A SELF-STUDY: IMPROVING PEDAGOGICAL CONTENT KNOWLEDGE OF PRONUNCIATION TEACHING

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Abstract: *This self-study was initiated when the writer closely worked with a Chinese student, improving the student's pronunciation performance, for several weeks. The tutorial program was intended mainly to help the student improve his pronunciation. At the same time, the writer benefited the program to conduct a self study improving her pronunciation teaching practice and her understanding of that practice. A participatory observation, several interviews and a reflective writing were taken as sources to collect the data. During the program, the writer noticed some aspects of her content knowledge were transformed and evolved. The improvement of the writer's pedagogical content knowledge (PCK), as a result of the tutorial practice, were discussed in terms of five components suggested by Magnusson et all (1999): orientations of teaching, knowledge of curriculum, knowledge of student understanding, knowledge of assessment, and knowledge of instructional strategies. This study provides a useful inquiry for exploring how one's own practice can be used to improve teacher education courses and teacher education programs.*

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INTRODUCTION

This is a self study intended to examine the transformation and the development of my pedagogical content knowledge of pronunciation teaching, i.e. a framework to understand and describe the kinds of knowledge needed by a teacher for an effective pronunciation teaching. This study is based on a pronunciation tutorial, in which I was assigned to be a tutor, assisting Lieung (not a real name), a Chinese graduate student, who was also a Teaching Assistant (TA) in his department, Chemistry.

As a part of his assistantship, he worked helping out undergraduate students—mostly American natives—in a practicum class. Mainly for this reason, he was sent out to join the tutorial program to improve his pronunciation. The tutorial was held twice a week, on an hour basis, lasted for one quarter, approximately 2,5 months.

To examine my study, I used a variety of data collection methods and sources. I wrote a self reflection journal based on my field note, describing and interpreting some events that happened during the tutorial. I also had several audio files of my tutee's recorded speech, as a couple times I assigned him to record his speech using audacity software. Informal conversation interviews (Patton 1990) were also conducted with my tutee during and after sessions. Several emails he sent to me were of inadvertent sources for me to recheck his grammatical competence, in comparing his grammar produced when speaking and writing.

In analyzing my study, I based my reflection on the five components of pedagogical knowledge suggested by Magnusson et all (1999). Those are orientations of teaching, knowledge of

instructional strategies, knowledge of student understanding, knowledge of assessment, and knowledge of curriculum.

It is evident that this self study significantly benefits my teaching practice—and others—for I am able to reflect on my tutorial experiences in order to improve my pedagogical content knowledge of pronunciation teaching.

TEACHING PRONUNCIATION FOR INTERNATIONAL INTELLIGIBILITY

There has been a major shift in viewing English as an International Language for communication. English is no longer regarded as a language of American, British or Australian people. It is considered as a lingua franca where, according to Crystal and Graddol (in Jenkins 2002) non native speakers that use English for international communication now have outnumbered its native speakers. This has a serious implication to the field of English language teaching, specifically in pronunciation research and teaching. Pronunciation research and pedagogy have been influenced by two principles, as Levis (2005) asserts, i.e. the nativeness and the intelligibility principles. The nativeness principle considers native-like pronunciation as the learning target, while intelligibility principle regards comprehensible speech as the learning goal. As Levis (2005:370) elaborates, intelligibility principle holds that,

> ...communication can be remarkably successful when foreign accents are noticeable or even strong, that there is no clear correlation between accent and understanding, and that certain types of pronunciation errors may have a disproportionate role in impairing comprehensibility.

As the intelligibility goal is increasingly gaining its favor, there has been a growing need to revisit the phonological norms and pronunciation models for English as International Language (EIL), "in which intelligibility for non natives (NNS) rather than for natives

(NS) receivers is the primary motivation" (Jenkins 2002:1). This gives rise to what Jenkins proposes as LFC, or Lingua Franca Core (Jenkins 1998, 2002; 2006, Dauer 2005), that is a scaled-down list of pronunciation targets realistically teachable and learnable for non natives, covering (1) consonant inventories; (2) additional phonetic requirements, e.g. aspiration and vowel length; (3) consonant clusters; (4) vowel sounds; and (5) production and placement of tonic (nuclear) stress.

