

A Window into the Classroom: How Teachers Integrate Pronunciation Instruction

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journals.sagepub.com/home/rel**Isabelle Darcy** **Brian Rocca**

Department of Second Language Studies, Indiana University, USA

Zoie Hancock

Department of Second Language Studies, Indiana University, USA; University of Hawai'i at Mānoa, USA

Abstract

This project analyzes teacher behavior using a corpus of 110 hours of recorded instruction in order to document the realities of second-language pronunciation instruction. Teachers of six intact classes were recorded during a seven-week oral communication course. Four classes implemented a focus on pronunciation that was integrated into the syllabus in one of two ways: form-focused (only) instruction ('explicit'), or form-focused and communicative at the same time ('communicative'). The other two did not have a specific focus on pronunciation ('NSP') and serve as the baseline. Our goal was to establish how much more time was spent on pronunciation when integrated compared to the NSP baseline, and to document how teachers implement various pedagogical choices while doing so. Our findings show that in the NSP groups, pronunciation instruction happened for a very short time and was mostly reactive. In comparison, the proportion of time with a pronunciation focus was 10 times greater in the integrated groups, where pronunciation-related episodes covered a quarter to a third of class time. Furthermore, a large portion of the integrated instruction was pre-planned, unlike in the NSP groups. The analysis of how this time was spent in the integrated groups further shows that aside from a core number of dedicated pronunciation lessons, a pronunciation focus was achieved by integrating activities with the course materials in variable ways and to varying degrees. This dataset shows that integrating pronunciation into existing syllabi is possible and does not happen at the expense of the other course goals. Therefore, integration appears to be a successful approach from a pronunciation instruction standpoint since the time accumulated also led to measurable improvements in comprehensibility after seven weeks for the observed students. We outline

Corresponding author:

Isabelle Darcy, Department of Second Language Studies, Indiana University, 1020 E Kirkwood Avenue, Bloomington, IN 47405, USA.

Email: idadarcy@indiana.edu

an integration model to help guide instructors towards implementing integrated pronunciation instruction even in courses without explicit pronunciation goals.

Keywords

Pronunciation integration, oral communication course, listening and speaking, corpus, classroom-based, teacher training, pronunciation instruction

Introduction

Mounting evidence from research suggests that pronunciation instruction is able to improve learners' speaking skills (Derwing and Munro, 2015; Derwing et al., 1998; Levis, 2018) and plays a central role in improving their intelligibility, comprehensibility, and accuracy. Pronunciation instruction can also help with other skill areas such as listening (Kissling, 2018), as well as reading and writing (Darcy, 2018; Levis, 2018: 190). Recently a meta-analysis of pronunciation studies by Lee et al. (2015) examined a large number of experimental studies and observed that many report improvements in pronunciation accuracy as a result of pronunciation instruction (e.g. for an experimental group), compared to a control group without pronunciation instruction. Several studies also report encouraging data showing that instruction improves intelligibility or comprehensibility (e.g. Champagne-Muzar et al., 1993; Derwing et al. 1998; Gordon and Darcy, 2016; Ruellot, 2011; Trofimovich et al., 2009; for meta-analyses, see Lee et al., 2015; Saito, 2012; for a narrative review, see Thomson and Derwing, 2015).

Despite these promising findings, pronunciation is still often sidelined in textbooks (Derwing et al., 2012; Levis and Sonsaat, 2016; Watts and Huensch, 2013), in teacher training (e.g. Baker and Murphy, 2011; Huensch, 2019b; Murphy, 2014), and ultimately in language courses, including oral communication skills courses (Levis and Grant, 2003). While most teachers acknowledge the importance of teaching pronunciation, the need for more specialized training and the issue of finding time to address pronunciation are often-cited barriers (e.g. Baker, 2013; Darcy, 2018; Darcy et al., 2012). Providing improved resources for teacher training is, therefore, an important component of facilitating the systematic teaching of pronunciation. The problem of time is intertwined with the issue of teacher training as well and refers to how to balance pronunciation and language development with content-based communicative instruction, especially in courses where pronunciation is not an articulated goal of the syllabus. One proposed solution to the time challenge is a systematic integration of pronunciation in content-based teaching, as argued by many in the field (among others, Celce-Murcia et al., 2010: 381; Darcy, 2018; Darcy et al., 2012; Jones, 2016; Levis, 2018; Levis and Grant, 2003; McGregor and Reed, 2018; Morley, 1991).

