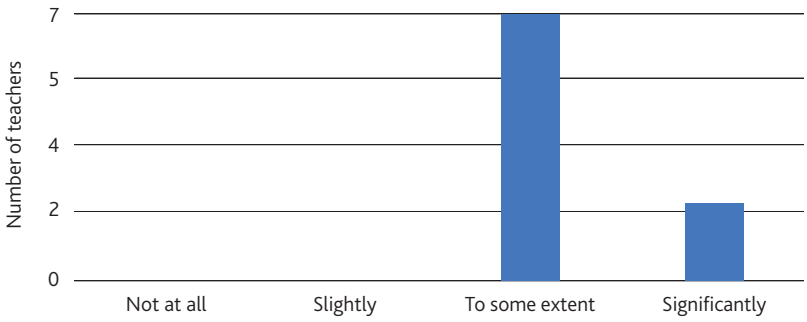

Figure 5: Changes in pronunciation knowledge after professional development workshops

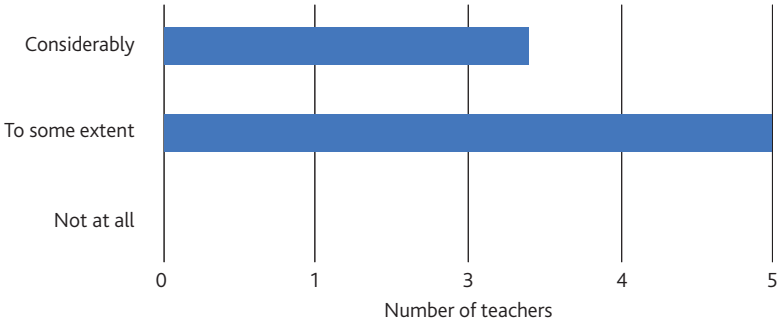

Figure 6: Increased employment opportunities from development of pronunciations skills

My AR achieved an improvement in overall student speaking intelligibility in the speaking and pronunciation class. Student awareness of how to use segmental, particularly suprasegmental, features of word stress and connected speech provided them with increased confidence which led to perceptions about changes in their overall intelligibility outside the classroom. The development of the QR codes that incorporated Siri and Google Translate voice recognition technology assisted students to identify any segmental pronunciation errors. What was not anticipated was the extent that students embraced technology, and their ability to confidently identify word stress and connected speech from their General English class textbooks. This development was unimaginable at the beginning of my project.

As envisaged, there was a substantial gap in teachers' knowledge and methodology that lead to pronunciation often being skipped or glossed over prior to the professional development workshops. As a result of the focus on pronunciation and this research, the teachers at Kaplan International Languages in Melbourne have to varying extents now adopted the teaching of both segmental and suprasegmental features into their classrooms. These changes in pronunciation teaching methodology have provided students and teachers with confidence and produced an increased awareness of the significance and advantages of student intelligibility.

My AR has also significantly developed my own pronunciation methodology and practices. My classroom-based research and reflection on my teaching through the four-step AR cycle has expanded my awareness of the constant evolution and development that an English language teacher embarks upon on a daily basis. These changes in my professional development will continue as will further cycles of my AR questions.

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Appendix 1: QR code student worksheet

Phonemic Script	Word in English Siri	Meaning	Sentence - Siri	Word Stress 1 Siri	Word Stress 2 Siri	Word Stress 3 Siri
/dʒʌŋ.gəl/	Jungle ✓	A large group of trees in a hot country	Some amazing animals live in the jungle in Brazil. ✓	some ✓	animals ✓	Brazil ✓
/fi:ld/	field ✓	A large area of grass.	The children often play football on the field. ✓	play ✓	children ✓	field ✓
/gəʊ əbrɔ:d/	go abroad ✓	To go to a different Country.	We usually go abroad in the summer. ✓	summer ✓	go abroad ✓	usually ✓

Appendix 2: Student final survey

Question 1: Have you had a pronunciation class before arriving at Kaplan?

Question 2: Do you now think pronunciation is important? Why?

Question 3: What is the IPA chart? How does it help pronunciation?

Question 4: What are suprasegmental pronunciation features? Did you know about them before the speaking and pronunciation class?

Question 5: Can you use them now?

Question 6: Are they useful and/or important?

Question 7: How has your pronunciation improved? Do people understand you more when you are speaking outside the classroom?

Question 8: Do you like using the QR code and Siri process?

Appendix 3: Student focus group questions

1. Had their knowledge of segmental and suprasegmental features increased? If so, in what way?
2. Their feelings on using QR codes, Siri and LINE technology during speaking and pronunciation class.
3. Changes in speaking intelligibility in the class and outside the classroom.
4. Would they recommend other students to focus on segmental and suprasegmental features to develop their speaking and pronunciation abilities?

PocketPron: Self-access pronunciation resource

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Introduction

Smartphones seem to be ever-present, a significant part of student life. With students reaching for their phones as one of their primary sources of information, we wanted to create an online resource that was easily accessible and relevant. Pronunciation is an area where we have found English for Academic Purposes (EAP) students frequently need more help than they are getting in the classroom. PocketPron was developed to meet these needs.

Context and participants

PocketPron was developed with the aim of increasing the intelligibility and pronunciation accuracy of students studying at The College, Western Sydney University. We have found that most pronunciation lessons are entirely class-based and wanted to provide self-access material to aid students' phoneme production. There are many difficulties with addressing individual pronunciation issues in a multilingual class (Brown 2012) and we wanted to offer a more accessible method of practising pronunciation. The intention of PocketPron is to offer students access to an online resource, putting their learning into their own hands.

The participants were enrolled in 10-week EAP4 classes and the cohort was from a wide variety of countries including Cambodia, China, Japan, Kuwait, Oman, Saudi Arabia, Tibet, Turkey and Vietnam. Ages ranged from 18 to 32; however, the majority of students were in their early 20s. This project was developed over several months, meaning students from multiple sessions contributed to the project, with 45 students in total.

The EAP classes are organised into five levels, entry level is EAP1 and students finish at EAP4 or 5. The entry requirement for EAP4 students is an overall IELTS score of 5.5, which is a CEFR Level B2. The students who exit from EAP4 move into the university's foundation courses. It is common, however, for some students to have poor skills in various aspects of pronunciation accuracy, which can have a serious effect on their intelligibility. Burns and Claire (2003), Jenkins (2015) and Varasarin (2007) all recognise the need to teach pronunciation so as to improve intelligibility. Poor intelligibility can lead to low scores in speaking tasks and oral presentation assessments. More importantly, students face significant difficulties at university if they do not address problematic areas of pronunciation before embarking on further studies.

It is worth noting that the goal of PocketPron was not to modify students' accents. Jenkins (2005) and Seidlhofer (2011) state that accents are linked with identity. Our intention was to develop students' pronunciation skills with the aim of improving intelligibility.

Research focus

When we began our project, we wanted to create a smartphone-based application to assist student development of suprasegmental skills. PocketPron: Pronunciation in Your Pocket was initially intended to be an independent app that students could personalise to meet their individual pronunciation needs. We also wanted to discover if the 'selfie' camera, used in conjunction with instructional and modelling videos, could be used to increase the accuracy of specific phoneme production. As our project continued, we decided to build a site within the university's e-learning system in order to collect quantitative data. This data would be used to help determine the efficacy of the project. Although we remained enthused by the possibilities of an app, we decided the website was a better choice for logistical and research purposes.

The focus of our research was to determine if the use of PocketPron could improve student intelligibility in terms of accuracy and production of specific phonemes. The project consisted of several stages including surveys, creation of resources, and multiple assessments (see Figure 1). Any improvement in student ability was determined through three pronunciation assessments.

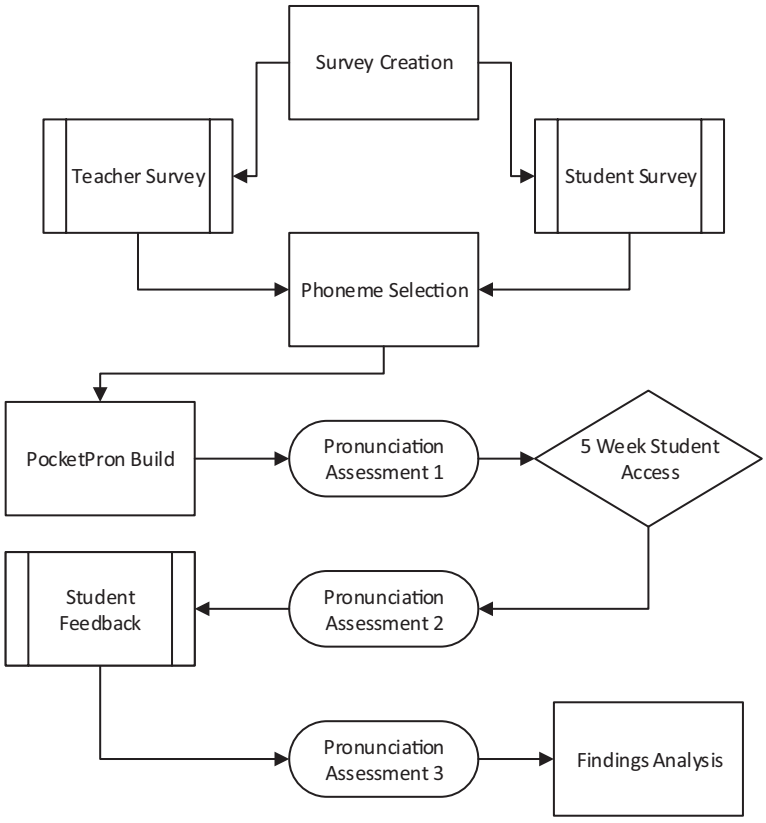

Figure 1: Research process

Data collection: Surveys

The first stage of our research entailed creating two surveys to collect quantitative and qualitative data regarding student and teacher needs (see Appendix 1). Before creating PocketPron, it was essential to determine what aspects of pronunciation would be the focus. In order to gain insight from teachers as well as students, we created a survey for each group. The surveys were made using Microsoft Forms and distributed to co-workers via email. Students were given time in class to complete the surveys on their phones. Both surveys contained questions designed to collect demographics as well as opinions regarding pronunciation study. Multiple-choice and open and closed questions were included, which elicited information regarding thoughts on language development.

One of the most interesting findings, illustrated in Figure 2, was that 88% of the surveyed teachers said they did not believe they had sufficient time to teach pronunciation in class. Teachers also clearly felt they needed to interrupt their planned lessons to teach pronunciation skills (Figure 3). Both of these findings led us to conclude that teachers would be supportive of a pronunciation program that students could use out of the classroom.

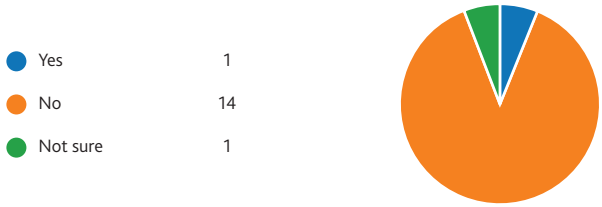

Figure 2: Teacher survey response to 'do you think you have enough time in class to help individual students with their specific pronunciation needs?'

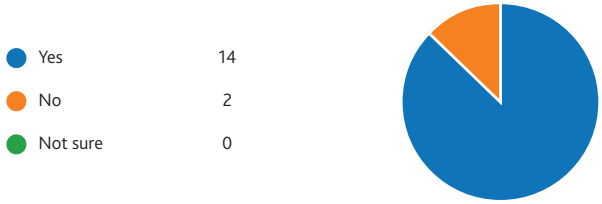

Figure 3: Teacher survey response to 'do you ever introduce an unplanned pronunciation point mid-lesson?'

It was also interesting to note that half of the teachers surveyed did not think students were aware of their own pronunciation weaknesses (Figure 4). We kept this in mind when deciding which phonemes we wanted to include in our project.

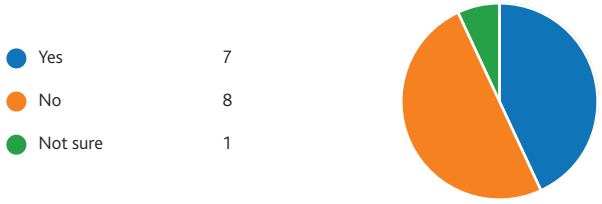

Figure 4: Teacher survey response to 'do you think students are generally aware of their pronunciation strengths and weaknesses?'

When we surveyed our students, we found that 94% of them wanted more opportunities to practise pronunciation (Figure 5). We found it noteworthy that 82% were either enthusiastic about or interested in private pronunciation practice rather than class-based practice (Figure 6). This led us to believe that PocketPron would be eagerly adopted by students.

Having established the need for PocketPron, we next determined its content. The survey data (Figures 7 and 8) revealed the most problematic phonemes for the EAP4 cohort.

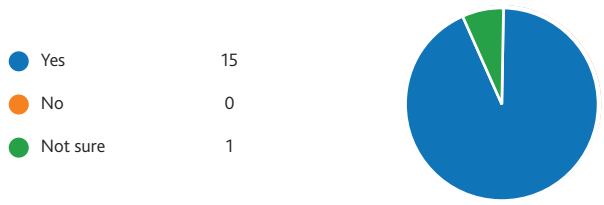

Figure 5: Student survey response to 'would you like more pronunciation practice?'

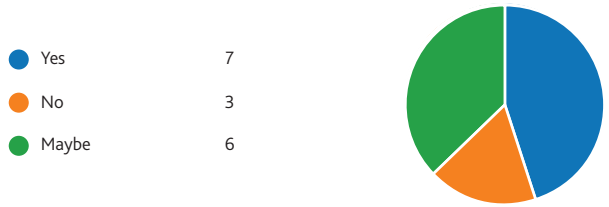

Figure 6: Student survey responses to 'would you feel more comfortable practising pronunciation in private than in class?'

8. These minimal pair sounds are all created using external facial movement (facial protrusion) Which of these do you think your students need more help with? Please select as many as applicable.

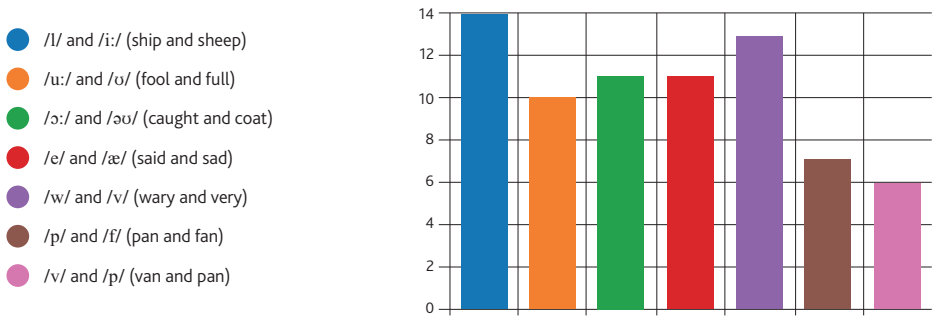

Figure 7: Teacher survey response on phoneme difficulty

10. Which of these sounds do you think you need more help with? You may choose more than one.

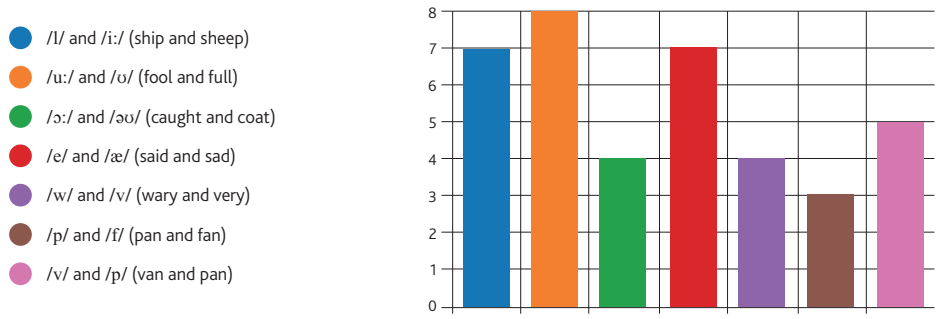

Figure 8: Student survey response on phoneme difficulty

The use of Microsoft Forms assisted with collating the opinions of students and teachers at The College. The collected data allowed us to identify the most problematic segmentals for students to articulate. We decided to choose the four highest-ranking groups. These included the following minimal pairs:

- /ɪ/ and /iː/ (ship and sheep)
- /ɔː/ and /əʊ/ (caught and coat)
- /e/ and /æ/ (pen and pan)
- /uː/ and /ʊ/ (pool and pull)
- /w/ and /v/ (wet and vet)

We added /uː/ and /ʊ/ (pool and pull) to round out the PocketPron program at 10 phonemes or five minimal pairs.

Building PocketPron

Deciding which phonemes PocketPron would focus on was the first step in building it. As the site would feature videos as teaching aids, we decided that all the phonemes we included would be minimal pairs showing facial protrusion. Facial protrusion or facial articulators (Tang et al 2015) are visible articulatory features such as spreading or rounding of lips and jaw displacement which can be clearly seen by a listener. These features aid the listener to identify individual segments (Kim and Davis 2014), which can, therefore, improve intelligibility (Tang et al 2015). Furthermore, segmentals with visible articulatory features can be easily modelled on an online learning platform. As we only included sounds that are made using visible changes of the mouth (face), we decided to omit /l/, /r/ and /th/, even though our survey indicated they are generally areas in which students need assistance.

The development of PocketPron is ongoing; however, the version of PocketPron that was used for this research project consisted of five production guides, five modelling videos and 10 practice activities. It focused on the production of and differentiation between five sets of minimal pairs: eight vowel sounds – /iː/ and /ɪ/, /uː/ and /ʊ/, ɔː/ and /əʊ/, /e/ and /aɛ/ – and two consonant sounds – /v/ and /w/.

The building of PocketPron consisted of three main stages: preparation for filming, the filming itself, and the creation or sourcing of online activities. It proved to be a lengthy and challenging yet enjoyable task. It involved research, extensive planning, collaboration with Western Sydney University's e-learning department and a steep learning curve regarding video production. With the support of the e-learning department, we were able to use the University's WOS Studio (Western One Stop Studio), which is a custom-built lecture pod capture system. This initiated the first stage of the building where we prepared slides for our video using PowerPoint.

One of the initial challenges was to source images for these slides. The images had to be at least 800 pixels in density and not under copyright, and obtaining images which met these criteria was much more difficult than we expected. The slides were then used during our filming session and incorporated into the videos. After the videos had been edited by the e-learning team, we set about designing and adapting pronunciation activities, such as tongue twisters, to include on the site. These activities were adapted from textbooks and other teaching resources, such as *Pronunciation Games* (Hancock 1995), *English Pronunciation in Use* (Hancock 2003), and the website busyteacher.org.