LFC emphasizes segmental features of pronunciation (phonemes) and downplays the importance of suprasegmental features (rhythm, word stress, and intonation, often referred to collectively as prosody). This is, to some extent, contrastive to some opinions that emphasize more on suprasegmental and prosodic features. Celce-Murcia, Brinton, & Goodwin (1996) suggest that the teaching of prosody as the most efficient way of achieving fluency. Fluency is oriented in this case because it is strongly related to NSs' perception of intelligibility, as well as an important element for oral proficiency test. Hahn's research (2004) shows related evidence of fluency supremacy, promoting the teaching of suprasegmental aspects.

In a similar assumption, a research by Anderson-Hsieh, Johnson, and Koehler (1992) found that overall prosody plays more significant role in a standardized spoken language test. Derwing and Munro confirm this, stating that "improvement in NNS comprehensibility, at least for intermediate- and high-proficiency learners, is more likely to occur with improvement in grammatical and prosodic proficiency than with a sole focus on correction of phonemic errors" (1997:15). Further research by Derwing and Rossiter (2003) compared groups of student who had been given either segmental or prosodic training. The results showed that "prosodic training transfers to extemporaneously produced speech" (ibid 2003:4), but the segmental training does not, though an improvement was seen in reading aloud.

Intelligibility indeed lies on listeners' perception (Jenkins 1998, 2002) and a sensitivity to context (Levis 2005). Jenkins (1998, 2002) argues, those studies that emphasize the importance of suprasegmental in intelligibility have been based on native speaker (NS) listeners, who may process speech differently from nonnative speakers (NNSs), and who may have less exposure to and interaction with NNSs (Derwing 1991). As to context sensitivity, Levis (2005, 2006) proposes a four-quadrant matrix (figure 1 below) illustrating the contexts of sensitivity of intelligibility in terms of NS-NNS listener and speaker.

		LISTENER	
		Native Speaker	Nonnative Speaker
SPEAKER	Native Speaker	A. NS – NS	B. NS – NNS
	Nonnative Speaker	C. NNS – NS	D. NNS – NNS

Figure 1:
Speaker-Listeners Intelligibility Matrix (Levis 2006)

Quadrant A shows an interaction between NS speakers and NS listeners. Quadrant B has NS speakers and NNS listeners, which is common situation of language teaching interaction in an ESL context—for example, NS teachers and NNS students. Quadrant C is an interaction between NNS speakers and NS listeners. Levis (2005, 2006) assumes this quadrant reflects the most current research on intelligibility, where NNS speakers are often required to produce intelligible speech, based on NS' perception, to achieve a successful communication.

Quadrant D reflects interaction where the speakers and the listeners are NNS. This is what Jenkins (1998, 2002) refers as EIL communication. In such NNS-NNS interaction, Jenkins (1998, 2002) notes, segmental errors (or segmental combined with nuclear stress errors) often cause communication problems, because of, among

other, NNSs' use of bottom-up strategies in processing meaning and NNSs' limited ability to compensate pronunciation errors by using contextual or syntactic cues. Studies by Field (2004, 2005) confirm Jenkins' findings. Based on her data and assumption above, Jenkins' LFC proposes a simplified set of teaching goals, focusing on segmental features that often cause communication break down among NNSs.

Perception and judgment of intelligibility involve both linguistics and non-linguistics factors. Which factors should be primarily addressed, either segmental or suprasegmental, will depend on the contexts of instructions and learners' communicative needs. In TESOL area, the debate over segmental or suprasegmental emphasis basically deals with the so called international intelligibility of EIL, where NNS learners should not be forced to choose between British English (BrE) and American English (AmE). English other than BrE and AmE should now be considered as variants of EIL.

PEDAGOGICAL CONTENT KNOWLEDGE

The notion of pedagogical content knowledge (PCK), introduced by Shulman refers to "teacher's knowledge on their subject matter and how to teach that subject (1986:7). In other words, it is about the teachability of a subject matter, i.e. "the ways of representing and formulating the subject that make it comprehensible to others" (Shulman 1986:9). Hutchings and Shulman (1999) extend the notion of pedagogical content knowledge into a scholarship of teaching, that emphasizes the need for subject matter understanding and knowledge, acquired through inquiry into teaching, to be shared in a public format for review and scrutiny. In other words, PCK is teachers' knowledge and beliefs that direct teachers' practice related to curriculum, subject matter, students learning characters and teaching components.