Helping pre-service teachers learn how to integrate pronunciation instruction across the whole curriculum (and not only at high proficiency levels; Murphy 2017: 333; Zielinski and Yates, 2014) would be a valuable component of teacher training. However, guidance for teachers on how to effectively integrate pronunciation instruction into listening and speaking or all-skills courses is lacking (but see Jones, 2016; Murphy, 2017), and descriptions of what integration looks like in practice are missing. Simply put, we do not know how teachers integrate pronunciation instruction in courses where it is not a

focus, since very few, if any, studies (Baker, 2013, is perhaps the only one) have described integrated approaches in oral communication courses.

The current study helps fill this gap by documenting how teachers integrate pronunciation instruction in an oral communication classroom, when it is *not* an explicit goal of the syllabus. The study was carried out in a content-based Intensive English Program (IEP) at a large Midwestern university in the US. Teachers of six intact classes were recorded for most class meetings during a seven-week oral communication course, resulting in a corpus of 132 recorded instructional class sessions (or 110 hours of instruction). Four of these classes – taught by the same teacher – implemented a focus on pronunciation that was integrated into the syllabus in one of two ways: form-focused (only) instruction (henceforth ‘explicit’), or a blend of form-focused and communicative (‘communicative’). The teachers in the remaining two classes did not integrate pronunciation, which is the default implementation of the curriculum. These ‘no specific pronunciation instruction’ (‘NSP’) classes, therefore, act as our baseline. Our main goal was to establish how much more time is spent on pronunciation when integrated as compared to the NSP baseline, and to document how teachers implement various pedagogical choices while doing so. In order to document and analyze actual practices, and to be able to compare the techniques used, we made the deliberate choice of integrating pronunciation in two different ways, with the lessons carefully planned accordingly.

Teacher Training in Pronunciation

The importance of improving teacher training for pronunciation cannot be overstated. Its role in empowering teachers and increasing confidence has been highlighted many times (e.g. Couper, 2017; Huensch, 2019a, 2019b; Murphy, 2014, 2017). Studies of teacher cognition (e.g. Baker, 2014; Baker and Burri, 2016) highlight the connection between teachers’ use of pronunciation techniques and their training in pronunciation pedagogy; they also underscore the fact that teachers wish for more training in pronunciation pedagogy.

An important component for improving training is to outline clear principles for how to teach pronunciation. Research has started to investigate which methods and pedagogical choices work and why. For example, a recent state-of-the-art review (Thomson and Derwing, 2015) evaluates various factors contributing to reported improvements in learners’ productions. It reveals, for instance, that the way improvements are measured matters because larger gains are usually seen with controlled speech measures compared to free production, or that a broader scope of instruction tends to favor more generalized gains. It is important to note that few classroom-based studies have measured comprehensibility or intelligibility improvements using free productions (but see Gordon and Darcy, 2016, 2019; Levis and Muller Levis, 2018), so it remains an open question how each of these factors contribute to comprehensibility improvements when implemented in the classroom.

Pedagogical guidelines of this nature based on solid empirical evidence are important for teacher training. A similarly important aspect of training pre-service teachers is to clarify the mechanisms by which specific teaching methods lead to improvements – an

essential question in determining the best ways to teach pronunciation. Thomson and Derwing (2015) and Foote et al. (2016) deplore that published research so far has given little attention to this question. One exception is the meta-analysis by Saito (2012) that examines the role of instructional differences and outcome measures in improvements. Despite the ‘considerable definitional fuzziness of the classification of types of instruction in the literature’ (p.845), he finds that contextualized, communicative instruction seems to lead to larger improvements in spontaneous (or free) speech. This type of instruction (classified as focus-on-form) is defined as contextualized, communicative form-focused instruction, where ‘teachers . . . draw learners’ attention to form in communicative contexts, . . . being involved in meaning-oriented communicative activities’ (p.845) – that is, embedded in meaning-based activities. This method is one of the two ways we have implemented integrated pronunciation instruction in the current study (*communicative*). The other (referred to as *explicit*; see Methods section) corresponds to the other type of instruction outlined in Saito’s meta-analysis (classified as focus-on-forms), defined as a decontextualized focus on the accuracy of specific forms, using mainly controlled practice and little elaboration.

Saito’s meta-analysis provides important information about the impact of one method over another. However, methods in each reviewed paper are very different and so are difficult to compare, and instruction was essentially lab-based (participants were assigned to one-on-one tutoring or to specifically constructed classes). No study we know of has experimentally compared the effectiveness of one method over another in a classroom setting, and details about instructional methods are often underemphasized in published studies. As pointed out by Thomson and Derwing (2015), without robust descriptions of methodology in classroom research, teachers have insufficient information to apply findings to their classrooms.