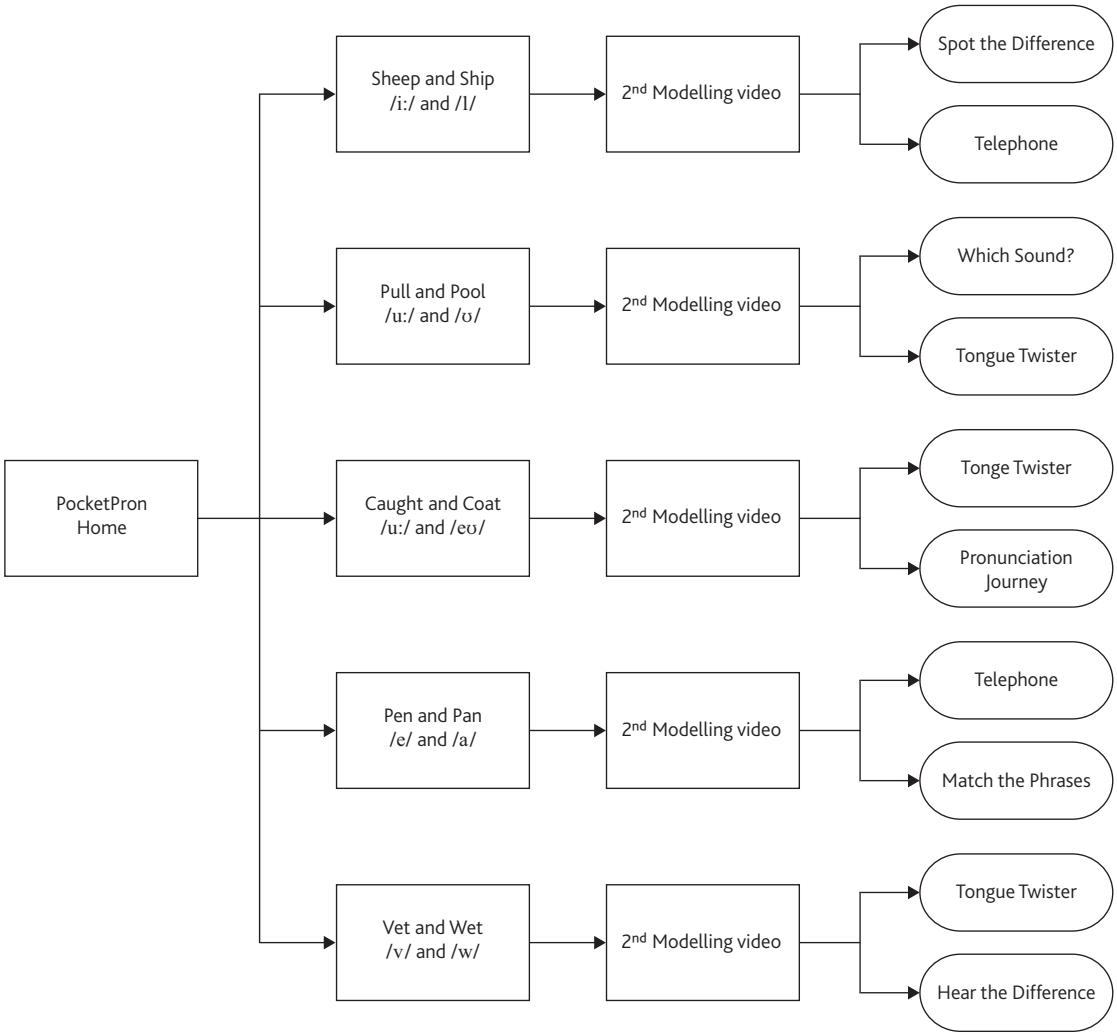

Figure 9: PocketPron site map

The PocketPron site

We wanted to keep the site as user-friendly as possible, especially as many students would be using their phones to access it. We decided to have one main page with links to five modules, one for each minimal pair. As a result, each module contains introductory instructions; a video explaining the differences between the sounds and how to produce them; a second, shorter video to practise modelling; and, finally, two activities the students could complete for further practice. After some trial and error, we were able to embed all videos and audio files within the site so students did not have to be redirected to different webpages. This dramatically simplified the site for mobile access. The videos were hosted on YouTube and the audio files on the university site. Figure 9 illustrates the path students would follow as they navigated the site.

One of the main reasons we chose to host PocketPron on the university site is that students are required to log in via their student accounts, allowing access to data and statistics regarding site usage. This data was an integral part of our research, informing our eventual findings on the success of PocketPron. The PocketPron site was only accessible to EAP4 students at The College via Western Sydney University's e-learning system. Once the students

had been given access to the site, they were able to access five units which focused on different minimal pairs in the 'Pronunciation Zone', as seen in Figure 10.

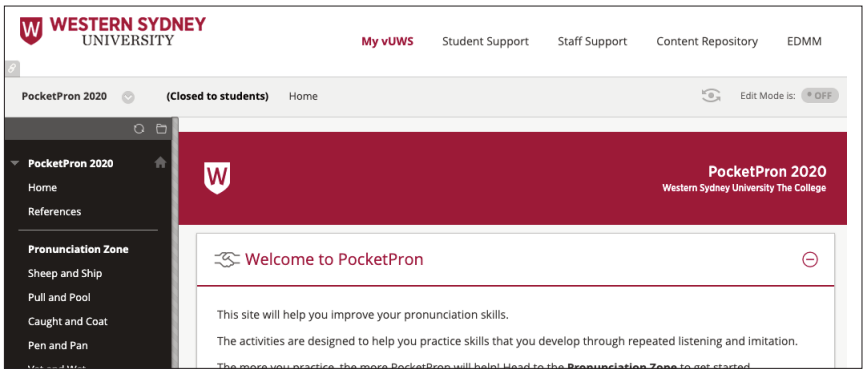

Figure 10: PocketPron home page

Figure 11 below shows the welcome page for the ship and sheep module. The intention was that students would watch the videos modelling accurate pronunciation and then film their own production. We hoped that comparisons between their efforts and the model videos would assist students with more accurate speech.

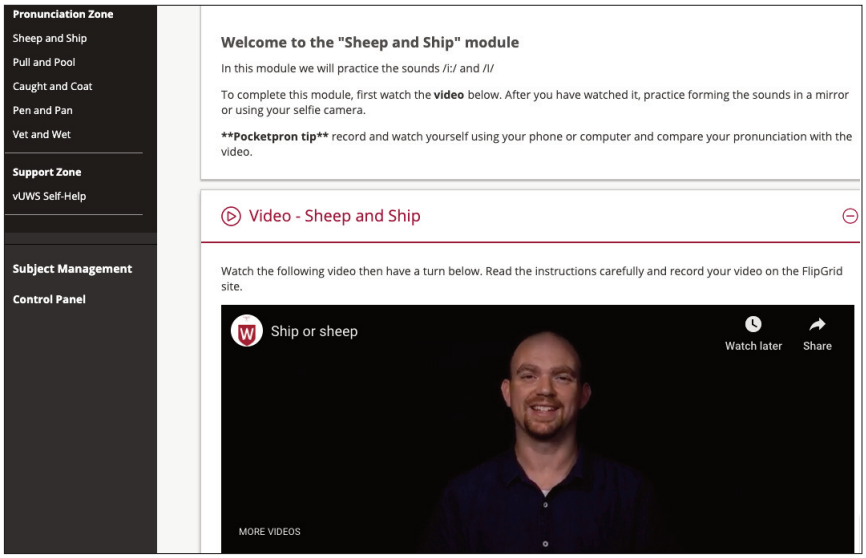

Figure 11: PocketPron ship and sheep modelling video

The videos included modelling of the minimal pairs and an explanation of how the sound is produced. For instance, the caught and coat module, in which students can practice the /ɔ:/ and /əʊ/ sounds, included these minimal pairs: caught/coat, saw/sew and tore/toe. The words we chose also highlighted the variation of spellings for the same phoneme (see Figure 12). In this module, caught, saw and tore all have different spellings for the sound /ɔ:/. We also included images in the videos in order to keep student focus on the phoneme and to avoid any misinterpretation of the written words.

An important objective of this project was to make pronunciation practice more fun and accessible. Podimatopoulos and Hammond (2017) assert that the most productive activities are engaging and enjoyable, and we agree. By using unusual voices in modelling tasks or providing amusing tongue twisters, we hoped that PocketPron would not only allow students to practise their pronunciation accuracy at home, or any other place, but also to do so in a more enjoyable way. Figure 13 shows our adaptation of the pronunciation maze activity (Hancock 1995). Students need to follow the maze according to the words that they hear in the recording on the PocketPron site and arrive at a destination they can check is correct.

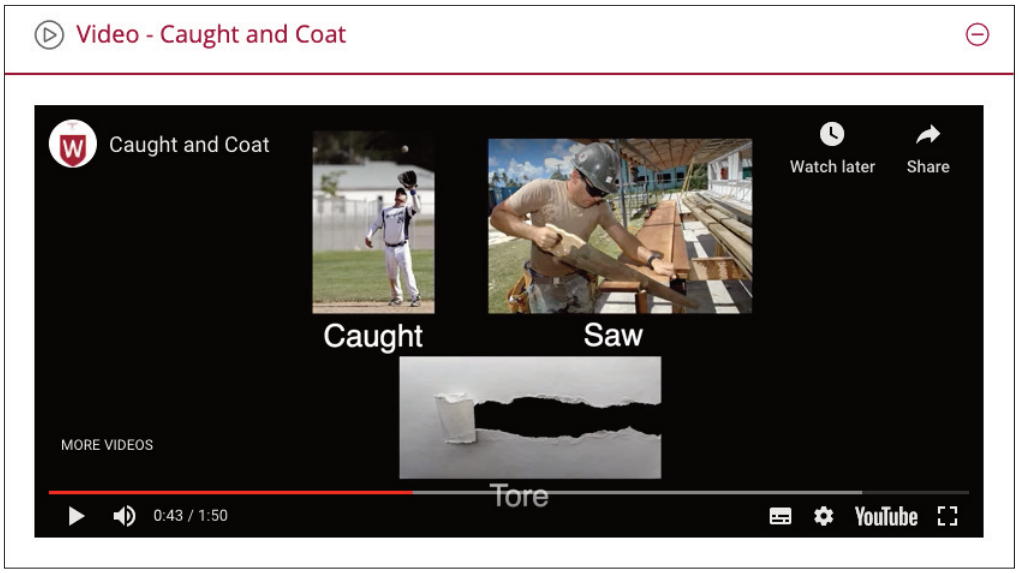

Figure 12: PocketPron caught/coat examples with /ɔː/

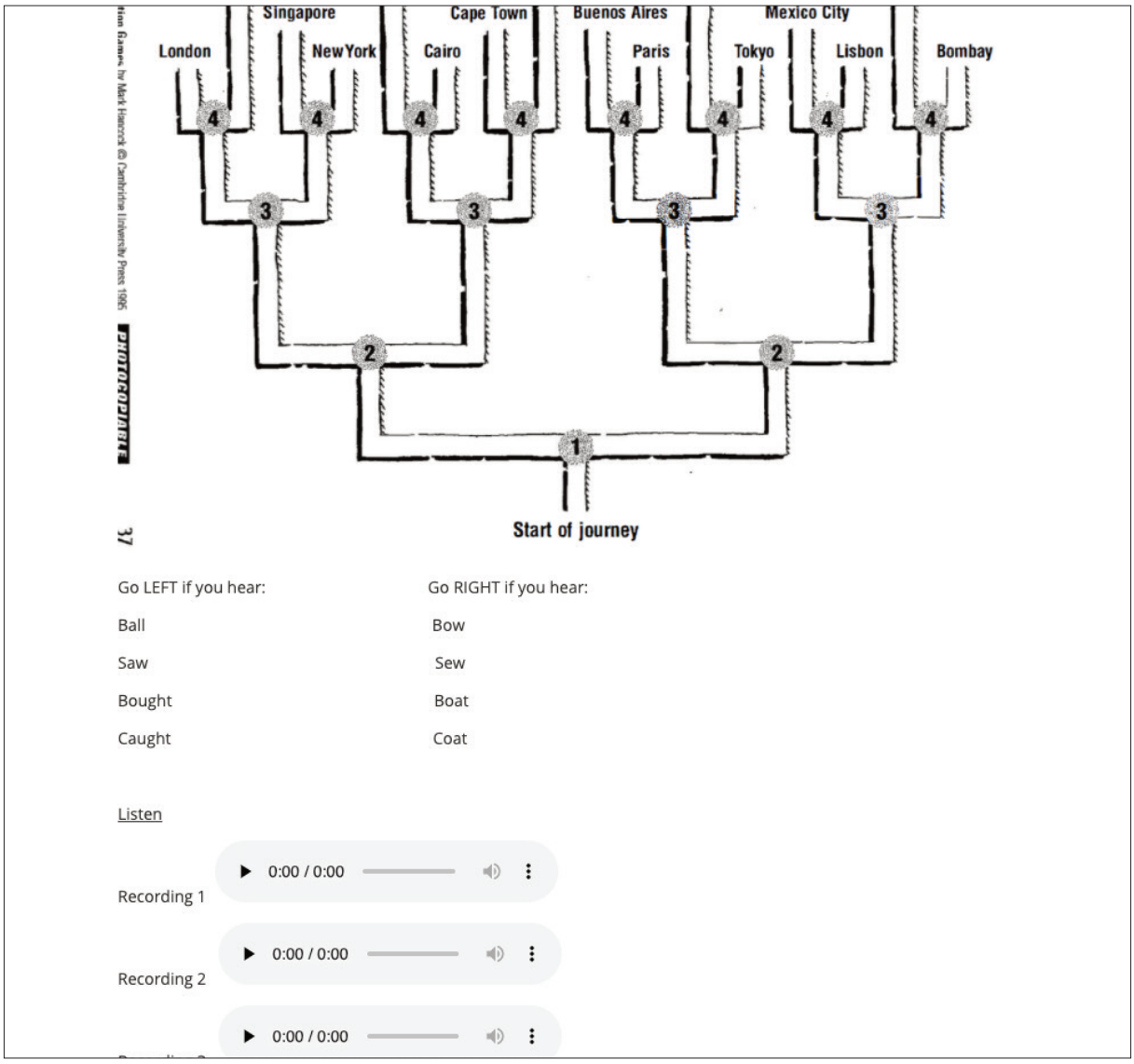

Figure 13: Example of caught/coat activities (Hancock 1995)

We also adapted a classroom game, 'What's your number?' (see Figure 14), where students listen to a list of words sharing minimal pairs and identify a digit which corresponds to the sound they hear. When put together, the digits form a phone number which students can check to determine their accuracy. We have found this to be a popular classroom activity; the instructions can be found on busyteacher.org (Verner 2018).

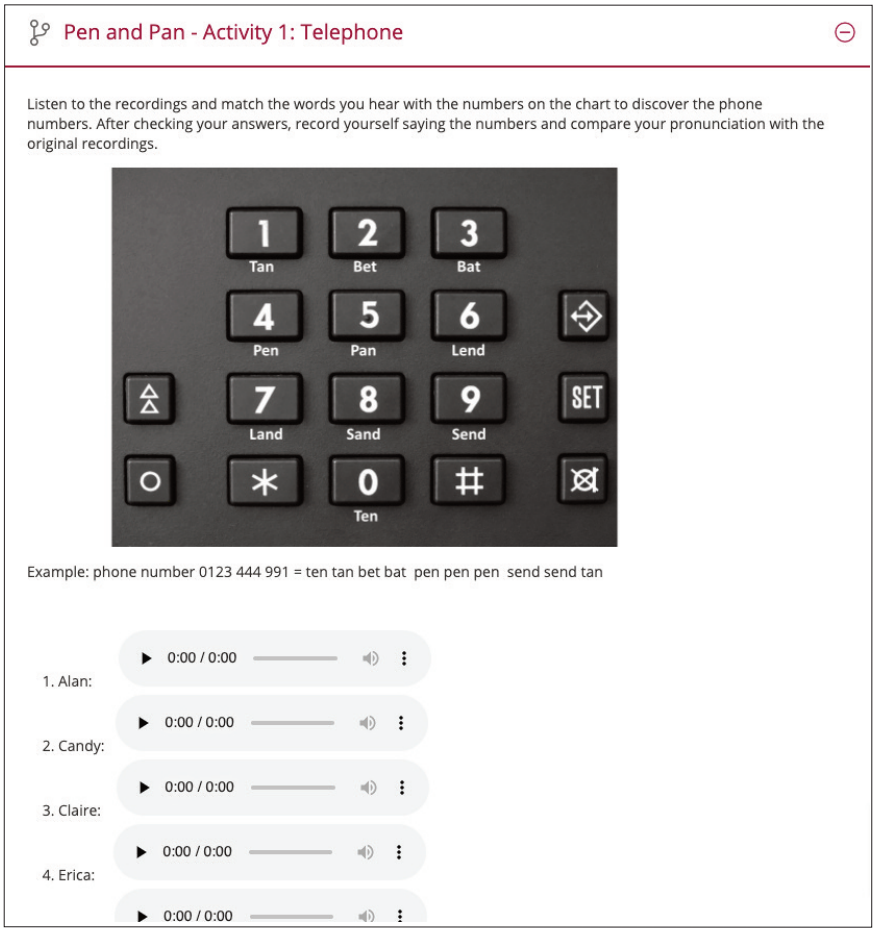

Figure 14: Example of pen/pan activity

All of the activities featured on PocketPron include either written answers or an audio track so that students can determine the accuracy of their work. We hoped that students might cycle through some of these activities: attempting, checking and re-attempting. This access to materials allowed them to practise and improve their articulation of the minimal pairs in their own time.

Assessing phoneme production

Three pronunciation assessments (PA) were completed during the project. PA 1 was given prior to student access of PocketPron to determine initial pronunciation ability. PA 2 was completed after five weeks of access. This second test was to measure any improvement in pronunciation skills acquired over the access period. Finally, PA 3 was given 10 weeks after the initial assessment. For the previous five weeks, students did not have access to PocketPron as we wanted to test student retention of pronunciation skills.

All three assessment texts and procedures were identical. Students were given individual interviews where, after some warm-up discussion, they were given two minutes to prepare to read a short text aloud. The text, shown in

Figure 15, was a diagnostic script containing multiple instances of all the minimal pairs PocketPron was designed to help develop. All assessments were recorded for analysis. They also read out the minimal pairs individually using both images and words as cues. Students were not given feedback about their pronunciation. After PA 1, a workshop was held where the students were shown the PocketPron site and resources. Students were allowed time to access the site and practise their pronunciation. They were not made aware that they would be retested using the same script and they did not receive a copy.

When feeling the heat, pull off your coat or vest and lie down by the pool at home.

Put up your feet, wiggle your toes, pull out a book and relax.

Enjoy the warm sun while you wet your lips with a sip of beer, wine or very cool water.

Figure 15: Pronunciation assessment script

Following each PA, the individual audio recordings were reviewed twice and the number of errors were tallied and noted. We focused on pronunciation errors that PocketPron addressed, disregarding problems that were not covered by the site. After PA 1, we chose 12 individual students who had a high number of errors to monitor throughout the project. Example results from each PA can be seen in the graphs in the 'Findings' section (Figures 17 and 18) and also in Appendix 2.

Student usage

Table 1 charts the overall usage of PocketPron. Initially we chose 12 students to monitor but as two did not access the site at all, we reduced the number to 10. Despite the positive feedback we received from students, as seen in Figure 21, students did not use the site as much as we had hoped. This was probably because we chose not to bombard the students with reminders, but rather to see how their interest was sparked after the first introductory workshop in class.