In analyzing my self-study, I adopted the pedagogical content knowledge (PCK) proposed by Magnusson et al. (1999). Magnusson's PCK model consists of five components—that basically are interrelated in practice. Those are:

1. Orientations to teaching, is about ways of viewing how a subject should be taught and how these views guide the instruction.
2. Knowledge of instructional strategies, refers to teachers' understanding of which instructional strategies should be adopted to address particular topics and issues.
3. Knowledge of student understanding, refers to teachers' understanding of students learning characteristics, including that of what prerequisite knowledge, abilities and skills that students need in order to learn certain topics.
4. Knowledge of assessment, is teachers' knowledge on which learning aspects should be assessed and appropriate methods of assessment to measure the learning progress.
5. Knowledge of curriculum, refers to an understanding of curriculum goals and outcomes of specific courses and its relevance to the whole programs.

The manifestation of PCK components is dynamic in nature, as teaching practices undergo constructive changes and reform. The nature of PCK can be examined in many ways, and developed though many pedagogical and professional activities, such as teaching practice, classroom observation, workshops, teachers' discussion, and academic research. My PCK is promoted through this study, for I could be able to observe my own teaching practice, develop and make sense of my beliefs and practices in pronunciation teaching.

RESULTS

A. Orientations to Teaching

Departing from the notion of communicative language teaching, I believe that teaching language skills should be oriented to enable learners to communicate using the target language. With that in mind, I based my tutorial to help my tutee achieve a pronunciation for comprehensible communication. I did not set a native-like goal for my tutee, since that would be unrealistic to be achieved within one quarter of tutorial. That might eventually be his ultimate goal someday. In addition, this tutorial tried to help him identify his weaknesses in pronunciation and show him some strategies to self-improve his pronunciation.

In this tutorial, I emphasized more on segmental features. It was not because I am in support of the supremacy of segmental teaching. I believe that both segmental and suprasegmental are equally important to be taught. However, the teaching proportion of these two features may not always be equally the same, depending on instructional contexts, as well as teachers' diagnose on students unintelligibility.

Referring to my tutee's pronunciation problem, I tended to direct his learning for an accurate intelligible production of segmental features, mostly vowels and consonant quality. This was so because it was his segmental features that often impeded my understanding as non native listeners, and probably his native students' too.

I am basically an advocate of balancing both segmental and suprasegmental features to improve learners' speech toward intelligible pronunciation—not necessarily toward a native-like goal. When a priority has to be made, to me, errors that globally impede understanding are those that must be urgently addressed. These errors could fall into particular aspects of segmental or suprasegmental features.

B. Knowledge of Instructional Strategies

Referring to teaching orientation and principles above, I apply some instructional strategies focusing on improving some erroneous segmental and suprasegmental features, through accuracy-and fluency-oriented activities. Mostly, the instructional strategies I had were focused on speech production.

At the first meeting, I diagnosed his speech through reading and speaking tasks. I had him read aloud two-paragraph text and engaged him in a casual conversation talking about himself. All were recorded for the diagnoses purpose. Some phonemic problems I found are, among others:

- /θ/ in "thin" sounds like /s/ as in "sin"
- /ð/ in "clothe" sounds like /z/ as in "close"
- /z/ in "rise" sounds like /s/ as in "rice"
- /r/ in "right" sounds like /l/ as in "light"
- /ŋ/+/k/ in "think" sounds like /ŋ/+/g/ as in "thing"
- /ʔ/ in "push"
- unaspirated /p/ and /t/ when occurring at the initial position of a word
- /æ/ in "cat"sound like /ɑ:/as in"cart"
- /ʔ/ in "not"sounds like /ʔ:/as in"naught"

To redress the phonemic problems above, I used Dauers' Accurate English (1993), mostly to provide my tutee with accuracy-based exercises, such as 'listen and repeat', 'words recognition' in an isolated context, in a phrase and in a sentence, 'distinguishing vowel sounds', 'minimal pair', and 'reading aloud focusing on certain features'. Another accuracy-oriented activity was having him record his talk. We recorded our conversation, and his reading aloud, and had him learn to self-identify any erroneous words he possibly produced.