This issue points to a second major component of empowering teachers to teach pronunciation: helping them envision how to do it in their own classrooms. Documenting actual teachers’ practices to provide a potential model plays a crucial role here (Baker and Murphy, 2011; Foote et al., 2011; Murphy, 2017). However, as pointed out by Foote et al. (2016: 184), there is a critical gap:

In fact, the basic question of what exactly pronunciation instruction looks like has remained unanswered for the simple reason that, to the best of our knowledge, there are no studies that have documented L2 pronunciation teaching practices through classroom observation.

Since then, more studies documenting classroom practices through observations have appeared. Some evaluate how much pronunciation is taught and what targets are addressed in ‘all-skills’ contexts where pronunciation is not the focus of instruction (Foote et al., 2016; Huensch, 2019a, 2019b; Olson, 2014). Other studies examine pronunciation teaching from a teacher cognition standpoint in the context of a stand-alone pronunciation course (Gordon 2019; 2020), or where pronunciation is an articulated goal of an oral communication course (Baker, 2014). A common finding is that most teachers believe it is important to incorporate pronunciation (90%; in Huensch, 2019b). Yet, in the contexts examined in these studies (stand-alone pronunciation courses excluded),

pronunciation is rarely addressed. For instance, in introductory levels, most teachers spend very little time on pronunciation, and do so in mostly reactive ways – not pre-planned. So, notwithstanding the valuable information gathered from such observations, they cannot necessarily be used in teacher training as an ‘imitable’ model for teachers who want to purposely integrate pronunciation instruction. In addition, few of these studies are accompanied by measures of outcomes, which would be helpful to convince of the usefulness of teaching it, and to find out which methods are effective.

Integrating Pronunciation Instruction

Integrating pronunciation practice with other skills and into every lesson is a possible solution to another barrier often mentioned – time (e.g. Brown, 2008; Levis and Grant, 2003; Morley, 1991; Sicola and Darcy, 2015). While integration appears important to overcoming the time obstacle, it is difficult to accomplish without relevant training. Especially in content-based instruction, integration is related to finding the right balance between content and language development, which can be challenging (Baker, 2013: 251). Indeed, in many cases, the teacher’s approach is reactive, consisting of ad hoc corrective measures, such as recasts. Training appears particularly useful to help teachers *plan* the integration, but training materials and guidance for planned integration are lacking (Levis and Grant, 2003: 14).

A growing number of resources (e.g. Jones, 2016; Levis and Grant, 2003; Murphy, 2013, 2017) not only provide insightful reasons for integration but also suggest practical exercises for implementation in various contexts – for example, in extensive reading (Han, 2016) or in intermediate grammar classes (Floyd, 2016). Yet, teachers may wonder how much/how little to do it, how to pre-plan instruction in the syllabus, and on what basis to decide. For example, Han (2016: 145) advises that ‘teachers can allocate a certain amount of time for learners to find examples of a vowel sound in the text’. While the activities are useful, suggestions about how exactly and how much to implement them often remain vague because we simply do not know how much is needed for instruction to be effective (see Baker, 2013; Levis and Grant, 2003).

One possible reason is that very few published studies have examined practices of integration in combination with outcome measures. Baker (2013, 2014) observed several teachers in an oral skills context and described their practices as well as the techniques they used to integrate pronunciation into content-based courses. The fact that pronunciation instruction was integrated is not surprising given that the course curriculum required pronunciation to be taught in each module. However, the two teachers observed in Baker (2013) integrated phonological features in different ways and in varying quantities. Based on four observed lessons, one teacher spent 69.7% of the time addressing pronunciation, whereas the other did so 17.4% of the time. Observations further revealed that form-focused and controlled activities dominated, with a lack of free practice or fluency development activities. However, without information on outcome measures, the impact of these choices on students’ production is unknown. The current project’s main contribution is providing a full description of two different methods of integrated pronunciation practice, with data on improvements in learners’ speaking skills upon course completion.

The Current Study

To more fully understand and document how teachers implement integrated pronunciation practice in oral communication classes, we analyzed a corpus consisting of 132 recorded class sessions (amounting to 110 instruction hours). This corpus was recorded as part of a larger project designed to compare the effectivity of various methods of pronunciation instruction, which allows us to also briefly report on the comprehensibility improvements of the students. Three instructors (one of whom is a researcher in this study) of six intact classes in a content-based IEP in the US were recorded during a seven-week oral communication course. Four of these classes implemented a focus on pronunciation that was integrated into the syllabus (either as explicit or communicative), while the other two (NSP) did not integrate any specific focus on pronunciation.