Table 1: Access data for PocketPron modelling video

	caught/coat	*pen/pan*	*pull/pool*	*sheep/ship*	*vet/wet*	*total hits*
Student 1	0	0	1	1	1	3
Student 2	1	1	2	5	1	10
Student 3	0	0	2	2	0	4
Student 4	0	0	1	2	0	3
Student 5	0	2	1	2	2	7
Student 6	3	1	4	4	5	17
Student 7	1	0	0	0	1	2
Student 8	0	0	0	2	0	2
Student 9	0	0	1	2	0	3
Student 10	0	0	0	0	3	3

Findings

It was encouraging to see that the student results from each PA showed a general trend of improvement (see Appendix 2). In all cases, there was at least one minimal pair group for which each student developed greater accuracy. Generally, the greatest improvements were seen in the vet/wet and sheep/ship modules (Figures 16 and 17). Perhaps the facial articulation for these phonemes is more pronounced and therefore easier for students to learn.

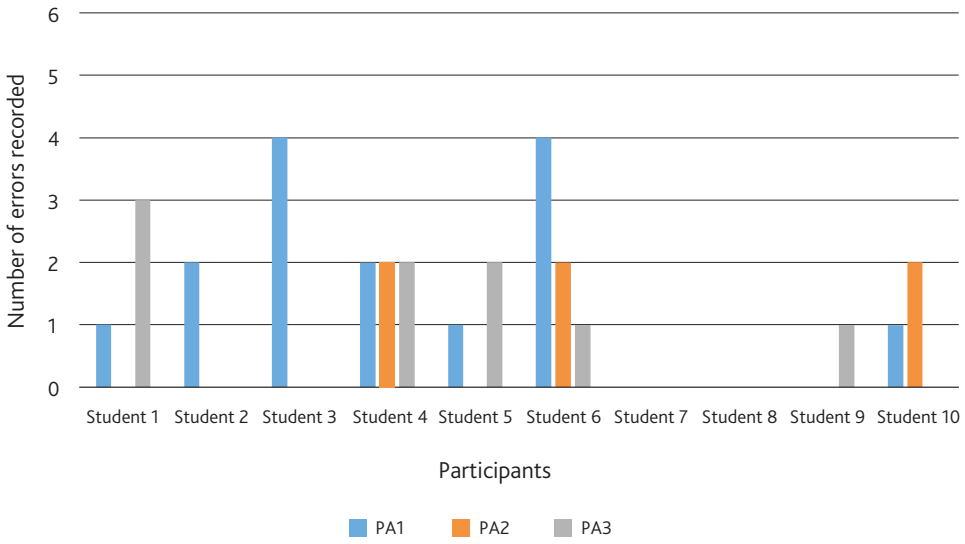

Figure 16: Student error tally for vet/wet

As depicted in the bar graph in Figure 16, over the three PAs, three students improved, four students increased their number of errors and three students remained the same while studying vet/wet. However, it is worth noting that all of the students who did poorly in PA 3 did very well in PA 2 and made zero errors. From this finding it can be concluded that this is a matter of students' lack of retention, as 90% of students improved between PA 1 and PA 2.

The minimal pair group sheep/ship had the most dramatic results (see Figure 17) as all students improved in their accuracy of this segmental group. Student 2 showed the most improvement, reducing their errors from five to zero.

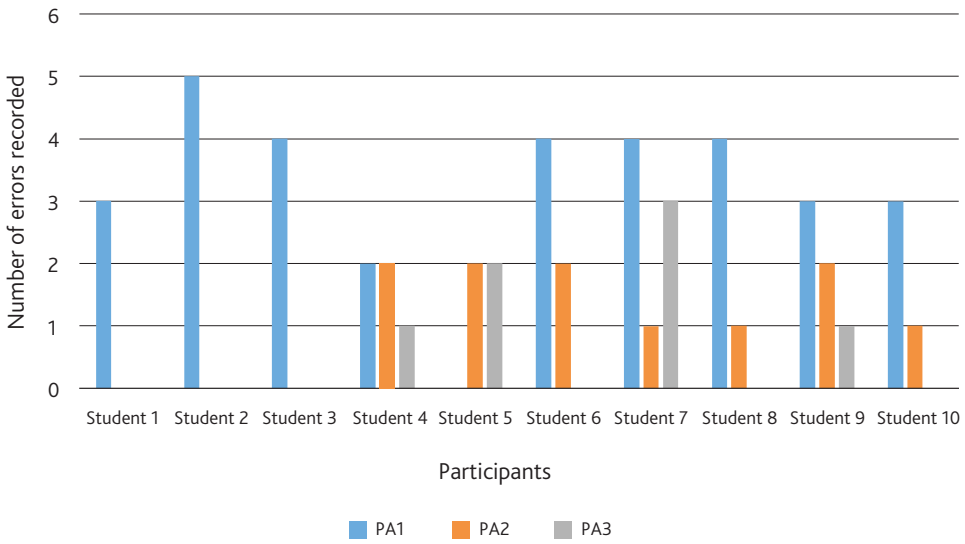

Figure 17: Student error tally for sheep/ship

Overall, the results show that students who used PocketPron sufficiently were able to reduce their errors in each PA (see Appendix 2). Figure 18 illustrates how Student 2, who accessed the site the second most frequently, was able to considerably improve their pronunciation accuracy. Student 2 watched the modelling video for sheep/ship five times and reduced their pronunciation errors from five in PA 1 to zero in PA 2. Impressively, they maintained their accuracy with zero errors for ship/sheep in PA 3 as well. Student 2 improved in each of the phoneme categories, aside from pen/pan. Of course, we cannot definitively say that this improvement was due to access to PocketPron, although it does seem very likely.

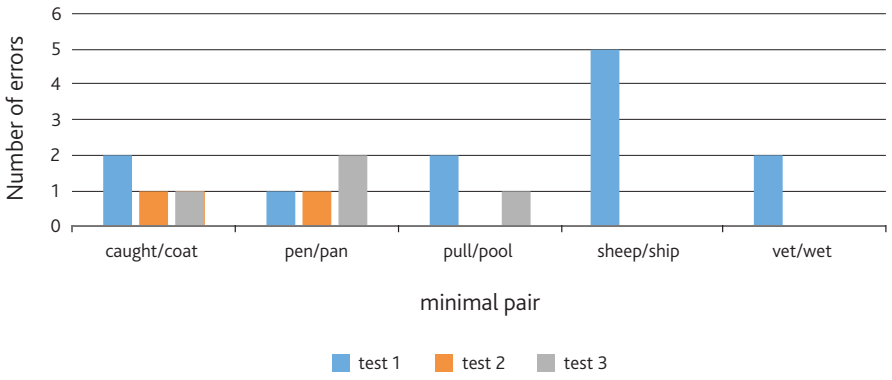

Figure 18: Example results Student 2

Student 6, whose improvement is charted in Figure 19, is another interesting result. This student accessed the PocketPron videos more than any other student — a total of 17 times. Although there was no improvement in caught/coat, there was a notable improvement in three of the other areas. PA 1 showed four errors in pull/pool, sheep/ship and vet/wet. After accessing each site four or five times, this student proceeded to reduce those errors in PA 2 to one or two, and in PA 3 recorded zero errors or one. These results are indicative of PocketPron's merit, as the student who used it the most showed such dramatic improvement.

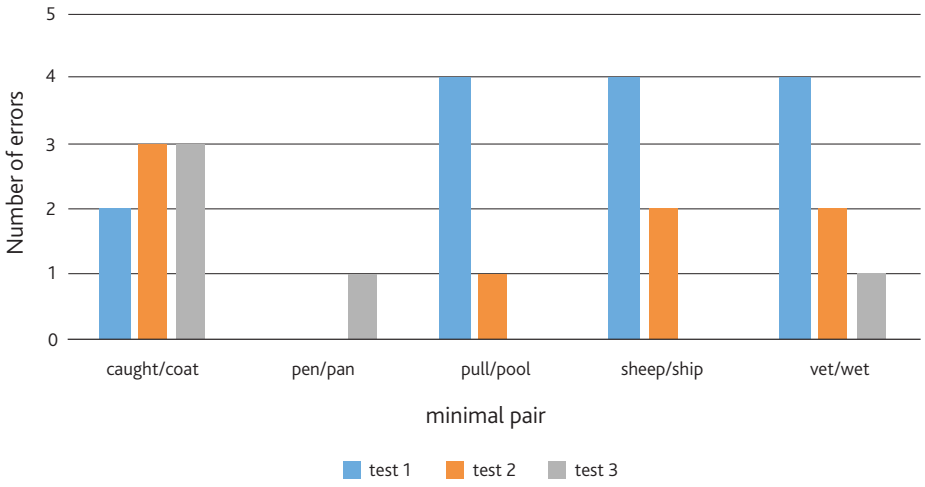

Figure 19: Example results Student 6

An instance where PocketPron failed to help can be seen in the results of Student 10. Despite accessing the vet/wet module three times, this student failed to improve and in fact got worse between PA 1 and PA 2, as seen in Figure 20. There may, however, be other factors involved, as this student got worse in many of the other minimal pairs while not using PocketPron for them at all.

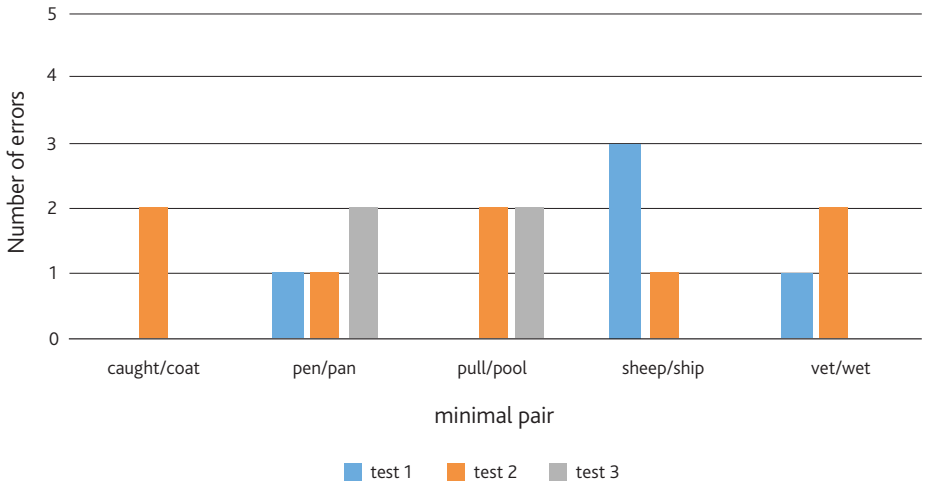

Figure 20: Example results Student 10

Student feedback

Students were asked to comment on their experience with PocketPron and their comments were encouraging (Figure 21). It is clear that students found the activities worthwhile and engaging. Moreover, some of the comments suggest that PocketPron would be a valuable resource for their friends overseas, indicating their desire for access outside of their current institutional context. Please note all comments are unedited to maintain authenticity.

Student quotations:

'I like this site because it helps to improve my speaking skills and become more confident.'

'I recommend it to my friends in my country.'

'I like the examples, they are funny and the pronunciation of these two teachers is so good.'

'It's good for pronunciation. Better pronunciation can make others understand you easily.'

'I like it because I can practice at home.'

'100% like'

'It really improves our pronunciation skills.'

'I would like to recommend PocketPron to other students to improve pronunciation.'

'It is really useful for overseas students.'

'It was very easy to use.'

Figure 21: Feedback from students about their PocketPron experience

Conclusions and reflections

This project was stimulating and educational, inspiring us to try new and different teaching techniques in the future. Although developing online resources had its challenges, creating the videos at the WOS Studio allowed for the production of professional videos that were both enjoyable to make and a useful resource for ongoing use.

In the future, we intend to discuss PocketPron in class more frequently, to see if this fosters increased usage. Even so, 20% of students used it more than 10 times, and they were the students who displayed the greatest improvement. This will be useful information to relay to future students during future PA 1 introductory workshops.

Reviewing student recordings proved to be an extremely informative method of analysing problematic areas of pronunciation. From the data recorded in the first test, it is clear that students need more practice with final consonants, particularly Vietnamese students. Unsurprisingly, /l/ and /r/ were also identified as being problematic in the assessment. In general, we would like to include more consonants in the program. As PocketPron is expanded in the future, it will be an increasingly effective tool, guiding students to the specific areas that they will most benefit from and enabling them to develop their skills out of the classroom.

One of our initial research questions, to determine if the 'selfie' camera used in conjunction with instructional and modelling videos improves the accuracy of specific phoneme production, was not really answered. As the development of PocketPron became more complicated, we decided it was necessary to simplify and omit the function where students could upload recordings of themselves using a program such as Panopto. Although the use of selfie cameras was encouraged at every level of the program, at no point was it mandatory nor were recordings reviewed, so it is impossible to tell what aspect it played in student development. In future versions of PocketPron we intend to include these inbuilt recording options and then reassess if we can answer this research question.

Feedback from students reflected that they would have preferred PocketPron as an application rather than a website. Using student accounts to log into PocketPron meant we were more easily able to collect data on student use but we are very interested in investigating options for an app in the future.

PocketPron seems to have helped a number of students improve their suprasegmental pronunciation skills. It was very pleasing to see PA 2 and PA 3 demonstrate a marked improvement in student accuracy (Figure 17). From this we conclude that PocketPron is successful at helping students develop their pronunciation skills, with more frequent use leading to better results.

We look forward to making this resource accessible to future EAP4 students. As technology continues to be ever-present in students' lives, resources such as PocketPron will complement traditional classroom practices and offer more personalised learning opportunities.

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Appendix 1: Action research project student survey

1. Which age group do you fit into?
   - ○ less than 18 years
   - ○ 19–25 years
   - ○ 26–30 years

2. Choose your first language or mother tongue
   - ○ Chinese
   - ○ Japanese
   - ○ Korean
   - ○ Vietnamese
   - ○ Cambodian
   - ○ Arabic
   - ○ Portuguese
   - ○ Thai
   - ○ Other

3. If you chose 'other' for Question 2, what is your first language or native tongue?

4. How important is pronunciation to you, when speaking English.
   1 indicates 'not important' and 10 'very important'.
   1
   2
   3
   4
   5
   6
   7
   8
   9
   10

5. How often do you discuss a pronunciation point in your EAP class?
   - ○ Daily
   - ○ Most days
   - ○ Weekly
   - ○ Every few weeks
   - ○ Less often than monthly
   - ○ Not sure

6. Do you think your specific pronunciation needs are addressed in class?
   - ○ Yes
   - ○ No
   - ○ Not sure

7. Would you like to do more pronunciation practice?
   - ○ Yes
   - ○ No
   - ○ Not sure

8. Would you feel more comfortable practising pronunciation in private than in class?
   - ○ Yes
   - ○ No
   - ○ Maybe

9. Would you prefer to study using online resource rather than textbooks?
   - ○ Yes
   - ○ No
   - ○ Maybe

10. Which of these sounds do you think you need more help with? You may choose more than one.
    /ɪ/ and /iː/ (ship and sheep)
    /uː/ and /ʊ/ (fool and full)
    /ɔː/ and /əʊ/ (caught and coat)
    /e/ and /æ/ (said and sad)
    /w/ and /v/ (sh)
    /p/ and /f/ (pan and fan)
    /v/ and /p/ (van and pan)

11. Are there any other pronunciation points that you would like to improve?

12. When practicing and improving your pronunciation, which activities do you like to do? You may choose more than one.
    - ○ Practicing tongue twisters (e.g. 'Peter Piper pecked a pick of...')
    - ○ Reading a text aloud
    - ○ Singing songs in English
    - ○ Learning the phonetic symbols
    - ○ Using a dictionary to learn the pronunciation
    - ○ Other

13. If you chose 'other' in Question 12, please describe other ways you practice pronunciation.

Action research project: Teacher survey

1. How long have you been teaching ESL?
   - ○ Less than a year
   - ○ 1–5 years
   - ○ 6–10 years
   - ○ More than 10 years

2. Which of these qualifications do you have? Please select as many as apply.
   - ○ CELTA
   - ○ Grad Cert TESOL
   - ○ Grad Dip TESOL
   - ○ Masters TESOL or Linguistics

3. Considering other language skills, how important would you say teaching pronunciation is, in your EAP classes? (1 – not important/10 – essential)
   - ○ 1
   - ○ 2
   - ○ 3
   - ○ 4
   - ○ 5
   - ○ 6
   - ○ 7
   - ○ 8
   - ○ 9
   - ○ 10

4. How often would you teach specific pronunciation point in your EAP classes?
   - ○ Daily
   - ○ Most days
   - ○ Weekly
   - ○ Every few weeks
   - ○ Less often than monthly

5. Do you ever introduce an unplanned pronunciation point, mid-lesson?
   - ○ Yes
   - ○ No
   - ○ Not sure

6. Do you think students are generally aware of their pronunciation strengths and weaknesses?
   - ○ Yes
   - ○ No
   - ○ Not sure

7. Do you think you have enough time in class to help individual students with their specific pronunciation needs?
   - ○ Yes
   - ○ No
   - ○ Not sure

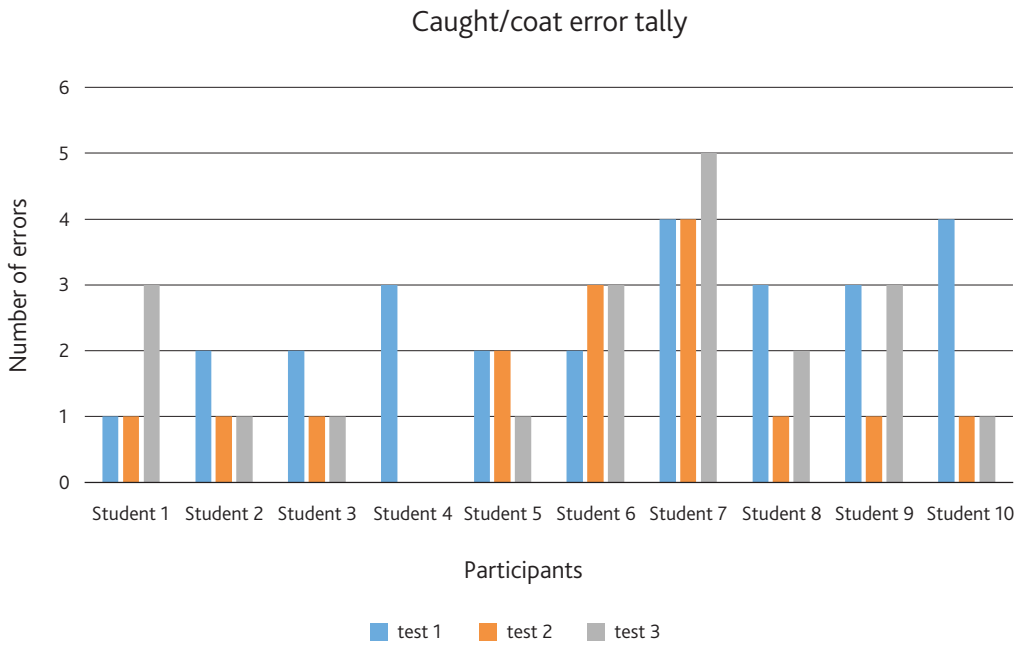
8. These minimal pair sounds are all created using external facial movement (facial protrusion). Which of these do you think your students need more help with? Please select as many as applicable.
   /I/ and /iː/ (ship and sheep)
   /uː/ and /ʊ/ (fool and full)
   /ɔː/ and /əʊ/ (caught and coat)
   /e/ and /æ/ (said and sad)
   /w/ and /v/ (wary and very)
   /p/ and /f/ (pan and fan)
   /v/ and /p/ (van and pan)

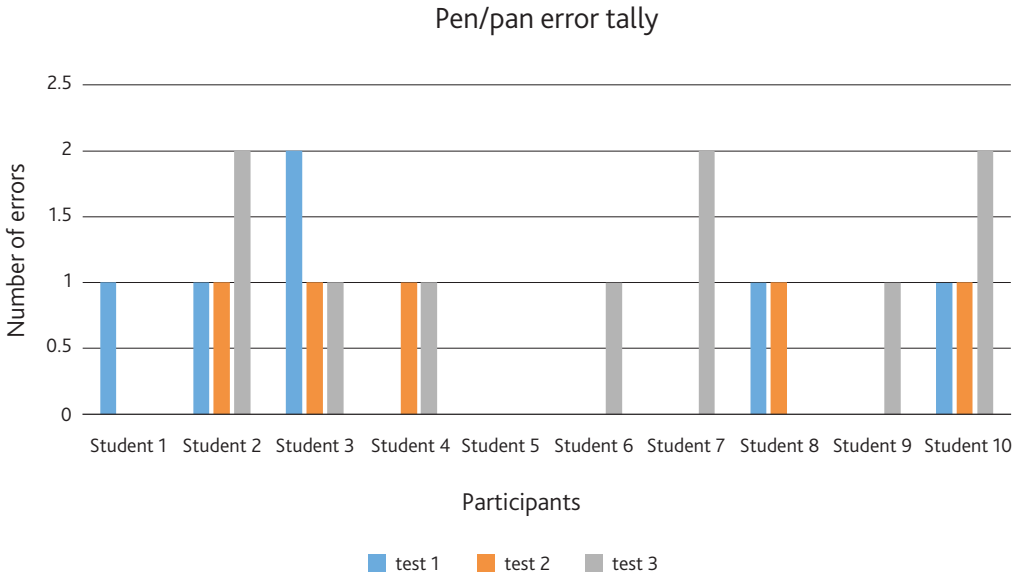
9. Are there any other phonemes created with facial protrusion that you feel are missing from this list? (please do not include sounds that are produced using internal muscle movement, eg - /sh/ and /ch/, /s/ and /z/, /t/ and /d/ etc.)