It was a little bit difficult for him, as he told me, to identify his own mistakes. Often, words that he thought problem-free were those that I could not catch clearly. The use of computer-based technology for language learning was employed here. I taught Lieung to use audacity, a free-downloaded software to record and edit speech in a computer. A couple times I assigned him to record his speech and his reflection using audacity, converted it to MP3 file, and emailed it to me.

When I gave him a task exercising on particular vowel and consonant sounds, he sometimes asked me to have a conversation task or some other fluency-based exercises. I accommodated his want and engaged him in conversation tasks. I also referred to Gilbert's Clear Speech (2005) to browse some examples of fluency-based pronunciation practices, such as dialogue, role plays, reading and retelling. During the speaking task, as long as I could understand his speech, I did not interrupt his speech. Yet, every time I found any unclear speech, I immediately had him self-correct his sentences.

Approaching the last weeks of the tutorial, we dedicated most of the tutorial time for speaking practice. I still required him to record to his speech. However, the analysis was more on his communication habit and strategies—as he asked—and less on pronunciation accuracy. The shift was because Lieung's plan to take a Speaking Proficiency Test (for a Teaching Assistant like him) at the end of the semester.

The fluency-based speaking tasks actually helped me identify some suprasegmental features and aspects related to his voice quality and communication strategies, which notably impeded me from understanding his messages. His voice quality, mimic and his facial expression often downgraded his improved pronunciation, as he sometimes talked in a slow and soft voice, with a plain facial expression, and sometimes too much fillers or pauses continued with mumbling words.

Though Chinese is a tonal language, Lieung's English was almost toneless. For this, I suggested him practice talking in front of a mirror, watching his mouth movement and facial expression. He thought it was silly, but he eventually did it many times, as he found it a good practice of self-criticizing. His rhythm and intonation were of suprasegmental features I sometimes addressed during tutorial. Other suprasegmental features were not my major attention, except when he produced unintelligible utterances related to suprasegmental aspects.

C. Knowledge of Student Understanding

This component involves understanding of students' background abilities and skills that are required for the learning to take place (Magnusson et.al. 1999:104-108). In order to improve his pronunciation, I kept telling my tutee that, it takes an intensive and constant effort to excel in language pronunciation. This is an initial awareness learners should have for a motivated learning to take place. They should know that improving pronunciation is not an instant process, as it often takes weeks and months, even years, to come up with significant progress. This is not to discourage them. This is more to anticipate their feeling frustrated, bored and tired of trying.

Other than awareness, learners should realize that depending on teacher-directed instruction in the classroom is not enough. Outside classroom hours, they should be able to implement activities and learning strategies they have during the class. Learning autonomy and learners' independence to self-improve is the goal of pronunciation teaching. In the same vein, my tutee should be responsible on continuing his pronunciation learning, once the tutorial ends, without my direct guidance.

Trying to understand my tutee is about trying to know what he wants and aims at. What Lieung expected form this tutorial is getting assistance for him to improve his speaking ability. I told him that his

speaking ability would be judged, among other, by his pronunciation performance, and the goal of pronunciation learning is intelligibility. Intelligibility is measured form listeners' perception, not from speakers' assumption.

That is why it is a must to try to listen to our own speech, for example, by recording the speech and self-analyzing it. It is useful to identify our own weaknesses—as well as to monitor own progresses—as a strategy for improvement. This is a starter pack for him to improve his pronunciation, and thus, his speaking ability.

D. Knowledge of Assessment

This is a teacher's knowledge of knowing which learning domain to be assessed and what method used to assess (Magnusson et.al. 1999:109). In this tutorial, the assessment falls into two areas: my tutee's improvement and my teaching practice. As to my tutee's learning progress, by the end of the tutorial, he showed some improvements in several aspects of phonemic realization. However, at some other time, he did the same mistakes again.

Some features seems to fossilized, as it was difficult for him to remind himself of the mistakes. He knew but he did not realize that he, again and again, produced the same erroneous speech. His speaking test actually showed a disappointment. He did not pass the standard grade, 300. Although the causal links between my tutorial and the my tutee's speaking score is negative, I feel that he basically met the objectives of the tutorial, i.e. able to self identify and apply some self strategies to improve pronunciation.