Our main goal is to establish how much time was actually spent on pronunciation in each of these groups, and, specifically, how much more time it takes to integrate pronunciation compared to the NSP baseline. With teacher training in mind, we also aim to document how teachers implement the instruction when it is planned, as opposed to reactive. We therefore chose to integrate pronunciation in two different ways (explicit and communicative) in order to compare integration according to these two pedagogical choices.

Methods

Instructional Setting

All instructors held MA TESOL degrees and had previous experience teaching oral communication courses. Data collection took place over three semesters, with two instructional levels (Level 4 and Level 6) included each semester. Level 4 corresponds to low-intermediate proficiency, and level 6 to high-intermediate or low-advanced proficiency (level 7 is the highest in the IEP). The teachers were not observed in person so as to be less invasive, since groups were small (see Figure 1).

The oral communication courses focused on developing and refining students' abilities to understand and express complex ideas, and they included five 50-minute lessons per week over the course of seven weeks. The instruction followed a curriculum but there was opportunity for individual instructors to shape their course as long as the content aligned with the curriculum and student learning outcomes (SLOs) were met; however, no specific SLOs for pronunciation were part of the curriculum.

Design and Implementation of Classroom Instruction

Figure 1 highlights the differences between the three pedagogical choices (see Darcy et al., in preparation). The NSP group did not receive any specific pronunciation focus. The other two groups differ in the kind of pronunciation integration that took place: non-communicative ('explicit' for short) integration (corresponding to Focus on Forms; Saito, 2012); and communicative integration (Focus on Form; Saito, 2012). Communicative instruction was designed as a merger of the Communicative Framework

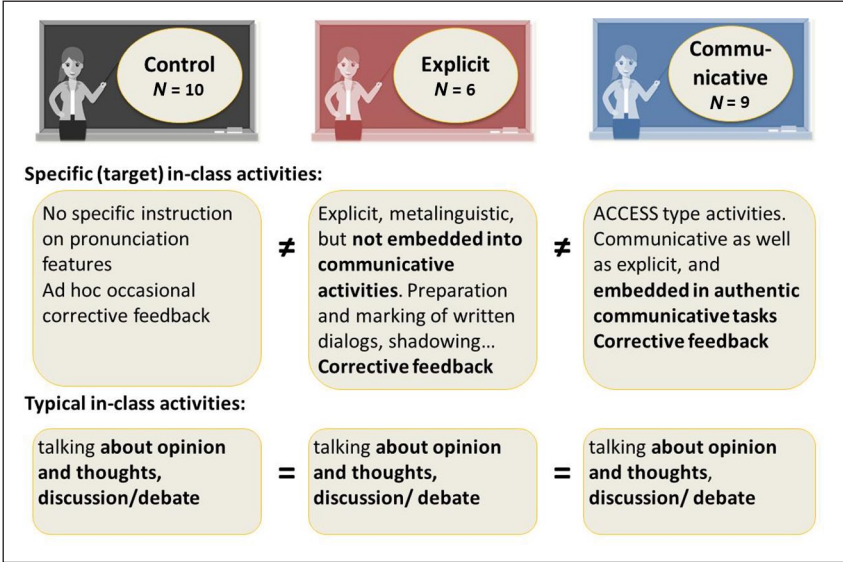


Figure 1. Overview of the differences and similarities across the three groups. Frame vector created by Sapann-Design (www.freepik.com).

(Celce-Murcia et al., 2010) and the Automatization in Communicative Contexts of Essential Speech Segments (ACCESS) to Fluency method (Gatbonton and Segalowitz, 2005). This resulted in a model which integrated Focus on Form into a Communicative methodology that places high value on opportunities for repetition of target forms in authentic contexts.

The pronunciation targets for the two experimental groups were the same and included word stress, sentence stress, intonation, connected speech, thought groups, and reduced function words. These targets were chosen for their role in comprehensibility and intelligibility, and because students at these levels commonly benefit from this focus. The targets differed in terms of how blended they were with the course content. Word stress, connected speech, and reduced function words were often integrated with the course content. For example, the teacher replayed sections of listening material covered in the course and asked students to fill in missing words from a transcript that were either linked or reduced, or to annotate thought groups and stressed words while listening. This activity fully blends with the course content, improves bottom-up listening, and draws attention to the pronunciation of these features. Similarly, students were asked to record themselves reading these transcripts, focusing on an assigned pronunciation feature. Targets were also addressed in planned lessons, which were less directly related to the course materials, but their relevance was explicitly connected to it using feedback.

Segmentals also received some attention. Taking functional load (Munro and Derwing, 2006) into account, the instructor assigned each student 2–4 segmentals that presented difficulty. Over the course of three weeks, students were asked to practice them using the

website English Accent Coach (Thomson, 2012) at home for about 10 minutes every day, and brought their scores to class once a week for discussion and further practice. While not fully integrated into the course content, this approach kept the amount of class time devoted to segmentals at a minimum, yet still gave students guidance in how to improve their perception and production of the sounds.