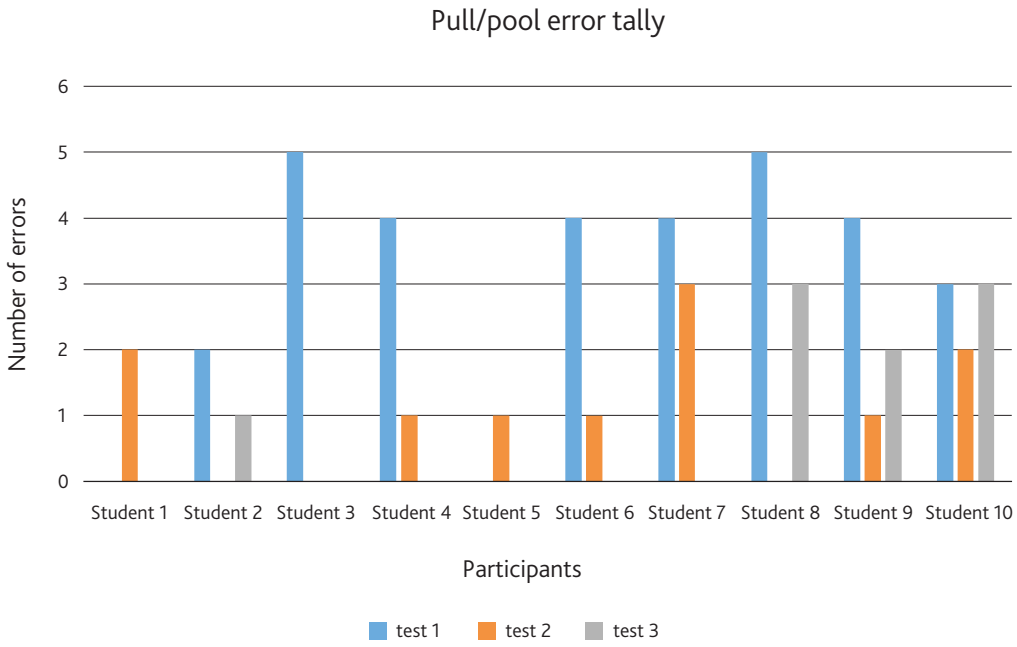
10. Which activities have you had success with in teaching minimal pairs?
    - ○ Tongue twisters
    - ○ Song lessons
    - ○ Telephone game
    - ○ Running dictation
    - ○ Jazz chants
    - ○ Other

11. If you selected 'other' for Question 10, please give some examples.

Appendix 2: Pronunciation assessment results






Pull/pool error tally
Number of errors
0
1
2
3
4
5
6
Student 1
Student 2
Student 3
Student 4
Student 5
Student 6
Student 7
Student 8
Student 9
Student 10
Participants
test 1
test 2
test 3

Strange sounds and stranger scribbles: Students using phonemic symbols

Kelly Murphy Navitas English, Perth

Introduction

One evening in my General English elementary class, a student knocked on the door moments before the beginning of the lesson. As I was welcoming the student, another learner, who was already sitting in the room, exclaimed: 'Tim!' 'Tim!' 'Teacher, Tim!'. I looked around, but I couldn't see a 'Tim'. To be honest, I had no idea what they were trying to express. I waited a moment for the student to self-correct or for another to provide some clarification. On this occasion, however, no such help was forthcoming. 'How am I going to get out of this awkward situation?', I wondered. I waited. We waited. Eventually, the same student pointed at the clock. I thought to myself: 'Ah! She's telling us the student can enter the classroom because the clock is broken and he has arrived before the cut-off time! She's trying to say the "time" because the time on the clock is inaccurate!' A change in the smallest unit of sound would have given her communication greater intelligibility. At the very elementary level, this type of confusing exchange is not uncommon. Thus, for this reason and others detailed later in this paper, I decided to focus my action research (AR) project on the teaching of units of sound in the classroom. More specifically, I looked at how encouraging the production of phonemic symbols in pronunciation input sessions might help students in their English learning process.

Context

General English elementary evening classes

I am a teacher at Navitas English in Perth, Western Australia. During my research, I was teaching an elementary evening class, which is the lowest level offered by the school. General English courses at the centre run on 10-week cycles, with rolling enrolment. The syllabus is based around one of three rotating course books and is taught from Tuesday to Friday. Progress reviews are carried out every Monday. Students can, and do, repeat levels if they do not achieve the required scores at the end of the cycle. Anonymised intake data for evening courses for the last year indicates that students are largely from South America, and on study visas. From experience, these students also tend to work during the day. This contrasts with daytime students who are generally younger, with higher numbers from Asian countries, and can be on university pathway programs. More details about the class compositions are provided in the 'Participants' section.

Pronunciation and phonemic symbols

My interest in the pronunciation project emerged from my own lack of confidence to truly engage with the symbols of phonemic charts in the classroom. The version of the phonemic chart that I used is presented in Figure 1.

The table consists of 44 sounds – 20 vowels and 24 consonants. These symbols feature sporadically in course books I use and other pronunciation resources at the school. Increased command of the phonemic symbols has proven to

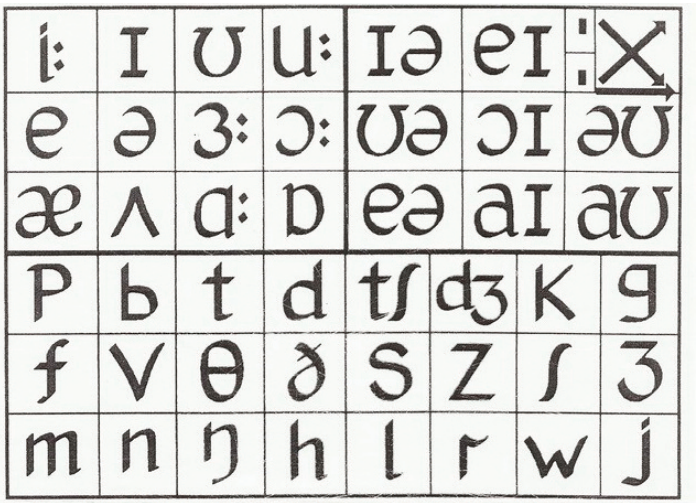


Figure 1: The Phonemic Chart (Underhill 1994)

be beneficial (Hancock 1994) and increase learner autonomy (Rajab 2013), yet there is little accessible research into the teaching or learning of these symbols in class. When I used them, it was entirely teacher-led. I wrote them on the board and I modelled the sounds with new vocabulary. I never encouraged students to actively use and record the visual symbols themselves. I realised one day that I had never seen a symbol in a student's notebook at this elementary level, even though I would write them on the board regularly. Instead, I would see their own transcriptions. These transcriptions were often not consistent even amongst learners of the same mother tongue. Thus, it seemed that they were keen to record pronunciation, but weren't using the symbols I was providing. This is why I chose to explore this area of my practice.

It should be noted at this stage that the teaching of pronunciation encompasses an extensive range of issues, from these small sounds to suprasegmental aspects of language such as stress and connected speech. It is the combination of all of these aspects that lead to clear communication. For my project, I chose the phonemes not because they are more or less important than other aspects of pronunciation, but because I was not confident in teaching them. It was a personal choice.

Research rationale and questions

The initial basis of my project was to assess whether the chart was a useful tool and whether encouraging students to hold a pen and draw the symbols of the phonemic chart would be an effective way to increase learner autonomy. I thought it might help them to record phonetic sounds in their notebooks and allow them to understand the use of symbols in other learning material, such as dictionaries. However, it quickly became apparent that this aim was unrealistic. Indeed, the short period for which I taught these students (sometimes less than 10 weeks), meant that the study could not accommodate for assessing how students were able to interpret multiple symbols consecutively in words. Furthermore, I did not focus heavily on discerning stress in phonemic transcriptions, which affects the pronunciation of full words. Instead, the adjusted rationale for this research lay in my curiosity to ascertain what impact, if any, encouraging students to actively produce the symbols of the phonemic chart could have on their English language learning. The main question, reformulated to be more open, is: In what ways might lessons geared towards producing a phonemic symbol in written form impact an evening elementary student's language learning?

Data collection and analysis

The interventions

The AR interventions took the form of 45-minute stand-alone lessons focusing on one symbol. The sounds were chosen based on personal experience of miscommunication between/with students, as well as sounds identified for Spanish and Portuguese speakers by Swan and Smith (Eds) (2001). Over the course of the project, I explored the sounds (/ɜ:/, /θ/, /aɪ/, /ʃ/, /ɪ/, /ə/, /ʒ/, /j/, /i:/, /eɪ/, /r/, /v/ and /ɔ:/). Some sounds were repeated twice or three times but with different cohorts of students. The common thread between lessons was that students actively produced the symbols in writing, and the sounds verbally. I organised five 4-week cycles. I took a 4-week break after Cycle 3. The lessons took 45 minutes on average and were delivered during the final 45 minutes on Mondays, after the syllabus-based progress reviews. The first four interventions were used to trial lesson formats. By the second cycle, each lesson involved elicitation of sounds, presentation of the symbol, elicitation of vocabulary in pairs from pictures and images on cards, and then an activity which required students to produce the visual symbol. The vocabulary presented was taken from words covered in the normal 'curriculum' for that level. I did this to try to minimise occasions of learning both the meaning and sound of the word and to try to use words they were already familiar with. I either made the students think of the correct word that contained the sound of the intervention, or I gave students a set of pictures and made them guess whether the word contained the sound of the intervention or not. The activities involving production of the symbol varied. I designed the activities myself to avoid copyright issues. However, some of the games were loosely based on ideas taken from Cunningham and Moor (2002) and Hancock (2018). Examples include short poems, drawings, crosswords, play-doh and even cake decorating. Examples are presented in Appendix 1. For the example with 'earth' and the crossword, I got students to think of the word based on the definition and then write it into the crossword, taking out the spelling and replacing it with the sound symbol. For the example with /θ/ (voiceless 'th'), I got students to draw the symbol on a card. Then I presented the story (see Appendix 1), starting with the first sentence and building on it (repeating prior parts) until we had formed a new story. Each time I presented a new picture/element for the story, I first elicited the main word (e.g. 'thing', 'teeth') and asked them to hold up the symbol if they thought it contained the sound of the intervention (i.e. voiceless 'th'). I also put in some distractors (e.g. 'this', 'brothers' – voiced) to draw their attention to the difference and increase complexity of the task.

Participants

Classes had between six and 13 students. Over the course of the 18 interventions (so far), 23 learners were from Spanish and Portuguese linguistic backgrounds, with two Arabic, two Korean, one Thai and one Chinese speaker. Over half of the students were over 24 years old. In total, 34 students participated across the duration of the project. A small number of students repeated a cycle twice but no student repeated an identical intervention lesson.

Data collection

The purpose of gathering data was to reflect upon the immediate impact on students' experience of learning English. Data was gathered from three sources. The primary source was student in-class comments and observations from the lessons (interactions with their peers or myself in the classroom). The idea of recording student comments in writing was taken from a technique I witnessed used by pre-school teachers and teaching assistants to monitor progress with pre-school learners in England. I circulated around the class during the activities and recorded what I heard on post-it notes. I also recorded questions or statement made to me by students. The second method was my own reflective journals. This enabled me to record my own subjective observations (e.g. perceptions of student engagement or lack thereof, or student confusion). The third method was translated

questionnaires presented to students at the end of Cycle 2. The questionnaires were in Spanish, Portuguese and Chinese to accommodate for the learners enrolled in that week.

Data analysis

Each comment from students (in-class comments and questionnaires) was coded depending on the topic. Examples can be seen in Appendix 2. I used my reflective journals to support the reasoning behind the coding.

Responses to the questionnaires demonstrated that they did retain some knowledge of the representation of the symbols and that they valued the input sessions in their learning journeys. Interestingly, they demonstrated a deep concern about the disconnection between sound and spelling in English. Also, the data showed that some students do not like group drilling because they hear other students producing sounds that may not be 'correct'. Although these responses did not address the physical concept of producing symbols, their comments on spelling partially supported my coded findings.

Limitations

An evident limitation of this research was the collection of vocalised data from elementary students. Firstly, it was impossible for me to capture everything they said. I designed lessons with very limited 'teacher talk time', which allowed me to drift between groups listening to exchanges, but I was naturally only able to focus on one group at a time. Furthermore, students may have chosen to conceal certain thoughts. Finally, with such limited language proficiency, one can always question how informative these comments were. I attempted to counter this issue by providing reasoning for my analysis; however it is, undeniably, interpretive and subjective.

Findings

With regard to the research question outlined in the 'Research rationale and questions' section, three main conclusions can be drawn.

An enthusiasm for symbols

The most surprising aspect of this project was that students were very open to and enthusiastic about writing the symbols. They did not find them overwhelming, as I had first anticipated. In fact, at the end of a long Monday of revising and testing, they usually became very engaged in these short pronunciation lessons. This observation directly contradicted my earlier preconceptions that evening students from South American backgrounds would be overwhelmed by or disinterested in them, possibly due to a lack of prior exposure. As exemplified in Appendices 2 and 3, students were eager to engage with them in the classroom and in their bank of personal resources (notebooks, photos) and some were even relieved to learn that such a tool existed. I did not face any resistance.

The sound-spelling disconnection

From the data gathered and analysed, I noted that the spelling-sound disconnection was the most common code to be generated. Early on in the project, student reflections made me realise that a significant benefit of teaching these symbols was perhaps not the immediate tangible acquisition of a learning tool, but instead their realisation for the first time that the relationship between English spelling and pronunciation is so complex. Although students

usually come to recognise this over time in standard classes, this more intense environment highlighted the issue in a very tangible manner at a very early stage in their learning. I never specifically articulated this reality; they came to their own conclusions. Furthermore, from the data gathered, the self-realisation and engagement with the disconnection was not imbued with negativity. Whereas I have previously experienced sighs and negative comments towards spelling and sounds at high levels, these realisations were instead generally much more neutral. Whether this is because of level or lesson, I cannot say, but it was interesting to note.

In relation to this realisation, it must be added that the interventions based on activities which required students to take out normal spelling and replace them with symbols gave me the most data in terms of students vocalising their impressions and realisations. As such, I would argue that they generated the most reflexive engagement and were the most successful in that respect. These interventions were the crosswords and recited stories. Examples are presented in Appendix 1. Once students had written the symbols and were reading from the page which included both 'standard' spelling and the symbols, they were forced to rely on the sound and not the spelling to articulate their answers. These are the types of activity that I will carry forward in my teaching.

Stranger, better

Another conclusion was that trying to fit 10 lessons geared towards the written production of a phoneme into the 10-week cycles was not appropriate. The more productive lessons were those centred around sounds that look the most visually different to their spellings and occur frequently (e.g. /ɜ:/, /θ/, /ɔ:/). First language interference appeared to be minimised as the focus on the symbol increased. For other symbols, like /r/ and /v/, which are difficult for my students to articulate but look the same as their spelling counterparts, the production of the symbols did not generate much reflection from the students or therefore data for my research. These sounds might have been better explored with other activities (e.g. physical/facial activities). Furthermore, in terms of planning the overall cycle, I found that utilising all the syllabus-free Monday 'spare' time meant that there was no flexibility to address other specific group weaknesses, such as writing skills. I now believe that incorporating four to five symbols in a 10-week cycle is sufficient. I also believe that recycling the symbols during normal class time is essential in maintaining awareness.

Reflections

My participation in this program has been immensely beneficial. Rather than seeing it as a learning tool to be feared, I now believe that phonemic symbols can and should be student-centred, even with students whose linguistic backgrounds and levels of English are not usually associated with using the symbols. The more visually different to the written letter(s), the more engaging the symbol can be for students. Symbol-based lessons can also be a way to fast-track students to the realisation that spelling and sound in English is a complex system at a very early stage in their learning, whilst controlling the environment and seeking to make it supportive and frame it as 'interesting' rather than 'a problem'. It was only through the cyclical process of planning, delivering lessons and reflecting that I was truly able to feel confident in the validity of my own experience and appreciate the context-specific nature of teaching pronunciation in ELICOS. Furthermore, given that I was teaching students an aspect of linguistics feared by many teachers, it was impossible to detach careful lesson planning and reflections from the process of these interventions – even if this does not feature in this article. Indeed, I could not present elementary students with a lecture on why we were looking at phonemic symbols and how they fit into the field of pronunciation, nor can they deal with an overload of subject-specific words such as 'phonemic'. As such, lessons had to be planned accordingly. I consistently made modifications to address issues like the number and type of

words given or elicited, the clarity of instructions, and to revise the format of certain activities. At this stage in my career, these lessons make me a more informed teacher. An unexpected 'side effect' of this project is that, although my own interventions focused on segmental features, my overall teaching of suprasegmental aspects has changed entirely. This is due to the exposure to other projects within our cohort. For instance, when clarifying new grammar in class at elementary level, I now give all three parts (meaning, form, pronunciation) equal importance. In the past, I presented the pronunciation more as an afterthought than an integral part of the grammar but now I present it as being as important as meaning and form. For instance, with connected speech (e.g. 'have to' for obligation), I insist on the weak form to help students with listening skills, as this was the focus of another research project in our group. Lastly, I believe that without the structure of this AR program, from the initial application through to the final report and presentation to my colleagues, I would not have completed the project or gained such invaluable professional insights. The timeframes and report structures forced me to reflect on my experience and narrate it in a way that gave it meaning and sense to me. As a result of my participation, I am currently exploring the potential to organise a smaller scale, elective, AR-style initiative in my school to benefit all members of staff and contribute to our in-house professional development sessions.