I believed in delayed learning. Each learner experiences a progress at their own pace. And so does my tutee. He might not excel within one quarter or pronunciation tutorial. But this tutorial, as he believed, had paved the way for him to self-improve his

pronunciation in a more effective way, focusing both on his accuracy and fluency.

My teaching practice was not without a down side. I had to further learn the issues of teachability and learnability of pronunciation as a part of the means for creating both referential and interactional meaning (Pennington and Richards 1986), instead of focusing on the oral production of words and sentences. At the end of the tutorial, I realized that I had too much exercises focusing on speech production, instead of speech perception, whereas perception is important to raise awareness on intelligibility. Despite the fact that my tutee's problems predominantly fell into segmental areas, I did not give suprasegmental exercises sufficiently.

Issues like word stress, intonation, linking words were briefly discussed a few times. Another thing is that my intuition in recognizing Lieung's erroneous speech is not as reliable as native teachers'. This might be of a little disadvantage Lieung had, compared to his peers that were tutored by native teachers. I should also admit that several times in the recording I heard my inconsistent pronunciation. As I listened to Lieung's recorded talks, I also found my erroneous pronunciation as well. My pronunciation and speech quality as a non native teacher still need an improvement. That is why this self study is basically my self-evaluation itself.

E. Knowledge of Curriculum

Explicit formal exposure on pronunciation knowledge is rarely addressed in the ELT-related curriculum, even in higher education. Students majoring in English Language Teaching learn phonetics and phonology. However, the implication of it in oral skill-based courses is of limited practice. Pronunciation teaching has been like a stepchild, as there is almost no specific attention to the improvement of learners' accuracy in terms of pronunciation, not as much as that of grammar teaching.

Derwing and Munro observe, although there has been a growing interest in area of pronunciation, it seems that pronunciation pedagogy remains "a very marginalized topic in applied linguistics" (2005:382). They also mention textbooks commonly used in TESOL or TEFL do not give sufficient attention to pronunciation research and pedagogy. Derwing and Munro assume that "the lack of attention to pronunciation teaching in otherwise authoritative texts has resulted in limited knowledge about how to integrate appropriate pronunciation instruction into second language classrooms" (2005:383).

This marginalized status of pronunciation implies to lacking preparation for teachers and teacher-students to teach pronunciation. Some studies show this evidence. Breitkreutz, Derwing, and Rossiter (2002), surveying ESL teachers in Canada, found that 67% of them had no training at all in pronunciation teaching.

Studies of teachers in Australia by MacDonald (in Derwing and Munro 2005) and teachers in North America by Burgess and Spencer (in Derwing and Munro 2005) display similar finding of teachers limited training on pronunciation, and at some point, their reluctant to teach pronunciation because of lacking confidence, skills and knowledge. Previous survey by Derwing and Rossiter (2002) brought the fact that only 8 of 100 adult intermediate ESL learners had received any pronunciation instruction, although they have been enrolled for quite a long time in ESL programs. I myself must admit that I did not receive any explicit pronunciation training during my secondary and undergraduate school. Lieung, my tutee, confessed the same thing, that this individualized pronunciation tutorial with me was the first focus-on-pronunciation course he ever had.

This gives me an insight to seriously work more on the inclusion of pronunciation courses in the curriculum, mainly in the Department I am working. Ideally, teacher preparation programs should provide teachers with sufficient research-based pedagogical

knowledge of teaching pronunciation, as well as sufficient courses or training to improve their own pronunciation knowledge and skills, with referring to either nativeness or intelligibility principles. This should be explicitly enforced in the curriculum and syllabus.

FINAL REMARKS

Shulman (1986) proposed a Model of Pedagogical Reasoning, comprising a cycle of several activities of good teaching: comprehension, transformation, instruction, evaluation, reflection, and new comprehension. This scheme is applicable for almost all contexts and subjects of teaching, where most teachers will be likely to perform a self-reflection and to provide a wash back pertaining to their own instructional settings and practices.

This self study is a part of my teaching reflection toward a new better understanding on the practice of effective teaching. My thought is open for any constructive responses, as well as changes, as this writing represents my pedagogical content knowledge that will keep evolving, while seeking for an improvement.

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