Student Data Collection and Findings

Student speech samples were collected in week 1 (T1) and week 6 (T2) from 25 learners with mixed first languages (L1s) (see Figure 1 for the final sample size in each group). Students completed controlled and spontaneous speaking tasks to assess changes in comprehensibility in a pre-/post-test design. They were recorded in their regular classroom, each equipped with a high-quality recorder and a unidirectional clip-on microphone on the days of data collection. To be included in the analysis, students had to be present for both the pre-test and post-test. Students who enrolled in the course late may have missed the pre-test and were, therefore, not included. Similarly, some were present for the pre-test but missed the post-test because they were moved up a level at the end of week 1. This was the case for a total of 10 students. Our total enrollment was 35, but only 25 students were included in the analysis.

Transcriptions of student productions were used to select 12 sentences comparable in length and complexity for each student (six for T1 and six for T2, for a total of 300 samples). These speech samples were then rated for comprehensibility on a 1-to-9 scale by five trained raters. Results showed that both instruction groups improved more in general comprehensibility compared to the control (NSP) group, with the communicative group having the greatest positive change. The method and data on students' improvement in each group are reported elsewhere in detail (Darcy et al., in preparation).

Teacher Data Collection

The teachers in this study recorded their instruction daily for the seven-week course. They were provided with a Polsen PL-2WC directional Cardioid Lavalier microphone and a Zoom ZH1 recorder to record classroom instruction. The microphone was equipped with a lapel clip giving instructors full mobility. Teachers were not recorded on days when a substitute teacher provided instruction or on exam days, meaning only instructional time is counted in the totals.

Teacher Data Analysis

The recordings were analyzed to evaluate the quantity of class time spent on pronunciation (overall and on average per session), and whether this time was directed at feedback or activities/instruction. Six graduate students in an MA TESOL program were trained to identify the start time and end time of pronunciation episodes in the recording and code them according to preset categories. Time spent on pronunciation is operationalized as instructional activities (explicit instruction or any activity where the focus is on pronunciation) or teacher feedback directed at pronunciation errors. After identifying whether

an episode was instructional or feedback, coders marked what the pronunciation target of that episode was: connected speech, intonation, reduction, segmentals, sentence stress, thought groups, or word stress. There was an option to mark an unidentified target as ‘I don’t know’. Any feedback that occurred during an instructional activity was not counted in the total tally of feedback, but instead included under the pronunciation instruction time.

Coding was generally conservative, and coders were encouraged to only mark an episode they were sure about. Coding feedback was especially challenging because the microphone was not directed at students. Since their productions were not always clearly audible, it was not always possible to know what the teacher perceived as the cause of an error. Some repetitions were thus ambiguous between a recast (feedback to an individual student on their pronunciation) and what we call a ‘classroom management repetition’,¹ which we did not count as feedback or instruction. Checking each instance of feedback was outside the scope of this study; however, one type of feedback was double-checked in each coder’s data: recasts with the target marked as ‘I don’t know’. We define a ‘recast’ as a repetition of an error minus the error (Foote et al., 2016). In other words, the student makes a pronunciation error and then the teacher repeats it in a target-like way. This is different from classroom management repetitions, which do not involve errors. Double-checking all these instances allowed us to eliminate from our data any episodes that were clearly not a recast.

It was sometimes difficult to draw a clear line between what counts as pronunciation instruction and what does not, especially in communicative lessons. In particular, some activities required a preliminary discussion or set-up, which may or may not draw students’ attention explicitly to pronunciation. For this study, only instruction which was intended to draw students’ attention to a pronunciation feature was counted. Examples of activities that were counted as pronunciation instruction were listening discrimination, controlled and guided practice, debriefings on voice recordings, and discussion of English Accent Coach progress during class.

Analysis Procedure

All coding spreadsheets were checked for consistency and errors before being merged for analysis. All duration information in the audio files was reported in seconds. These were then converted into minutes, and to obtain the average time spent on pronunciation episodes per teaching session, this total sum was divided by the number of sessions for a given group. Proportions relating to the percentage of class time assume class duration as 50 minutes.

Findings

A total of 132 recordings were analyzed (see Table 1), which represent about 6600 minutes, or 110 hours of instruction, given that most class sessions were 50 minutes long. Overall, the groups were similar in how many sessions were taught – the discrepancies being due mostly to class being cancelled or days with outside activity, days with listening/speaking assessments, and equipment malfunction. Among the 132 recordings, 120

Table 1. Overview of class sessions per group, and level and proportion of those with pronunciation-related episodes.