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Appendix 1: The interventions

Below are examples of student work produced at the end of a 45-minute lesson. These pictures all relate to an activity aimed at producing a written symbol in relation to words.

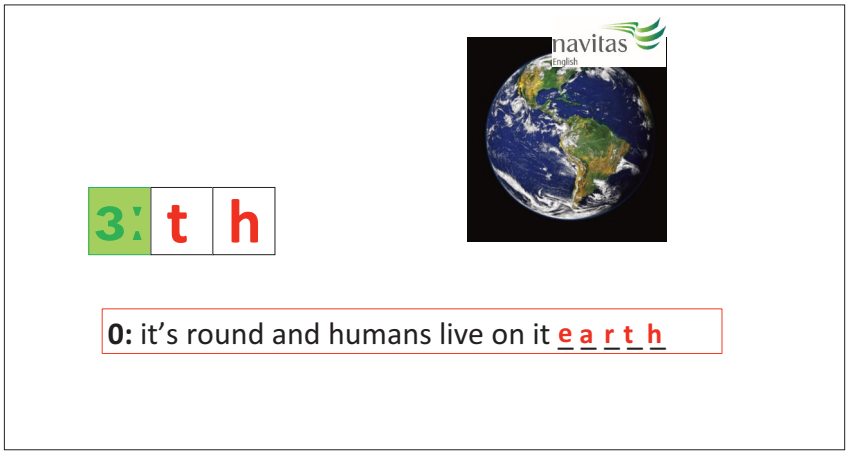
1. ɜː

Introduction to the symbol, pair work to recall/elicit vocab, checking, then activity. Activity modelled. For this activity, students first read the definitions and write the full word. Next, they move to the crossword where they remove the sound and replace it with symbol. Box coloured green on second cycle.

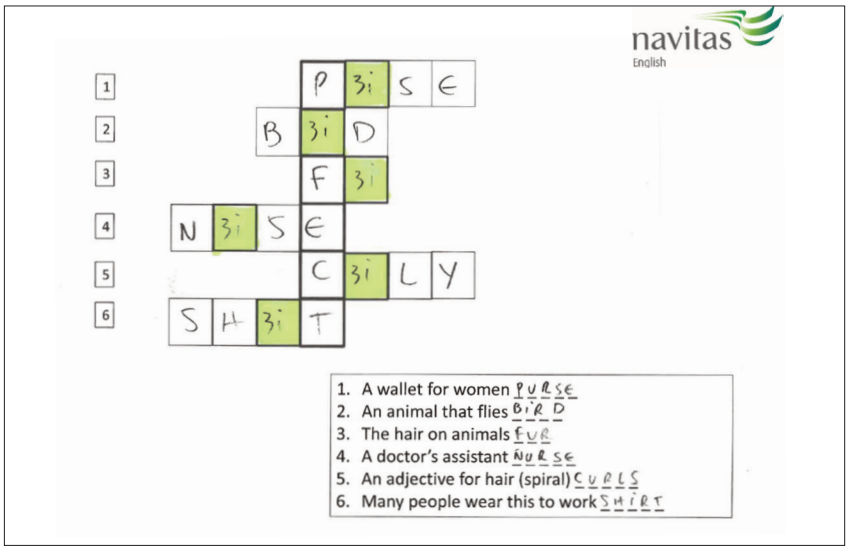
Sound presentation:

Vocab pictures:

Vocab pictures:

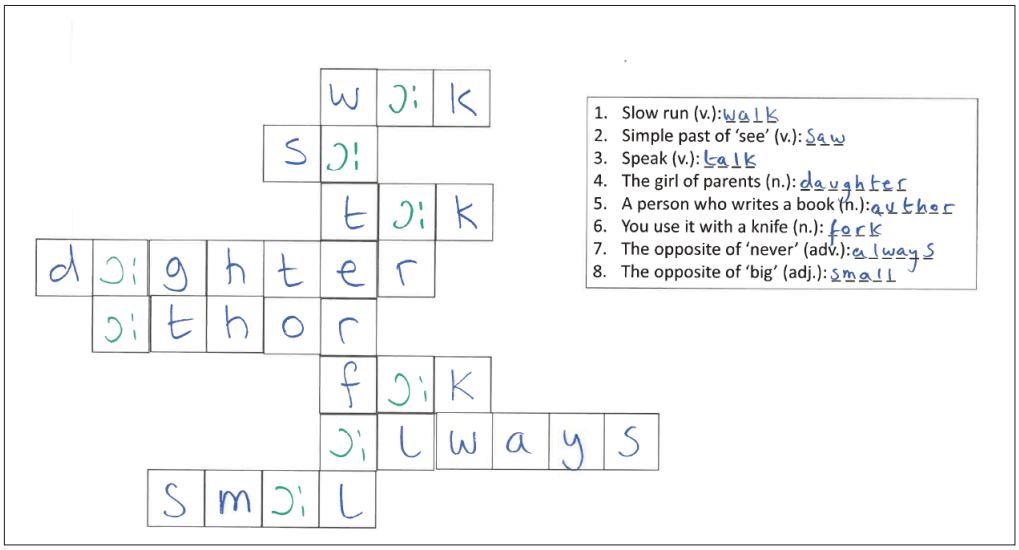


Student activity:



2. ɔ:

Same as activity noted above.



3. θ

Introduction to the symbol, pair work to recall/elicit vocab, checking, then activity. Activity modelled. Sentence on sentence build up with visuals. Choral drilling. Student to complete missing sound with symbol in their heads. Trick: this/brothers. Check. Read to each other.

th is is a θ ing wi th no tee θ with his θ ree bro th ers on his θ irtie θ bir θ day with a new too θ brush θ inking θ ANKS!

4. eɪ

Introduction to the symbol, pair work to recall/elicit vocab into columns of /ei/ sound and other sounds, checking, then activity. Activity modelled. Decorate one cake with /eɪ/ symbol using icing pen. Decorate second cake with three new and interesting words from the lesson containing the sound.

Appendix 2: Comments from students

Below are example quotes, interpretations and codes taken from the data.

Sound	Comment	Interpretation and code
Cycle 1 ɜː	Lucas calls me over. Lucas: *'Teacher – speak Perth, please.'* Me: *'Perth.'* Lucas: 'Ahhh. No Perth.' (inaccurate) *'Pert.'* (accurate) Another student interjects: *'Perth? Really? Wow!'*	Previously associated 'er' spelling with a different sound. Has understood the idea of multiple spellings and wants to check the pronunciation of Perth. Student is drawing on his own vocabulary bank and personalising it. He realises he's being saying it differently and the knowledge has been spread to others. I hadn't even thought of this word but now it seems obvious to include it as an example! **Code:** spelling/sound complexity, self-correction, spoken sound, peer teaching
Cycle 2 ɔː	John: *'Different writing. Write teacher. Write words, many words.'*	**Code:** spelling/sound complexity
Cycle 2 aɪ	Making play-doh symbols. Erica: *'Competition. It's very beautiful – haha.'* Lucas: *'Yes, my aɪ more beautiful.'*	**Code:** engagement with the symbol and activity
Cycle 3 ɜː	Cheeky peer correction and light-hearted interaction. Fabiana when checking vocabulary for pictures together: *'No, no is hamburger is hamburger.'* Both students laugh. Dayana replies: *'Yes, is English hamburger not Spanish hamburger.'* Lots of laughing.	Students have understood the sound and are trying to apply it to words they know but are not currently using it for. **Code:** spoken sound, peer teaching, engagement with the activity
Cycle 3 eɪ	Juliana: *'I take picture for my mother. Cute.'*	**Code:** engagement with the symbol and activity
Cycle 3 ʃ	Students exchange self-made corner to corner games. Sergio (paired with Antonia) burst out laughing and asks the class: *'What's this?' 'Shitzu?'* Everyone laughs. Antonia starts looking in the dictionary as no one knows. Diego: *'Ana consult dictionary for confused Sergio.'*	This is acting as a vocab builder and pronunciation activity, not about the writing. **Code:** building vocab, peer teaching, engagement with the activity
Cycle 4 ɜː	Sofia says: *'Is better with symbol, I can't understand my writing of pronunciation'*. Leila: *'Yes, correct! I need help with this!'*	This shows they are interested in the concept. Final cycle: new students, whole new discovery. Lots of excitement about a symbol for a sound. Opportunity to share struggles. **Code:** spelling/sound complexity, relief, engagement with the activity

Appendix 3: Extracts from reflective journal notes

ɜ Douglas in Week 1 took a picture of the whole chart after class. Then, unrelated, Natalia came back and took one too. Why would they return after class? They might be processing it. They are interested in the concept. Understand the importance of visual element.

θ Rhythm of story got everyone involved and then turned it into a race with each other once they had written the symbols. Here the difficulty of the sound was a real challenge for them, but they found it amusing. Lots of giggling. Repetition of story worked well. Took it upon themselves to turn it into a game – student agency in the activity? Seem to be actually reading the symbol as a sound.

ɾ Had no engagement from student about the form. No obvious, beneficial point to this lesson. This lesson only got engagement from the actual pronunciation – avoid symbols that look the same as the normal letter and a letter that exists in the student's own language. Student are seeing the symbols as the letter in Spanish and Portuguese and pronouncing it as they would in their own language. Maybe I was too concerned with overwhelming them that I thought this would reassure them but it's maybe pointless.

ɜː Is this working better with students with a Latin alphabet L1?! Maybe it's actually more useful for them than for non-Latin alphabet L1 students because they don't have pre-conceived ideas about sound-spelling associations?!

Do I really do that? Using video recorders as tools for (self-)assessment

Renee Constantin Ability English, Sydney

Introduction

As English teachers, we strive to help students improve their language skills. However, a great number of the students who pass through our classrooms continue to struggle outside. Abercrombie (1991) described intelligible speakers as those who can understand and be understood and a greater emphasis on pronunciation instruction has been recommended in recent years. Yet students often note feelings of demoralisation when they are not able to comprehend the local shopkeeper, a telephone call or are themselves not understood. Students thus develop perceptions of themselves as poor speakers and shy away from speaking English.

The use of technology continues to increase, and studies have explored its impact in helping students practise individual skills, such as listening, writing and speaking through individualised instruction, segmental and suprasegmental focused repetition, and visual demonstrations of student's pronunciation (Levis 2007). A similar study by Kirkgoz (2011) explored the effectiveness of video recordings in the Turkish EFL context and found that students were able to better identify their own language errors and see their progress and improvements. Focusing on assisting students with their pronunciation became a focus in this study.

Context and participants

This project was conducted at Ability English (Sydney) which offers Survivor English, a specialised closed course comprising two 5-week modules, which is where all students start on the first day of Week 1 and remain in the class for the entire duration of the first module. Survivor aims to help students gain confidence speaking in real-life situations by focusing on practical communication skills. The course also moves away from the traditional weekly testing structure and focuses on the use of interactive and functional communication, and cultural, reflective and receptive skills. Students are often planning to work in an English-speaking country, or with English speakers. Survivor aims to help students prepare for these interactions by moving away from lengthy texts often found in coursebooks and towards shorter, more natural and contextual examples of speech. The course is divided into two 5-week modules, with enrolment of students in Weeks 1 and 6. Students engage in weekly tasks including boardroom-style meetings, job interviews, volunteering, booking and planning holidays, planning events or tours, talking to strangers, giving presentations and talking on the telephone.

A total of 34 students participated in this project over the course of three 5-week cycles, with no students completing more than one cycle. Student's English level varied between low-intermediate and advanced, B1 and C1 respectively on the Common European Framework of Reference for Languages (CEFR, Council of Europe 2001). Female students predominated (70.6%), coming from Brazil, Colombia, Japan, Korea, Russia, Spain, Saudi Arabia and Thailand. The age range was from 19 to 61 with a mean of 27.4. Their motivation varied from wanting to improve their speaking and listening skills to being able to find a local job, take a break from their academic studies

to use their grammar and vocabulary in different contexts, and improve their English and speaking in a more relaxed and active atmosphere. Forty-one percent of students stated they had had some form of pronunciation-specific training in either English or their first language (L1).

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Research aims

Centred on task-based language (TBL) learning and teaching (Willis 2009), each of Survivor's weekly tasks aims to improve students' real-life communication skills. Doughty and Long (2003) identified eight methodological principles of TBL and communicative language teaching:

Principle 1: Use tasks as an organisational principle

Principle 2: Promote learning by doing

Principle 3: Input needs to be rich

Principle 4: Input needs to be meaningful, comprehensible, and elaborated

Principle 5: Promote cooperative and collaborative learning

Principle 6: Focus on form

Principle 7: Provide error corrective feedback

Principle 8: Recognise and respect affective factors of learning

Following these principles, students' language skills are assessed. However, while Survivor includes pronunciation-specific classes and activities, there are no clear assessment criteria.

Moreover, in my own classroom practice, I encourage students to video-record themselves during the various weekly activities as a way to self-reflect and to review their progress. Therefore, this project aimed to combine video recordings and pronunciation by:

1. Establishing video recording as a way to introduce pronunciation (self-) assessment.
2. Investigating if video recording helps students increase their phonological awareness to better identify examples of their own pronunciation errors.

Method and data collection

My research was conducted over three 5-week cycles. The program I designed (Figure 1) consisted of five pronunciation classes lasting two hours each and focusing on a specific feature of phonology. I then asked students to use their video recordings to find examples of their own and their classmates use of the phonological aspect, whether as a strength or area of weakness.

The course began with a survey collecting students' demographic data including their nationality/first language experience studying English, their opinions of pronunciation, and their self-evaluation of their own pronunciation and speaking skills (see Appendix).

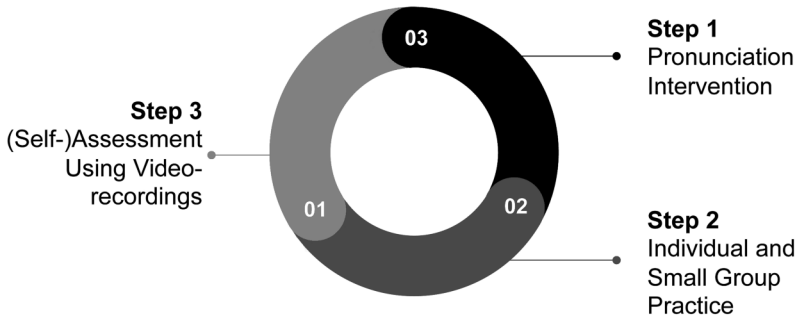

Figure 1: Intervention cycle

The weekly pronunciation classes varied slightly over the three cycles. During Cycle 1, I pre-chose specific phonological features to teach; however, upon reflection on their relevance to that specific group of students and their areas of weakness, I modified this for the following two cycles (Figure 2). Using the survey self-assessment data, I tailored the pronunciation classes slightly so that each of the three cycles was able to benefit more from them. Intervention included an initial explanation and whole-class activity followed by pair or group activities, where students were placed into groups of mixed L1s (where possible). The materials for these activities came from a variety of sources including *Timesaver Pronunciation Activities* (Bowler 2006) and *PronPack* (Hancock 2017), chosen for their diverse and engaging activities which all student levels were able to understand and complete.

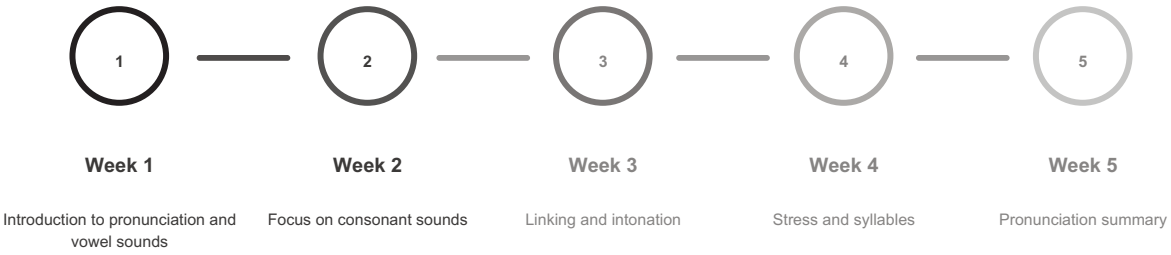

Figure 2: The phonological features taught each week during Cycles 2 and 3

During Cycle 1, intervention focused solely on self-assessment, with students watching their own videos. However, students' attempts to identify their own production of phonological features were unsuccessful as they had little experience with self-assessment and struggled to identify all of the features of pronunciation. The reflective and fluid nature of action research (AR) allowed me to modify this unsuccessful strategy for the following two cycles. During Cycles 2 and 3, assessment activities began as simple comprehension and feedback activities, with students encouraged to listen to each other's videos and to ensure they understood everything their partner said. In instances where confusion arose, students were encouraged to ask for clarification and then discuss why they did not understand each other; for example, whether it was a vocabulary, grammar or pronunciation issue. These activities later developed to identify specific examples of the weekly phonological feature and to assess whether they personally produced it correctly.

At the end of every course, students were asked to complete an anonymous survey. Their responses to specific questions referring to video recordings and ideas for course improvement and development were also considered as data for this AR.

To achieve my second aim of determining the effectiveness of video recordings, a diagnostic test in the first and last week was used to identify whether students had increased their phonological awareness.

Finally, I kept a descriptive journal to record the factual events of my classes such as examples of students' self-corrections and feedback, as well as my personal reactions and perceptions of these occurrences. This data were particularly useful in helping me determine whether or not video recordings helped students better identify examples of their own pronunciation errors.

Findings and discussion

The data shows that video recordings as tools for (self-)assessment had positive effects on students' phonological awareness. Two key stages of analysis took place: an inductive coding of students' survey responses and a subsequent detailed Appraisal Framework analysis (Martin and White 2005).

The Appraisal Framework provides an in-depth level of analysis which shows that a speaker's attitude is found across an entire discourse and is not defined by grammatical boundaries (Martin and White 2005). Simply put, the framework aids researchers and, in this case, teachers, to evaluate the language that students have used in terms of how they align or position themselves with the object of discussion.

The framework encompasses **Attitude**, **Graduation** and **Engagement** (see Figure 3). **Attitude** is the evaluation of feelings, people and things through the sub-systems of *Affect* (concerned with positive and negative emotions), *Judgement* (how language criticises, praises, condemns or applauds behaviour) and *Appreciation* (positive and negative assessments of objects and processes).

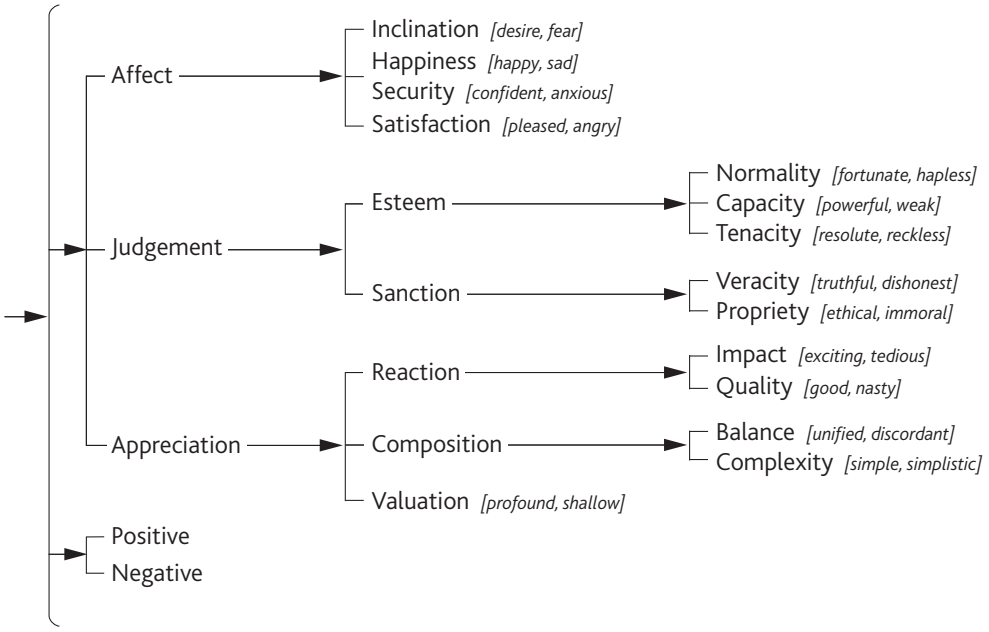

Figure 3: The Attitude Sub-system of the Appraisal Framework with each step of analysis and examples (Read and Carroll 2012)

Graduation acts to strengthen or lessen the item being appraised. This is divided into two subsystems, *Force* and *Focus*. The former focuses on the adjustment of the degree of an evaluation as either *intensification* or *quantification*. Intensification such as the adverb 'slightly' in 'improve slightly' helps the audience to understand the quality of the 'improvement'; while *intensification* can also be used to grammatically maximise meanings such as 'perfectly' in 'speak perfectly'. *Quantification* examines the text in regard to number ('*a few* times'), mass (how small or large something is), proximity ('*close* to a native') and distribution ('short-term').

Focus analyses terms which are not typically measured, such as truths and realities (for example, 'a real Australian accent') through upscaling, *sharpen* ('*native-like* speaking'), and downscaling, *soften* ('*kind* of large') (Martin and White 2005).

Finally, **Engagement** sources attitudes through dialogic expansion where a speaker's comments are understood by their position to, connection with and recognition of a listener. My analysis predominantly focused on *modality* (the degree of possibility), projection (quoting or reporting what has been said or thought) and *concession* (the stopping of an activity, event, clause or action which was expected to continue).

Aim 1: Establish video recording as a way to introduce pronunciation (self-) assessment

Inductive coding of survey responses found 91% of students responsive to the use of video recorders, which allowed them to 'notice my English vulnerable points' (please note that all comments in this paper are unedited for authenticity) and indicated that 'by recording my voice, I can know which skill of speaking is needed to improve'. Students also noted their appreciation of being able to self-assess: 'I could later watch and assess my speech' and 'I heard voice recording many times to check my pronunciation and mistake'.

Moreover, a comparison of themes discussed by students when describing their goals at the start of the course and their definition of 'good pronunciation' at the end, saw a marked difference from a preference for native-like accent to intelligibility (see Figures 4 and 5). This change implies students' deeper understanding of pronunciation's importance in good communication and that accent is just one aspect of pronunciation.

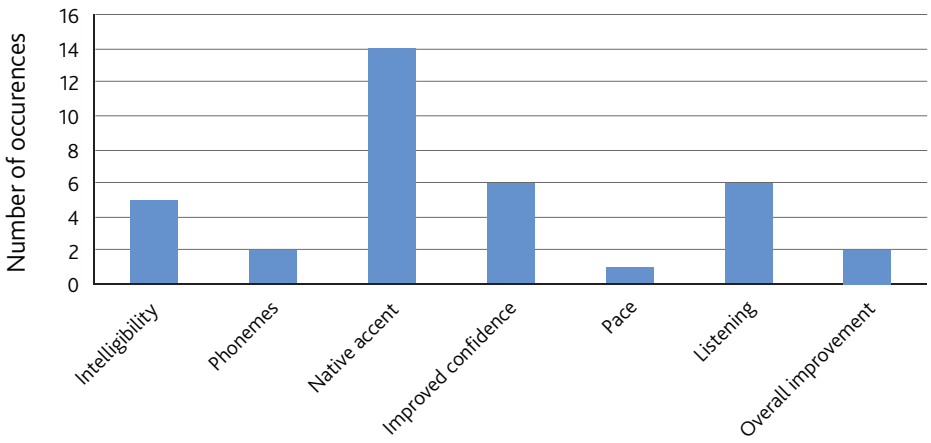

Figure 4: Pre-survey responses – students' pronunciation goals

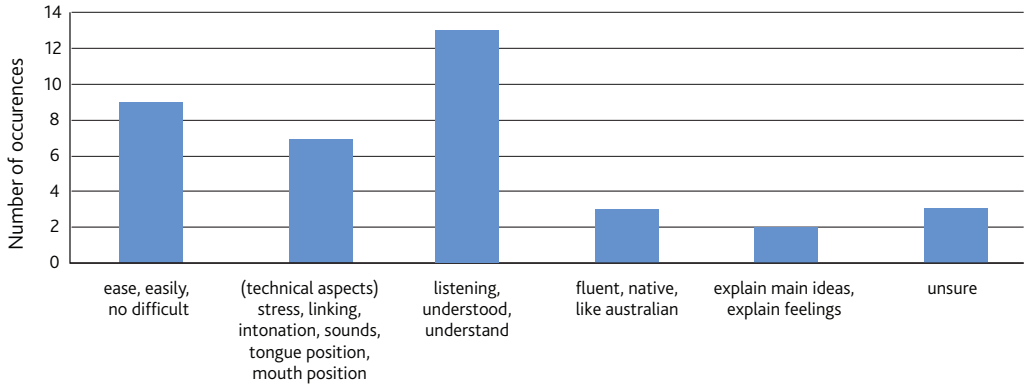

Figure 5: Post-survey responses- Students' definition of 'good pronunciation'

The Appraisal analysis gave this study a detailed view of students' opinions and identified examples of **Judgement** and **Appreciation** within the system of **Attitude** as well as a high occurrence of modality in the system of **Engagement** (Table 1). Most students' post-survey short responses also included varying degrees of **Graduation**, specifically of *force*. Responses to the question 'Do you think the video recording was useful? Why/why not?' saw almost all students responding affirmatively: 'yes, I do' with the first person (**Engagement**: *monoglossic* – the linguistic term *monoglossic* refers to a text using a single or unique voice without references to others' views or voices) emphasising that the opinion is attributed to the speaker, or emphasising the usefulness: 'yes, it's was useful'.

Accumulation of positive **Judgement** and **Appreciation** across responses helped to validate the overall evaluations of video recordings as positive. Their responses often included examples of multiple systems as seen in Table 1 and through the frequent use of comparatives (a technique of **Graduation**) such as:

> *'I think it the better* [**Graduation**: force: intensification: raised] *method to be aware about the problems we have in English'.*
>
> *'It was a little bit different* [**Graduation**: force: intensification: raised] *sounds and pronunciation between real and imagine that I expected.'* [**Judgement**: social esteem: invoked]

The positive evaluations are a reference to student's objective analysis as they comment on the specific reasons why they appreciated the tool and focus on mental processes (verbs such as realise, be aware and notice) as opposed to feelings (*Affect*, one of the sub-systems of **Attitude** relating to emotions); while also identifying that their capacity (**Judgement**) as language users was challenged and qualified through the use of video recorders.

Of the 34 students who took part in the AR, only two students responded negatively. In the Cycle 2 post-survey, one student noted that they 'couldn't [**Engagement**: *modality*] watch [their video] again'; while a second student (Cycle 3) refused to watch his own videos but was comfortable to give and receive feedback from others. This scenario highlighted the importance of feedback and open lines of communication between student and teacher. Adjustments allowed the students to continue to partake in the activities, even though their overall results were differently affected.

Table 1: Analysed extracts of students' survey responses

Appraisal Analysis: extract of student response to the question: "Do you think the video recording was useful? Why/why not?"	
Extract	I **can** notice my English **vulnerable** points
Appraisal Analysis	**Engagement**: *modality* **Appreciation**: *composition: inscribed*
Extract	I **could** later watch and assess
Appraisal Analysis	**Engagement**: *modality*
Extract	I **could** see **weak** points from video and recording
Appraisal Analysis	**Engagement**: *modality* **Graduation**: *force: intensification: lower*
Extract	I **am more** aware about my **difficulties** in English
Appraisal Analysis	**Engagement**: *modality* **Graduation**: *force: quantification: raised* **Appreciation**: *composition: invoked*
Extract	It was a **little bit different** sounds and pronunciation between **real and imagine that I expected**
Appraisal Analysis	**Graduation**: *force: quantification: raised* **Judgement**: *social esteem: invoked*
Extract	**Because** we **can** see the **progress**
Appraisal Analysis	**Engagement**: *concession* **Engagement**: *modality* **Appreciation**: *valuation: inscribed*
Key:	**Engagement** **Graduation** **Appreciation** **Judgement**

Aim 2: Investigating if video recording helps students increase their phonological awareness to better identify examples of their own pronunciation errors

Over the three cycles, I found most students became increasingly more capable of identifying their own errors, asking for less assistance in the tasks, self-correcting, and identifying errors produced by their peers and then themselves. Two students, in particular, who continually re-watched their recordings and asked for follow-up feedback made great improvements. The first explicit example of a student's progress was Student V, who shared his opinions of the course during a seminar for future students. During his speech he mispronounced 'worked' but quickly corrected himself stating:

> *'Last week we worked (/wɜːk ɪd/) together … Oh no worked (/wɜːkt/), I've been working on that in class'.* (Student V, Cycle 1, Week 3)

This moment underlined the positive effects of the tool and was extremely encouraging to me both as a researcher and teacher. Upon further discussion with Student V, he noted that he had been relistening to his recordings outside of class time and was becoming more self-aware. Another distinct example was Student K (Cycle 2) whose final video reflected a sense of increased phonological awareness:

> *'I still have to keep trying to pronounce well the specific pronunciation /b/, /ð/, /v/ for example, I'm not good at now'.* (Student K, Cycle 2, Week 5)

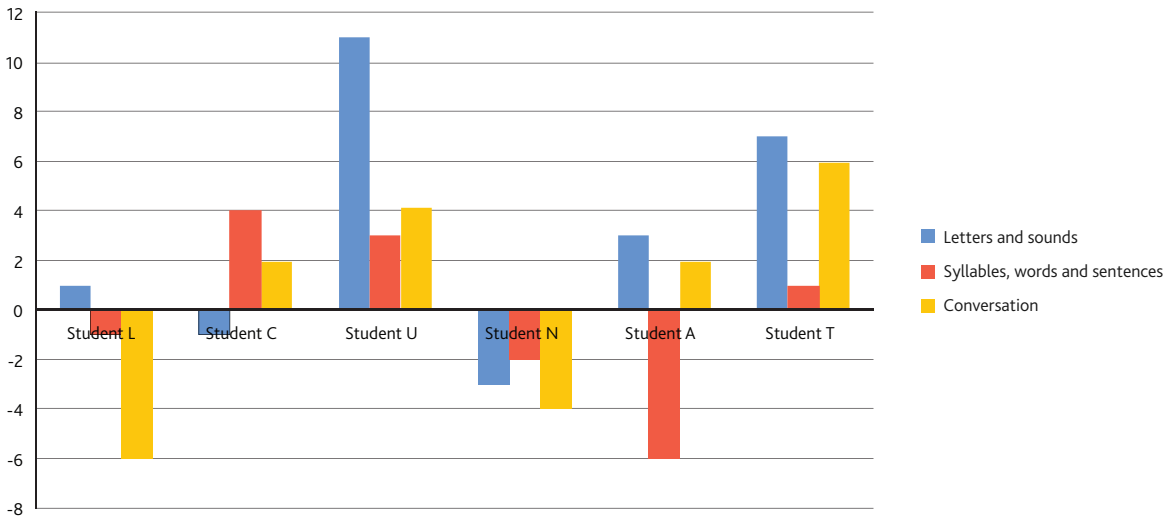

Figure 6: Cycle 2 – categorised change of student's diagnostic test results

Finally, the goal of the pronunciation pre/post-tests was to compare the assessment scores and provide a quantitative insight into whether or not students' phonological awareness had increased. However, as the AR progressed, it was clear from my own reflections and assessment of student's weekly tasks that students were improving despite some test scores remaining stable or dropping (Figure 6). Student comments surrounding the post-test highlighted their negative attitude and feelings of anxiety and pressure to perform. As a result, scores were withheld from students in the third cycle, remaining purely a research tool and maintaining class morale.

Reflection

The data reaffirmed my hypothesis that video recordings can be productive tools for helping students become more phonologically aware. My personal observations and assessment of students during each cycle in conjunction with their improved confidence and ability to identify examples of phonological features highlighted the effectiveness of using videos as a self-assessment tool in the classroom.

Despite clear appreciation of video recordings identified by the Appraisal Analysis, a continuation of this study could ask students to volunteer other tools for self-assessment including student diaries and student-led conferences. This may be particularly useful in the case of students who feel uncomfortable re-watching/listening to themselves or cannot for cultural reasons. Involving students in the planning and assessment of their own learning will also help to ensure students are engaged and motivated.

Completing this AR project has been a very stimulating experience. It made me teach in a more meaningful way and allowed me to constantly self-reflect. There are a number of aspects of this AR that would benefit from further investigation and possible application into our school's pronunciation and General English classes. Video recordings could provide students with opportunities to receive more specific or detailed pronunciation feedback in typically large classrooms and could be kept for the duration of their studies as a reference tool for their new teachers upon entering a new class.

I believe that students, specifically within the adult ESL context, appreciate the ability to monitor their own progress, and the ease of self-made recordings enables teachers to give them this opportunity. The positive results from this project have demonstrated the possibilities for a multitude of uses for video recordings in teaching. Video recording will remain as a (self-) assessment tool within Survivor and will hopefully continue to enhance the learning experience of our future students.

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Appendix: Pre-survey

This survey was shared with students via Google Forms on the first day of each cycle along with the printed consent form for the project for students to read and complete.

Do I Really Do That? Looking at Pronunciation

Please fill in the following form as honestly as possible.

The purpose of this form is to help guide our Survivor classes. This way, we can work together (using your videos) to improve your English pronunciation.

If you have any questions, please ask at any time.

Thank you

* Required

1. **Name (first and family name)** *

2. **Nationality** *
   Mark only one oval.
   - ◯ Spanish
   - ◯ Portuguese
   - ◯ Saudi
   - ◯ Brazilian
   - ◯ Colombian
   - ◯ Japanese
   - ◯ South Korean
   - ◯ Thai
   - ◯ Russian
   - ◯ Other: _____

3. **Gender** *
   Mark only one oval.
   - ◯ Female
   - ◯ Male
   - ◯ Prefer not to say
   - ◯ Other: _____

4. **First language** *
   Mark only one oval.
   - ◯ Spanish
   - ◯ Portuguese
   - ◯ Korean
   - ◯ Japanese
   - ◯ Russian
   - ◯ Thai
   - ◯ Arabic
   - ◯ Other: _____

5. **Do you speak other languages? If yes, please select all the languages you speak** *
Check all that apply.

- [ ] No
- [ ] Spanish
- [ ] Portuguese
- [ ] French
- [ ] Mandarin
- [ ] Cantonese
- [ ] Russian
- [ ] Polish
- [ ] Korean
- [ ] Arabic
- [ ] Other: _____

6. **Age** *

_____

7. **Where have you studied English?** *
Check all that apply.

- [ ] Primary school
- [ ] High school
- [ ] University/ college
- [ ] Other language school
- [ ] Other: _____

8. **Approximatwely how long in total have you been studying English? (Number of Years, months, weeks)** *

_____

9. **How important is improving pronunciation to you?** *
Mark only one oval.

	1	2	3	4	5	6	7	8	9	10	
Not important	⬭	⬭	⬭	⬭	⬭	⬭	⬭	⬭	⬭	⬭	Extremely important

10. **Which of the following aspects of phonology (pronunciation) do you understand/ recognise?** *

Check all that apply.

- [ ] Vowels
- [ ] Consonants
- [ ] Linking
- [ ] Intonation
- [ ] Volume
- [ ] Speech rate/ speed
- [ ] Word endings
- [ ] Word/ syllable stress

11. **In your opinion, how would you rate your speech rate?** *

Mark only one oval.

	1	2	3	4	5	
I think it is horrible	◯	◯	◯	◯	◯	I think it is fantastic

12. **In your opinion, how would you rate your volume?** *

Mark only one oval.

	1	2	3	4	5	
I think it is horrible	◯	◯	◯	◯	◯	I think it is fantastic

13. **In your opinion, how would you rate your intonation?** *

Mark only one oval.

	1	2	3	4	5	
I think it is horrible	◯	◯	◯	◯	◯	I think it is fantastic

14. **In your opinion, how would you rate your linking and flow?** *

Mark only one oval.

	1	2	3	4	5	
I think it is horrible	◯	◯	◯	◯	◯	I think it is fantastic

15. **In your opinion, how would you rate your content word stress?** *

Mark only one oval.

	1	2	3	4	5	
I think it is horrible	◯	◯	◯	◯	◯	I think it is fantastic

16. **In your opinion, how would you rate the overall effect of your speaking on your listener?** *

Mark only one oval.

	1	2	3	4	5	
I think it is horrible	◯	◯	◯	◯	◯	I think it is fantastic

17. **Are you confident with your pronunciation skills?Why?** *

18. **Do you think specific pronunciation training is important for learning a language? Why?** *

19. **Have you ever had specific pronunciation training? If yes, where/ when?** *

20. **In your opinion, how would you describe "good" pronunciation?** *

21. **What is your pronunciation goal? What do you want to improve or work on?** *

Improving academic listening skills through explicit pronunciation instruction

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Introduction

The teaching and learning of pronunciation traditionally focuses on its importance for successful communication. In other words, it stresses the accurate production of pronunciation so that a learner can be understood by others. While this focus on the *productive* skills of pronunciation is extremely important, it neglects the *receptive* skills of pronunciation and their relation to the decoding skills involved in listening. Moreover, for many learners of English explicit pronunciation training and knowledge of the most common phonological rules is limited and typically does not include any of the meaning-building processes available in the L1. Therefore, the task of listening is effectively made even more difficult and often presents a significant barrier to learning. Together with the 'inconsistent signal' of aural input (Field 2010) and its primacy in language acquisition, it is no surprise that learners regularly express frustration at their listening skills and perform poorly in listening assessments. Their frustration is often magnified by a crowded curriculum which relegates pronunciation teaching to an afterthought, where listening skills are taught by pressing play on a recording and wishing students good luck, and a lack of teacher confidence in teaching it effectively.