Group	Level	Total	No. with episodes	Percentage of sessions with episodes
Communicative	4	21	21	100.0
	6	19	18	94.7
Explicit	4	25	25	100.0
	6	25	25	100.0
NSP	4	19	13	68.4
	6	23	18	78.3
Total		132	120	90.2%

(about 90%) were found to have some instances of pronunciation-instruction-related episodes. Unsurprisingly, there were fewer such sessions in the NSP group (73.3%), whereas for the other two integrated groups (combined), 98.7% of class sessions contained episodes related to pronunciation.

How Much Was Pronunciation Addressed in Each Group?

Across groups, teachers spent a combined 1429 minutes teaching with a focus directed at pronunciation (about 24 hours, which corresponds to 22% of total recorded instruction time). On average, this corresponds to 11 minutes per class spent with a focus on pronunciation. Of course, time spent in each class session depends heavily on whether pronunciation was integrated or not, as shown in Table 2.

Table 2 shows that, while the instructors in the NSP group did spend some time focusing on pronunciation, it was substantially less when compared to the other groups, which spent a similar average amount of time on pronunciation of about 15 minutes. In fact, whereas 35.5 total minutes on average focused on pronunciation in the NSP, this time was almost 10 times longer (340 total minutes) in the integrated groups. In terms of the percentage of class time spent on pronunciation, we see that the communicative group's attention is being directed at pronunciation for about one third (35%) of the recorded class time. In the explicit group, this time is about one fourth (25%), and in the NSP group, less than one 10th (3%) of class time is directed at pronunciation. Even though there were episodes in 73% of sessions in the NSP group, the average time spent on pronunciation per class remains low (1–2 minutes) and is comparable to other observations in all-skills contexts (e.g. Foote et al., 2016; Huensch, 2019b; Olson, 2014: 2.6 minutes). This is not particularly surprising given that the syllabus did not articulate specific pronunciation goals in these courses. As we discuss below, in the NSP group, a substantial portion of this instruction was reactive via feedback (as found in other studies such as Couper, 2017; Foote et al., 2016; Huensch, 2019b).

It is worth noting that the time spent focusing on pronunciation can be highly variable across class session and, in some cases, far above or below the average indicated (see

Table 2. Total duration of pronunciation-related episodes, minutes per session (average, minimum, and maximum), and average percentage of class time, by group and level.

Group	Level	Total cumulative length (mins)	Total no. of sessions	Average mins/session	Min/max (mins) in a 50-min class	Average % of class time
Communicative	4	351	21	16.71	0.08–51.4	33.4
	6	354	19	18.63	0.07–48.6	37.3
Explicit	4	332	25	13.26	0.92–45.5	26.5
	6	322	25	12.86	0.01–47.6	25.7
NSP	4	8	19	0.42	0.09–2.42	0.8
	6	63	23	2.75	0.03–20.0	5.5

Table 3. Ratio of instruction to feedback in each group and level.

Group	Level	Type	No. of episodes	Time spent (in mins)
Communicative	4	Instruction	46	342
		Feedback	49	9.1
	6	Instruction	51	345
		Feedback	42	8.8
Explicit	4	Instruction	60	290
		Feedback	347	41
	6	Instruction	55	302
		Feedback	82	6.7
NSP	4	Instruction	1	1.7
		Feedback	59	6.1
	6	Instruction	17	58
		Feedback	34	5.1

Table 2, column 5 for average time, and column 6 for the range of time spent on pronunciation). In any given session, the total time with a pronunciation focus can range from >50 minutes (= 100% of class time) to just a few seconds for a recast, for instance.

In sum, our results show that teachers directed learners' attention to pronunciation for a large and similar amount of time in both integrated groups, and much less (but still some!) in the NSP groups.

Comparing How Pronunciation Is Taught in Integrated Versus NSP Courses

In this section, we compare the three groups in terms of the proportion of episodes classified as feedback versus pronunciation instruction (or activity). Table 3 displays the number of episodes for each category accompanied by the cumulative duration these episodes represent. Table 3 highlights that the groups are surprisingly homogenous in

terms of how much time was spent giving feedback with a pronunciation focus. Leaving the exception of the Explicit Level 4 group aside, we see that the overall time instructors spent providing feedback is comparable across all other groups, and hovers between 5 and 10 accumulated minutes during the course. The reason why so much more feedback was provided in Explicit Level 4 is unclear, but could be due to the small group size and perhaps the teacher's personal assessment of how to best address these students' specific pronunciation needs.