Given the importance of aural input in language learning and in learners' future studies, my aim in conducting this action research (AR) project was to target and remediate this frustration by instructing learners on key features of pronunciation. In doing so, I hoped to improve both academic listening skills and also the learning outcomes in general of international students studying in an English-medium ELICOS context in Australia.

Context and participants

This AR project was conducted at Edith Cowan College (ECC), which is attached to Edith Cowan University (ECU) in Perth, Australia. ECC offers a range of programs including Pathway (for students who may not have initially met entry requirements for a course), Foundation (preparatory skills courses for international students prior to starting a course) and English for Academic Purposes (EAP) to prepare students for diploma courses at the college itself and undergraduate and postgraduate courses at ECU. The EAP programs, in which this AR project was conducted, typically range from five to 20 weeks and focus on improving students' language skills and academic literacy.

Assessment in the EAP programs is closely aligned with the curriculum and is intended to replicate actual academic tasks that students will encounter in their future studies, for example, listening to academic lectures and taking notes. Students often perform poorly in listening assessments in particular, and it is my observation that this follows from small academic vocabulary size and an underdeveloped knowledge of features of English pronunciation rules and conventions, particularly suprasegmental ones. This is exacerbated by a lack of instruction in pronunciation and phonological awareness, due to either time constraints, a lack of teacher confidence in doing so effectively, or a mixture of both.

The intention of my research project, therefore, was to remedy this situation by giving explicit instruction in suprasegmental features of English pronunciation to improve students' L2 listening skills in academic contexts and thereby learning outcomes in general.

This AR project was conducted in two cycles and across three classes, each with 14 students, for a total of 42 participants. The classes were inherently diverse; the students came from a range of backgrounds, had different degrees of prior English language learning experience, and reflected differing levels of academic preparedness. An overall IELTS score of 5.5 was the minimum entry level for all three classes. Further demographic details are shown in Table 1.

Table 1: Demographic details of participants

Participant information	*Cycle 1*	*Cycle 2*
Number of students	28	14
Age range	18–34	18–34
Nationality	Chinese, Indian, Korean, Nepali, Vietnamese	Chinese, Indian, Mauritian, Pakistani, Vietnamese
First language	Bhojpuri, Chichewa, Korean, Mandarin, Nepali, Vietnamese	Cantonese, French Creole, Malayalam, Mandarin, Vietnamese, Urdu

Due to the diversity of the participants, the possible impact of the L1 in the production and reception of pronunciation were thus multiple, and where possible I attempted to account for these when designing my instruction (Swan and Smith (Eds) 2001). Finally, students had a range of areas of future studies, with the three most common being Hotel Management, Tourism and Hospitality, and Accounting.

Research focus and design

The project was conducted across two 6-week cycles. Each cycle consisted of one class per week for a total of six classes. Each class focused on one suprasegmental feature of pronunciation: sentence stress and prominence; intonation and rhythm; connected speech; and tone units, chunking and pausing. Class content typically focused on two or three manifestations of the feature to provide students with structure and contextualise each within a rule-based framework (Table 2).

Each class followed a Test-Teach-Test (TTT) methodology. The testing components were short pre- and post-tests of the suprasegmental feature. The teaching component followed the basic I Do-We Do-You Do method of direct instruction (Petty 2006), which I chose due to its established effect size on learning achievement (Hattie 1999). This teaching model is a form of scaffolded instruction that uses a gradual release of responsibility to the students; it moves from teacher-centred, to whole-class, then student-centred and finally more collaborative and/or independent practice.

Table 2: Suprasegmental feature focus and class content

Class number	*Suprasegmental feature*	*Content*
1	N/A (introduction and pre-test)	n/a
2	Sentence stress and prominence	Tonic/word stress, contrastive stress
3	Intonation and rhythm	Attitudinal, grammatical (i.e. communicative function)
4	Connected Speech 1	Linking (consonant + vowel), adding (vowel + vowel)
5	Connected Speech 2	Contractions (function words, auxiliary & modal verbs), disappearing (consonant + consonant), changing (consonant + consonant)
6	Tone units, chunking and pausing (and post-test)	Tone units, discourse & meaning-making

I drew on several resources to inform my instruction, which included material from a range of authors and practitioners of pronunciation and phonology (for example Campbell and Smith 2007, Kelly 2013, Marks and Bowen 2012, Smith and Margolis 2012, Underhill 2005) (see Appendix 1). In Cycle 1, classes consisted of four discovery-type tasks: I would introduce the feature of pronunciation, students would do one or two tasks individually, then I would bring attention to the feature in the following tasks, finally arriving at a rule or convention. For example, in Session 4 (Connected Speech 1), I taught the basic rules of juncture, intrusion and liaison (linking /r/, /j/, /w/; intrusive /r/). Students would then do a final task before completing the post-test. Cycle 2 followed a similar instructional pattern; however, based on feedback received from students in Cycle 1, I introduced a further task to provide practice of the feature in a more real-world context. This typically consisted of a transcription task centred around the feature within an academic listening text (see Appendix 2).

I wanted to investigate the immediate and longer-term effect of explicitly teaching such suprasegmental features of pronunciation, and in doing so wanted to answer two questions:

1. How does explicit instruction of suprasegmental features of pronunciation affect listening comprehension in short academic English courses?
2. What are students' perceptions of explicit pronunciation instruction in academic English courses?

Data collection

To answer my two research questions, I used a mixed methods approach for data collection. This consisted of quantitative data (pre- and post-tests of academic listening, and pre- and post-tests of each suprasegmental feature of pronunciation) and qualitative data (surveys and semi-structured interviews). The intention was to improve accuracy and objectivity through triangulating data in this manner (Burns 2010).

Pre- and post-tests of academic listening

I conducted a pre- and post-test of academic listening at the beginning and end of each cycle. In Cycle 1 these were from Section 4 of the IELTS Academic Listening test and were of comparable difficulty. In order to reduce difficulty associated with unknown vocabulary and content knowledge, the topics of the tests were chosen to either reflect the areas of future study of the students or be as widely academically relatable as possible. In Cycle 2 I kept the topic and texts similar to Cycle 1; however, I changed the nature of the task. I did this based on student feedback from Cycle 1 and from my own reflection. Therefore, the task of the pre- and post-test of academic listening in

Cycle 2 more closely reflected real-world academic listening tasks (see Appendix 3). Students had to listen for general understanding, listen for details, transcribe parts of the lecture, take notes on parts of the lecture, and finally summarise the information they heard.

Pre- and post-tests of each suprasegmental feature

The pre- and post-tests of each suprasegmental feature were conducted at the beginning and end of each individual class. They were short mini-tests that typically involved listening to a short excerpt from an academic lecture of approximately 150–200 words. These passages were deliberately chosen to make the targeted suprasegmental feature more salient in the input. For the pre-test, students were first instructed to predict where they thought the feature would occur by reading and annotating the excerpt (prediction) in red, and then listening to check or modify their answers (perception) in blue. A different passage of similar length and difficulty was then used in the same manner for both the pre- and post-test. Appendix 4 shows samples of student-completed tests for Class 4 (Connected Speech 1) and Class 6 (tone units, chunking and pausing).

Surveys

I administered two surveys before and after each cycle. I kept the questions broad and asked students about aspects of prior learning of pronunciation, their awareness of pronunciation features, and their confidence in pronunciation and academic listening. Questions were either 'choose all that apply' type questions or statements and questions with Likert scales (see Appendix 5).

Short surveys of eight items were also conducted after each individual class to gain feedback about content and instruction and students' perceptions of the project more generally (see Appendix 6). These surveys in particular were useful in improving classes for Cycle 2.

Interviews

Finally, I conducted eight semi-structured interviews with individual students across both Cycles 1 and 2 (see Appendix 7). My intention was to gain a more in-depth understanding of students' responses in the surveys, and to allow them a more open and relaxed environment in which to share their feedback and to better understand their experiences on the program. Again, these interviews were invaluable in improving the project for Cycle 2.

Initial data analysis and findings

Pre- and post-tests

Data with regard to my first research question was mixed; in Cycle 1, students did not show improvement in their scores across pre- and post-tests of academic listening as predicted. In fact, they scored noticeably worse in the post-test. However, results for Cycle 2 were more promising; students scored better on the post-test than the pre-test. These results are summarised as average percentages in Table 3.

Table 3: Pre- and post-test results of academic listening

	Pre-test	*Post-test*
Cycle 1	60%	40%
Cycle 2	45%	56%

The discrepancy in results may be due to two main reasons. First, that the nature and length of instruction was insufficient to garner any significant improvements in academic listening skills, and second, possible flaws in the research design and inappropriate choice of testing instrument, particularly for Cycle 1. With regards to the testing instrument in Cycle 1, the task (multiple-choice questions) involved in the pre- and post-tests of academic listening did not accurately mirror the nature of real-world academic listening and indicated more about the product of students' listening rather than the process. Such considerations may account for the slight improvement in Cycle 2. Instead of product-focused multiple-choice questions, I modified the task to focus more on the listening processes typically asked of students in academic contexts. So, the test involved listening for general understanding, listening for details, transcribing parts of the lecture, taking notes on parts of the lecture, and finally summarising the information they heard (see Appendix 3).

Similarly, data with regard to improvements in each individual suprasegmental feature were mixed. In Cycle 1, students showed notable improvements in Classes 4 and 5 (connected speech) only; in Class 2 (sentence stress and prominence), Class 3 (intonation and rhythm) and Class 6 (tone units, chunking and pausing) students either improved marginally or not at all.

In Cycle 2, results were again slightly more promising; students showed significant improvements in Classes 4 and 5 (connected speech), and marginal improvements in all other classes apart from Class 6, where there was no improvement at all. These results are summarised as average percentages in Table 4, with increases and decreases in scores shown in bold in brackets.

Table 4: Pre- and post-test results of suprasegmental features

	Cycle	*Pre-test (prediction)*	*Post-test (prediction)*	*Pre-test (perception)*	*Post-test (perception)*
Sentence stress and prominence	1	31%	40% (**+9%**)	55%	56% (**+1%**)
	2	24%	31% (**+7%**)	28%	40% (**+12%**)
Intonation and rhythm	1	45%	43% (**-2%**)	65%	37% (**-28%**)
	2	43%	39% (**-4%**)	36%	41% (**+5%**)
CS* 1 (linking and adding)	1	32%	47% (**+15%**)	32%	47% (**+15%**)
	2	28%	45% (**+17%**)	35%	43% (**+8%**)
CS 2 (disappearing and changing)	1	33%	44% (**+11%**)	33%	43% (**+10%**)
	2	37%	46% (**+9%**)	33%	46% (**+13%**)
Tone units, chunking and pausing	1	52%	56% (**+4%**)	63%	62% (**-1%**)
	2	58%	53% (**-5%**)	62%	51% (**-11%**)

*= Connected Speech

There are two interesting observations that can be made about these results. First, that both cycles showed noticeable improvements in connected speech and limited or no improvements in other areas; this may lead to questions as to the teachability of suprasegmental features such as stress, intonation, rhythm and chunking. These questions have been asked before (see for example Kelly 2013) due to the fact that they operate 'at a deep level of consciousness' (2013:106), may be a product of long-term, implicit learning, are highly context-dependent, and do not offer a clear, rule-based framework for learning which is evident in rules of connected speech, for example. This argument may also account for the improvements in prediction and perception of connected speech shown in Table 4.

Second, the *prediction* of the suprasegmental feature scores improved more than the *perception* of the suprasegmental feature scores. This may indicate an improved ability in the short-term to be able to predict certain

suprasegmental features in academic listening contexts, a crucial pre-listening function in schema activation and an important ability to help monitor the input to either confirm or revise understanding (Field 2010).

Whether or not these improvements would be maintained over a longer time frame is not discernible. However, this finding is encouraging and will be of use in devising more sensitive testing and teaching instruments for academic listening in the future.

My anecdotal evidence based on my experience of previously teaching these classes was indeed borne out by student responses to a survey prior to starting the project; in Cycle 1, almost 60% of students said they were 'not at all' or only 'a little' confident about their academic listening skills (Figure 1), and almost 30% said they were 'not at all' or only 'a little' confident about their knowledge of suprasegmental features of pronunciation (Figure 2). In Cycle 2, students were more confident; however; approximately 38% said they were 'not at all' or 'a little' confident about their academic listening skills (Figure 3), and 0% said they were 'not at all' confident and 46% 'a little' confident about their knowledge of suprasegmental features of pronunciation (Figure 4).

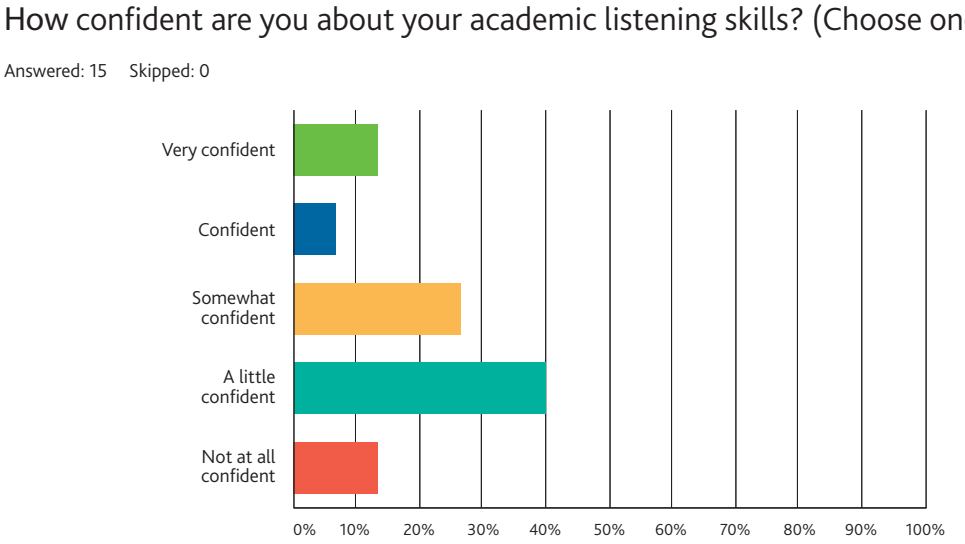

Figure 1: Confidence in academic listening skills (Cycle 1)

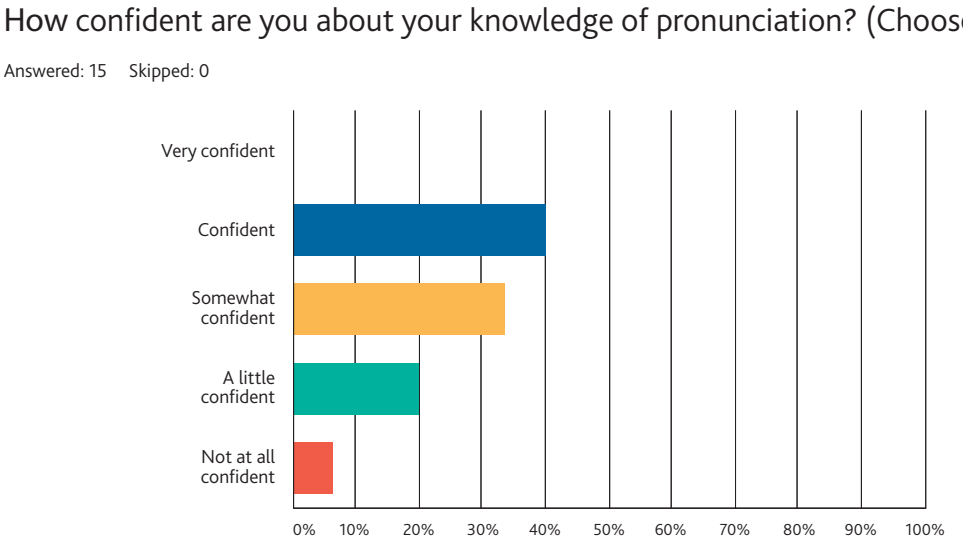

Figure 2: Confidence about knowledge of suprasegmental features of pronunciation (Cycle 1)

How confident are you about your academic listening skills? (Choose one)

Answered: 13 Skipped: 0

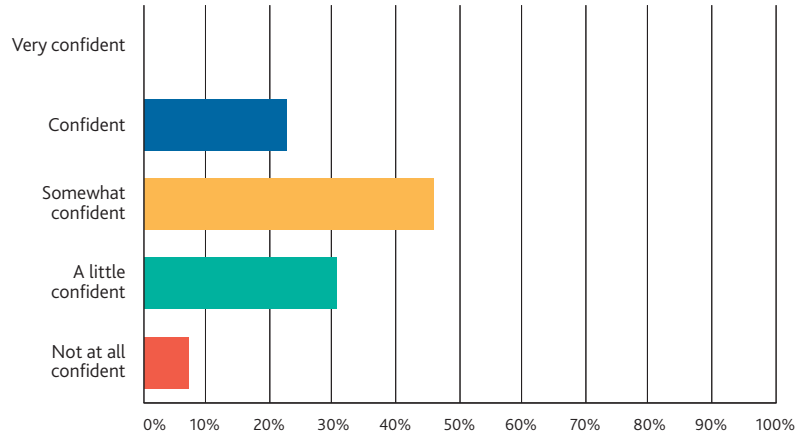

Figure 3: Confidence in academic listening skills (Cycle 2)

How confident are you about your knowledge of pronunciation? (Choose one)

Answered: 13 Skipped: 0

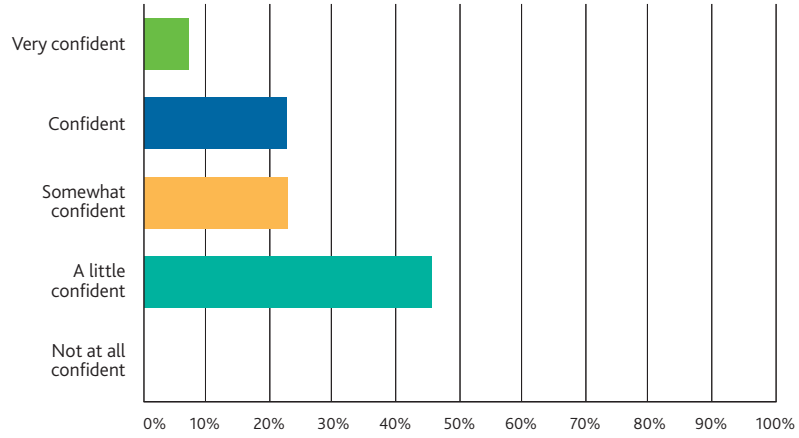

Figure 4: Confidence about knowledge of suprasegmental features of pronunciation (Cycle 2)

Surveys and interviews

Data with regard to my second research question were much more positive; this data was collected from surveys and individual interviews. In Cycle 1, 63% of students said that their knowledge of suprasegmental features of pronunciation had improved 'a lot' after the project, and 40% reported an improvement in their academic listening skills. Furthermore, 84% said that they were now 'very confident' or 'somewhat confident' in their knowledge of suprasegmental features of pronunciation, and the same percentage for academic listening skills. Students identified connected speech as the area in which their knowledge had improved the most (35%), and 74% said that explicitly learning suprasegmental features of pronunciation was 'useful and interesting'. Finally, 68% said that the lessons were presented in an engaging way, and 72% said that the program should be integrated into all future classes. However, 50% of students only somewhat agreed with the statement that 'I can clearly see the link between suprasegmental features of pronunciation and academic listening skills', and 36% with the statement 'I had enough time and opportunity to practise what I learned'.

In Cycle 2, 69% of students said that their knowledge of suprasegmental features of pronunciation had improved 'a lot' after the project, and 38% reported an improvement in their academic listening skills. Furthermore, 76% said that they were now 'very confident' or 'somewhat confident' in their knowledge of suprasegmental features of pronunciation, and all students said the same for academic listening skills. In contrast to Cycle 1, students identified sentence stress and tone units, chunking, and pausing as the areas in which their knowledge had improved the most (38% and 30% respectively), and 61% said that explicitly learning suprasegmental features of pronunciation was 'useful and interesting'. Finally, 53% said that the lessons were presented in an engaging way, and 76% said that the program should be integrated into all future classes. However, 53% of students only somewhat agreed with the statement that 'I can clearly see the link between suprasegmental features of pronunciation and academic listening skills', and only 23% with the statement 'I had enough time and opportunity to practise what I learned'.

Overall, students responded well to the project and showed a motivation to engage with and learn from the classes.

Conclusion and reflections

Of course, there were certain limitations to the project. First, it is difficult to demonstrate improvement in awarenesss of suprasegmental features of pronunciation and academic listening skills in such a short period of time; language acquisition is a long, non-linear process typified by false starts and movements away from the L2 (Ortega 2011), and a lack of evidence of improvement in both areas should be seen within such developmental constraints. Second, developing constructs with sufficient validity to provide accurate data with which to interpret any improvements is time-consuming and inevitably beyond the scope of such an AR project.

On the other hand, the modifications and adjustments that I made between Cycles 1 and 2 were done in the spirit of reflective practice, and I hope I can continue them to improve the process and materials that I made during the project to provide even greater benefits to myself, my workplace, and future participants. In the future, I would like to devote more time to instruction and allow for further practice of each of the suprasegmental features; integrating the project into the curriculum of my workplace and collaborating with other teachers to teach and test would undoubtedly be beneficial, and analysing and accounting for L1 influence on the understanding of L2 pronunciation in future iterations would provide further avenues for exploration.

Overall, participating in this AR project was a thoroughly rewarding experience. It was devised in response to what I saw was a gap in both students' knowledge and in the curriculum of the centre in which I work. My hope is that it can bring an increased awareness to both my colleagues and the students about the importance of explicitly teaching pronunciation, as well as the link between pronunciation and listening skills. Furthermore, it is clear from the data that students in both cycles thought that the program was worth their while and helped to improve their confidence in both pronunciation and academic listening. To me, this indicates the program was a success.

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Appendix 1: Sample class materials from Cycles 1 and 2

Class 4: Connected Speech 1, Tasks 1 to 4

Task 1

Step 1: *Read* each phrase and write in where you think the words will be linked.
Step 2: *Listen* to the phrases to check your answers and *repeat* after each one.

divide in two	the Data Protection Act
historical evidence	a wide area
as soon as possible	keep up with it
take over control	an increase in crime
it'll end next week	the main aim

Task 2

Step 1: *Listen* to the words and write them on the left side.
Step 2: *Read* the phrases and write in where you think the words will be linked.
Step 3: *Write* the words on the left above where the sounds are linked in the phrases.
Step 4: *Listen* and *repeat* to check your answers.

Words	**Phrases**
	nothing at all
	an ice cream
	Put your coat in the wardrobe.
	You might earn more.
	I called out the answer.
	number eight
	They took all the money.
	Look up all these words.
	I'll help in any way I can.
	They're under the desk.

Task 3

Step 1: *Read* each phrase and write in where you think the words will be linked.
Step 2: *Listen* to the phrases to check your answers and *repeat* after each one.

slow economic growth	free access
true identity	extra income
go up	cinema advertising
carry on	aware of the problem
high altitude	after all

Task 4

Step 1: *Listen* to the phrases and decide if a /r/, /j/ or /w/ sound needs to be added.

1. try out
2. agree on this
3. two of them
4. driver error
5. radio operator
6. media event
7. high above the Earth
8. How does this tie in?

Appendix 2: Sample class materials from Cycle 2 only

Class 5: Connected Speech 2, Task 5

Task 5

Step 1: *Listen* to the short extract from a lecture on the advantages and disadvantages of using multiple-choice questions in surveys.

Step 2: *Complete* the extract by writing three (3) to five (5) words in each space.

Multiple-choice questions – dead easy. They reduce interviewer bias; very easy for people to do… very easy and fast for people to answer; very _____ . But the argument goes that they are rather difficult to design. The thing about multiple-choice questions is that _____ people into certain answers. This is a good _____. If you have a multiple-choice question and your pilot it, you may find that people are not, they don't put the issue that you're asking them into that particular _____ that you've imposed. So that's where _____ will help. Let me just show you an example of this…

Appendix 3: Pre- and post-tests used in Cycle 2

Name: _____

Listening pre-test

You will listen to a short lecture just once.
The topic of the lecture is 'the difficulties of listening to spoken English'.
Do your best to complete each section below. Your answers do not contribute to your score for this course.

1.1

According to the teacher, what factors affect the comprehension of spoken English? Complete the points below:

- the speed at which someone is speaking;
- _____
- _____
- _____

1.2

In part two of the lecture, the teacher illustrates two problems she has introduced. The teacher asks you to write down a phrase. Do this on the line below as you listen:

_____

1.3

Listen to part three of the lecture and complete this excerpt below by writing between two (2) and six (6) words in each space:

1.4

So what is the solution to these two problems? Well, firstly you need to get as much practice listening to natural speech as possible. Listen to _____ and try to develop your understanding of how words and phrases are really pronounced, not how you _____ pronounced. Secondly, you _____ that when you listen you may misunderstand what is said. So you need to be ready to _____ about your understanding of the meaning, if what you hear _____ compared to what you understood before. And this means taking a flexible, open-minded approach to listening.

Summarise the lecture in a maximum of two (2) sentences below:

_____

_____

Name: _____

Listening Post-test

You will listen to a short lecture just once.
The topic of the lecture is 'differences between academic lectures in the UK and in China'.
Do your best to complete each section below. Your answers do not contribute to your score for this course.

2.1

Listen to the introduction of the lecture and answer the two (2) questions below:

1. What does the lecturer want from the audience?

_____

2. What is the lecturer's main focus?

_____

2.2

Listen to part one of the lecture and complete this excerpt below by writing between three (3) and seven (7) words in each space:

Now, the first question I need to address is, "how do I know anything about lectures in China?" because I haven't studied there and _____ been there. Well, I found out by interviewing Chinese students. What I did was conduct a so-called tracking study. That means that you follow students over a period of time. What I did was to follow 12 Chinese students, _____, different Masters courses at the University of Reading, and over their year of study I interviewed them three times individually. I interviewed them once in the autumn term, once in the spring term and then again in the summer term. And the interviews lasted about _____ . I asked them a number of questions about studies in the UK and about their studies in China. So my information comes from them _____ right from the beginning that I am talking here about information I got from 12 students, which is obviously a very small sample, and I don't know how representative what they said is of the Chinese education system as a whole….

2.3

In part two of the lecture, the lecturer talks about some of the characteristics of lectures in China and the UK. Complete the table below with the main points for each:

Characteristics of lectures in China	Characteristics of lectures in the UK
1.	1.
2.	2.
3.	3.
.	

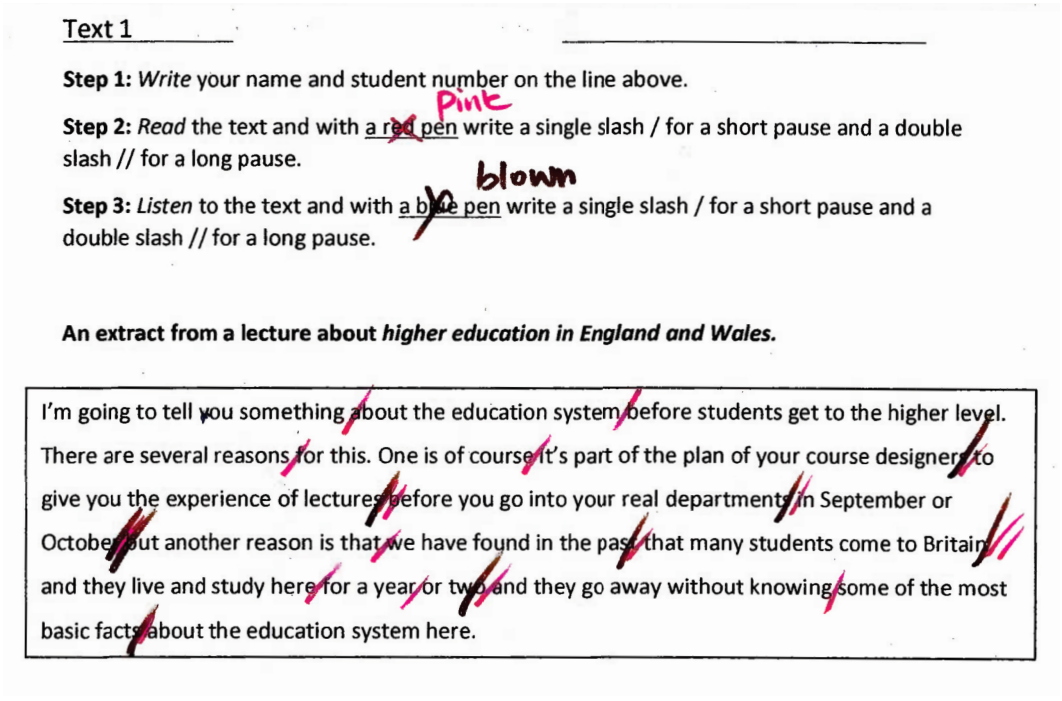
2.4

Summarise the lecture in a maximum of two (2) sentences below:

_____

_____

Appendix 4: Student-completed pre- and post-tests



Text 1

Step 1: *Write* your name and student number on the line above.

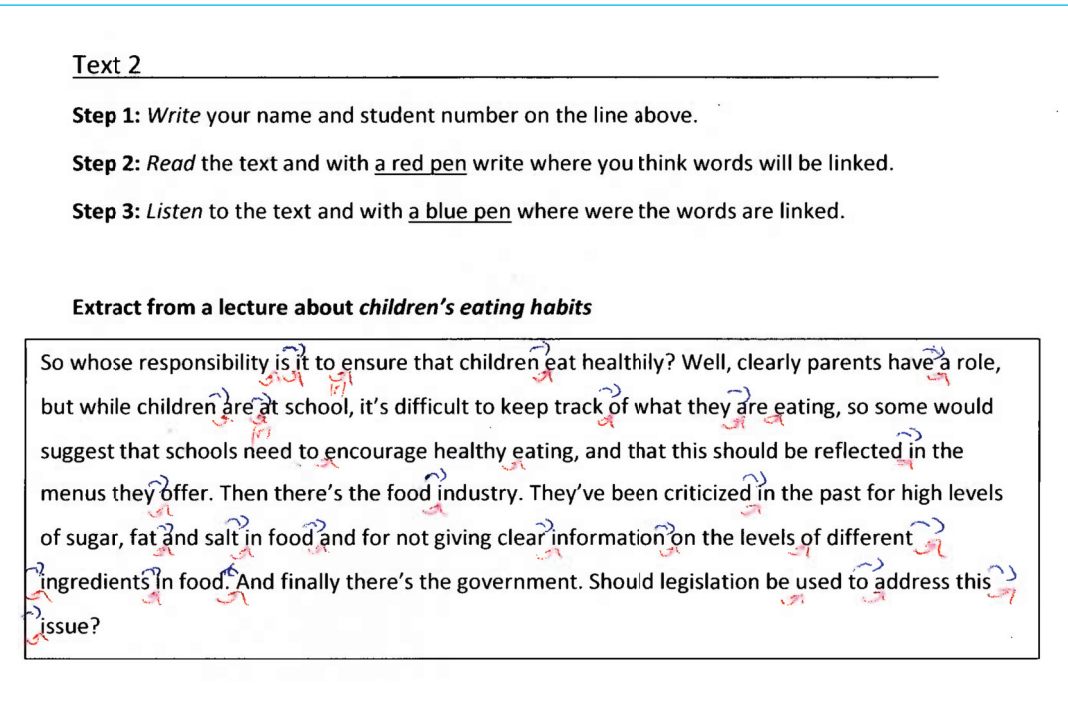
Step 2: *Read* the text and with a ~~red~~ pink pen write a single slash / for a short pause and a double slash // for a long pause.

Step 3: *Listen* to the text and with a ~~blue~~ blown pen write a single slash / for a short pause and a double slash // for a long pause.

An extract from a lecture about *higher education in England and Wales.*

I'm going to tell you something about the education system before students get to the higher level. There are several reasons for this. One is of course it's part of the plan of your course designers to give you the experience of lectures before you go into your real departments in September or October but another reason is that we have found in the past that many students come to Britain and they live and study here for a year or two and they go away without knowing some of the most basic facts about the education system here.

Pre-test for Class 6 (tone units, chunking and pausing)



Text 2

Step 1: *Write* your name and student number on the line above.

Step 2: *Read* the text and with a red pen write where you think words will be linked.

Step 3: *Listen* to the text and with a blue pen where were the words are linked.

Extract from a lecture about *children's eating habits*

So whose responsibility is it to ensure that children eat healthily? Well, clearly parents have a role, but while children are at school, it's difficult to keep track of what they are eating, so some would suggest that schools need to encourage healthy eating, and that this should be reflected in the menus they offer. Then there's the food industry. They've been criticized in the past for high levels of sugar, fat and salt in food and for not giving clear information on the levels of different ingredients in food. And finally there's the government. Should legislation be used to address this issue?

Post-test for Class 4 (Connected Speech 1)

Appendix 5: Survey questions used at the beginning and end of each cycle

At the beginning:

1. Name:
2. Gender:
   a. Male
   b. Female
   c. Prefer not to say
3. Age:
   a. Under 18
   b. 18–24
   c. 25–34
   d. 35+
   e. Prefer not to say
4. What is your first language?
5. What is your intended area of future study? (Choose one)
   a. Accounting
   b. Engineering
   c. Health Science
   d. Hotel Management
   e. Human Resources
   f. IT/Computer Science
   g. Network Security
   h. Project/Events Management
   i. Social Work
   j. Tourism/Hospitality
   k. Other (please specify)
6. How many years have you been learning English?
   a. Less than 1
   b. 1–3
   c. 4–6
   d. 7–9
   e. 10 or more
7. How confident are you about your academic listening skills? (Choose one)
   a. Very confident
   b. Confident
   c. Somewhat confident
   d. A little confident
   e. Not at all confident

8. What aspects of academic listening are most difficult for you? (Choose all that apply)
   a. Vocabulary
   b. Grammar
   c. Speed
   d. Understanding the general idea
   e. Understanding key points
   f. Understanding details and examples
   g. Segmental features of pronunciation (individual sounds, syllable stress, etc.)
   h. Suprasegmental features of pronunciation (sentence stress, connected speech, intonation, etc.)
   i. Distinguishing between fact and opinion
   j. Recognising connections between parts or ideas
   k. Taking notes
   l. Other (please specify)

9. How confident are you about your knowledge of pronunciation (Choose one)
   a. Very confident
   b. Confident
   c. Somewhat confident
   d. A little confident
   e. Not at all confident

10. How much do you know about the following suprasegmental features of pronunciation?

	A great deal	A lot	A moderate amount	A little	None at all
Sentence stress and prominence					
Intonation and rhythm					
Connected speech					
Chunking and pausing					

At the end:

1. After completing this program, how much has your knowledge of pronunciation increased?
   a. A lot
   b. Some
   c. A little
   d. None at all

2. After completing this program, how much have your academic listening skills improved?
   a. A lot
   b. Some
   c. A little
   d. None at all

3. After completing this program, how confident are you about your knowledge of pronunciation and your pronunciation skills?
   a. A lot
   b. Some
   c. A little
   d. None at all

4. After completing this program, how confident are you about your academic listening skills?
   a. Very confident
   b. Somewhat confident
   c. A little confident
   d. Not at all confident

5. In what suprasegmental features of pronunciation do you think your knowledge has increased the most? (Choose one)
   a. Sentence stress and prominence (Class 2)
   b. Intonation and rhythm (Class 3)
   c. Connected speech (linking and adding) (Class 4)
   d. Connected speech (disappearing and changing) (Class 5)
   e. Tone units, chunking and pausing (Class 6)
   f. None

6. To what extent do you agree with the following statements?

	Strongly agree	Somewhat agree	Somewhat disagree	Strongly disagree
Explicitly learning features of pronunciation is useful for me.				
Explicitly learning features of pronunciation is interesting to me.				
I can clearly see the link between features of pronunciation and academic listening skills.				
I had enough time and opportunity to practise what I learned.				
There were enough opportunities to ask questions if/when I didn't understand.				

7. To what extent do you agree with the following statements?

	Strongly agree	Somewhat agree	Somewhat disagree	Strongly disagree
I would have liked more than one session each week.				
The lessons were presented in an engaging way.				
Overall, the lessons helped me to learn.				
These sessions should be included in all future Academic English classes.				
I would recommend this program to other students.				

8. If you wish, please provide any comments or suggestions below:

9. I agree to future contact from Ryan about this research project (e.g. a short interview/discussion):
   a. Yes
   b. No
   i. If 'yes' please provide contact details:

Appendix 6: Survey questions used after each class

1. Name (optional):
2. Did you enjoy today's session?
   a. Yes
   b. No
   i. If 'no', why?
3. How useful was today's session?
   a. Very
   b. Somewhat
   c. A little
   d. Not at all
4. I think today's session helped my…
   a. Knowledge of pronunciation
   b. Academic listening skills
   c. Both
   d. Neither
5. How much of the information presented in this session was new to you?
   a. All of it
   b. Most of it
   c. Some of it
   d. None of it
6. Overall, how would you rate this session?
   a. Very good
   b. Good
   c. Fair
   d. Poor
7. I think today's session could be improved by…
8. Do you have any other comments, questions, or concerns?

Appendix 7: Semi-structured interview questions

1. Tell me about your previous experiences of learning pronunciation. Were they similar or different to this program?
2. Tell me about your previous experiences of listening in English. Were they similar or different to this program?
3. How do you feel about learning pronunciation in Academic English class?
4. Do you think there is enough or not enough focus on listening skills in Academic English classes?
5. Are there any other ways you would like help with pronunciation or listening in Academic English classes?
6. What was the best thing about this program? And the worst?
7. Is there anything else you'd like to add, or anything I should have asked you?

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