When focusing on the time spent on pronunciation instruction and activities alone, the difference between the NSP and the integrated groups stands out as extreme. Therefore, the major difference among groups appears mainly due to the larger amount of pre-planned instruction and activities in integrated courses versus NSP courses. Of note, there were only four pre-planned pronunciation episodes in the NSP group, all others being spontaneous comments and explanations or responding to student questions. Additionally, both integrated groups display comparable amounts of instruction and activities, even if the communicative groups tend to accumulate about 50 more instructional minutes overall.

Communicative Versus Explicit Planned Integration: Differences and Similarities

In this section we ask whether the two methods of integration are comparable in terms of time and how they differ in implementation. We consider here only the sessions containing pronunciation instruction or activities (that is, sessions that only contained feedback episodes are not included here). Within the category of pronunciation instruction/activity, we distinguish two kinds. The first are dedicated instruction and activities, which are globally integrated into instruction because they were planned in advance by the instructor and are part of the course calendar. We call these activities 'dedicated' instruction, in that they may be less blended with the course content. The other kind is a more *locally* 'integrated' instruction, which can be planned but is more opportunistic in that it adds pronunciation to the existing course materials. This could be, for example, looking up the word stress for multisyllabic profession names in a unit about the job market before a listening or speaking activity.

The major difference between the two groups is that the instruction provided to the communicative group was articulated around three communicative pronunciation lessons and a number of explicit pronunciation practice lessons. The communicative lessons are time-consuming, taking up the entire class period. By contrast, the explicit group instruction consisted of explicit pronunciation practice lessons. The three communicative lessons were equivalently replaced by explicit lessons without the communicative component (see Figure 1). Table 4 shows the number of days containing dedicated versus integrated instruction (and the corresponding time spent on them).

As shown in Table 4, both groups had seven dedicated sessions, roughly one per week. The cumulative time spent on these sessions is comparable across both groups. By contrast, the integrated instructional periods took place over a variable number of days, with 15 days containing integrated pronunciation instruction for the Explicit group Level 4, and only five such days in the Communicative group Level 6. However, the overall

Table 4. Integrated and dedicated pronunciation instruction in the communicative and explicit groups.

Group	Level	Dedicated instruction sessions				Integrated instruction sessions			
		No. of days and percentage of total	Total duration (mins)	Average mins/session (SD)	Average mins/session (overall)	No. of days and percentage of total	Total duration (mins)	Average mins/session (SD)	Average mins/session (overall)
Communicative	4	6* (28%)	258	43.0 (8.1)	12.3	8 (38%)	84	10.5 (8.7)	4.0 (2.1) [†]
	6	7 (37%)	298	42.6 (4.5)	15.7	5 (26%)	47	9.4 (3.6)	2.5 (1.9)
Explicit	4	7 (28%)	210 ⁺	30.0 (10.6)	8.4	15 (60%)	80	5.3 (9.2)	3.2 (2.5)
	6	7 (28%)	246	35.1 (12.1)	9.8	9 (36%)	56	6.2 (5.4)	2.2 (2.5)

SD: standard deviation.

*One class session was not recorded because of a recording error (during which word stress was taught explicitly for about 48 minutes so the total would be about 300 minutes).

⁺Of this total, 25 minutes are missing because of a mic malfunction, so the actual total is probably around 235 minutes.

[†]The number in parentheses is the total number of sessions for each group.

time spent on this integrated pronunciation instruction is again very comparable across both groups, and is about 80 minutes for the lower level and about 50 minutes for the higher level. On average, this time amounts to 10 minutes per session in the Communicative group, and six minutes for the Explicit group. When related to the total number of class sessions during the seven-week course, this integrated instruction amounts to only a few minutes of instruction.

This data highlights that integration can happen in a number of ways and consists of a mixture of planned ‘dedicated’ sessions on a few days, as well as integrated activities and instruction that directly expand upon the course content (such as word stress lookup).

Discussion and Implications for Practice

Taken together, we hope our findings help paint a realistic picture of what it means to integrate pronunciation instruction into an oral communication course. Our first aim was to outline how much time is in fact spent on pronunciation when integrated into course instruction. The results show that it is substantial – roughly 15 minutes per session, or from a quarter to a third of instructional time, making integration a successful approach from the standpoint of pronunciation instruction. Of note, because it is integrated, this time – which might appear scarily large if thought of as dissociated from the rest of that day’s lesson – is not spent on pronunciation *to the exclusion* of other content-related instruction.

A major finding in our corpus is that no two days were alike, and on any given day, the amount of time with a pronunciation focus turned out to be quite variable in both integrated groups. When examining how this time was globally spent and organized within the overall course duration, we see a potential model for integration emerge.

The longest sessions were seven pre-planned lessons (out of 20–25), during which pronunciation was the main focus of the instructional time, covering almost 100% of class time. These lessons form the core of the integration model. While some of these sessions were well aligned with the course materials, others were prepared in advance as fixed lessons, and, thus, with a more tenuous link to course materials (in these cases, the lesson’s relevance to the course materials was then reinforced via feedback in other sessions). The dedicated sessions provide students with an introduction to certain pronunciation features that the teacher is able to then recycle through embedded activities on various days.

These ‘scattered’ activities represent the other main component of integration and were seamlessly integrated with the course materials because their focus was on pronunciation elements found in the content of the unit that the students were working on at that time. Their form varied but could range from looking up the word stress in assigned vocabulary items prior to the beginning of a lesson to working more in depth on pronunciation elements with a transcript of a listening passage after the class has already examined its content or argumentation. This integration was spread out over variable numbers of days and added, on average, about 10–11 minutes of pronunciation focus per session. Together with the feedback that most teachers give anyway (five out of six groups were remarkably similar in that respect), it complements the integration.

The central implication of these findings for practice is that integrating pronunciation instruction has the potential to draw students’ attention to pronunciation for a significant

amount of class time, without disconnecting it from the course objectives. In fact, compared to the NSP group, the integrated groups spent about 10 times longer focused on pronunciation. Considering the observed comprehensibility improvements in the two experimental groups (especially the communicative group), and the absence of it in the NSP learners after the course ended, integration appears well worth the planning effort (see Darcy et al., in preparation). While this study identified multiple suprasegmental targets for a broader focus (Thomson and Derwing, 2015), such an integration model can, of course, be adjusted for the needs of various students and contexts.

Taken together, our findings support the view that making a conscious, planned addition of a few sessions of dedicated pronunciation instruction, and on some days using opportunities from the course materials to apply a focus on pronunciation, can make a difference in students' comprehensibility, even after a short time, without detracting from the course's learning goals, when these do not include pronunciation.

Another important implication concerns the importance of paying attention to pronunciation every day. While the majority of NSP sessions included pronunciation episodes – which amounted to only a little instructional time – nearly all sessions in the other two groups contained such episodes, reinforcing the notion that drawing attention explicitly to it in every class, even for just a few minutes, is possible, and overall accumulates to exposing students to pronunciation for a substantial amount of time. This helps create a sense that pronunciation matters from the student's perspective. A useful analogy is found in exercise. It is better to exercise for five minutes every day than to exercise only for a one-hour session every 12 days. Psycholinguistics suggests that students do not always naturally focus their attention on language forms, though such a focus appears crucial for pronunciation improvement and phonological development. A gradual shift of students' attentional focus from meaning to a simultaneous focus on form and meaning requires explicit instruction and consistent practice for it to become automatic and natural (Darcy, 2018; Gatbonton and Segalowitz, 2005; Segalowitz and Hulstijn, 2005). Pronunciation was not the focus of the courses that we analyzed in this paper. Yet, once pronunciation was integrated into the syllabus, students showed measurable improvements in their oral productions.

Finally, to address one possible concern, there was no indication that the observed integration happened *at the expense* of the other course goals (a challenge mentioned in Baker, 2013). On the contrary, as reported by the teacher of the experimental groups in our study, pronunciation instruction is likely to have helped with bottom-up listening skills, and so appears to be beneficial to the other course goals (see also Levis, 2018: 190) as well.

Conclusion

Documenting how pronunciation is integrated into classroom teaching practices – especially in cases where it is not an articulated goal of the course – is important because this information will help guide future research about which methods work in the classroom, and help develop teacher training resources for pre- and in-service teachers alike (Couper, 2016, 2017; Foote et al., 2011). Additionally, it is only possible to confidently say that pronunciation instruction is effective once it is known that what happens in a real classroom works to change speech patterns in real life – that is, in spontaneous speech. This is why this kind of documentation, along with carefully measuring outcomes in terms of

comprehensibility or intelligibility, is crucial. Findings of this kind have the potential to empower teachers to be more confident about teaching pronunciation systematically. These findings will also enable the field to train teachers more effectively and to create better textbooks for language learning, including better choices about curriculum design and the integration of pronunciation goals.

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ORCID iD

Isabelle Darcy  <https://orcid.org/0000-0003-3889-2414>

Note

1. This often happens when the teacher asks a question, a student gives an answer (said in a target-like way), then the teacher repeats the utterance even though the student did not make an error. This kind of repetition was not counted in our study because it is likely serving some kind of classroom management purpose: repeating it so everyone can hear, giving the teacher time to think, acknowledging that it is a correct answer, etc.

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