

From Language Learners to Language Teachers: Construction and Implementation of Pedagogical Competence in Pronunciation Instruction

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This study explored 36 undergraduates' knowledge construction and implementation of pedagogical competence in pronunciation instruction. These undergraduates were language learners themselves, but they were trained to become language teachers receiving pronunciation instruction in an English Pronunciation Instruction course at a university in Taiwan. Data in this study included interview, document, and videos. This study had the following major findings. First, their language competence, knowledge of phonology and pedagogy were constructed in the tertiary course through the instructor's demonstration and their own teaching practice. Secondly, they demonstrated limited knowledge in explicitly explaining pronunciation features to their learners and designing drill practices. They still needed to acquire more knowledge of phonology and pedagogy in order to design communicative tasks for pronunciation practice. A framework on pronunciation instruction to be included in language teacher education was provided.

Good English pronunciation is an essential element of communication (Celce-Murcia, Brinton & Goodwin, 1996). In order for non-native English speakers to communicate effectively and intelligibly, pronunciation instruction is crucial (Gilakjani, 2012; Hişmanoglu, 2006; Jesry, 2005; Nikbakht, 2011). However, some language teachers may not know how to teach pronunciation (Baker, 2011; Gilakjani, 2012). Language teachers should be trained to be equipped with the knowledge, competence, and strategies to teach pronunciation (American Council on the Teaching of Foreign Languages, 2002; Breikreutz, Derwing, & Rossiter, 2009; Burgess & Spencer, 2000; Morain, 2007; Murphy, 1997; Sifakis, 2014).

Pronunciation instruction and learning has not received much attention in Taiwan because reading is much emphasized in test-oriented instruction (Liu & Hung, 2016; Tsai, 2015). This study explored 36 undergraduates' construction and implementation of pedagogical competence in pronunciation instruction in an English Pronunciation Instruction class in a teacher education program in a city in northwest Taiwan. These undergraduates were language learners, majoring in English instruction. They were asked to design instructional activities on pronunciation for non-English majors (hereafter, learners) based on the learners' pronunciation problems. This study discussed the following questions. First, how did these 36 undergraduates construct their pedagogical competence in the design and delivery of pronunciation instruction? Second, what competence and knowledge did these 36 undergraduates demonstrate or lack in the design and delivery of these pronunciation activities among their learners? In order to effectively help undergraduates construct and implement pedagogical competence in pronunciation, suggestions on scholarship of learning and teaching for pronunciation instruction in language teacher education programs were provided.

LITERATURE REVIEW

Under literature review, four issues on scholarship of teaching and learning on pronunciation instruction were discussed in terms of factors on teachers' designs and delivery of pronunciation instruction, knowledge base of pronunciation instruction, training activities for teachers' knowledge and competence con-

struction, empirical studies on pronunciation instruction and literature gap, and conceptual framework.

Factors in Teachers' Designs and Delivery of Pronunciation Instruction

Teachers are active agents who weave together a practical knowledge that guides their decision-making in the scholarship of teaching and learning. Their perceptions of pronunciation instruction are influenced by the ways they were taught as language learners themselves, previous intercultural and teaching experience, their proficiency in the target language, the pronunciation textbooks or materials, the characteristics of learners, and context of instruction (Baker, 2011; Baker & Burri, 2016; Coskun, 2011; Hişmanoglu, 2006; Hismanoglu & Hismanoglu, 2010; Lazaraton, 2003; Lee, Jang, & Plonsky, 2014; Levis, 2005; Nunan, 2003; Sifakis & Sougari, 2005; Yakhontova, 2001).

Only 30% of ESL (English as a second language) teachers in Canada in Breikreutz et al (2009) study claimed to have pedagogical training in pronunciation. Only a few teacher education programs provide classes on teaching pronunciation, so teachers receive very limited training on pronunciation pedagogy (Baker, 2014; Baker & Burri, 2016). In addition to the study of phonology, there is a call for more pronunciation training for pre-service and in-service language teachers, particularly on pedagogical approaches (Breikreutz et al, 2009; Burgess & Spencer, 2000; Gilakjani, 2012; Murphy, 1997; Sifakis, 2014).

Knowledge Base of Pronunciation Instruction

In teaching pronunciation, EFL (English as a foreign language) teachers have to identify and choose the phonological features for practice and prioritize the order of phonological features to be practiced. Based on the phonological features, EFL teachers design activities for pronunciation practice for communicative purposes with appropriate discourse. EFL teachers should be able to explicitly explain the phonological features and integrate instructional strategies. The study of phonological features, systems, principles, pedagogical and instructional strategies should all be included in pronunciation-teaching methodology in language teacher education programs (Burgess & Spencer, 2000).

The close relation between three types of knowledge has led to calls for them to be incorporated into language teacher education including knowledge about language (subject-matter knowledge), knowledge of a language (proficiency) and pedagogical practice as in Figure 1 (Andrews, 2003). Language teachers need to be equipped with knowledge of phonology and phonetics, knowledge of pedagogy, and language competence for pronunciation instruction. Integration of knowledge of phonology and phonetics with knowledge of pedagogy is similar to Shulman's (1987) pedagogical content knowledge (PCK), defined as "the blending of content and pedagogy into an understanding of how particular topics, problems, or issues are organized, represented, and adapted to the diverse interests and abilities of learners, and presented for instruction" (p. 8). According to Wright (2002), "A linguistically aware teacher not only understands how language works, but understands the student's struggle with language and is sensitive to errors and other interlanguage features" (p. 115). Language teachers must have knowledge of learners, too.

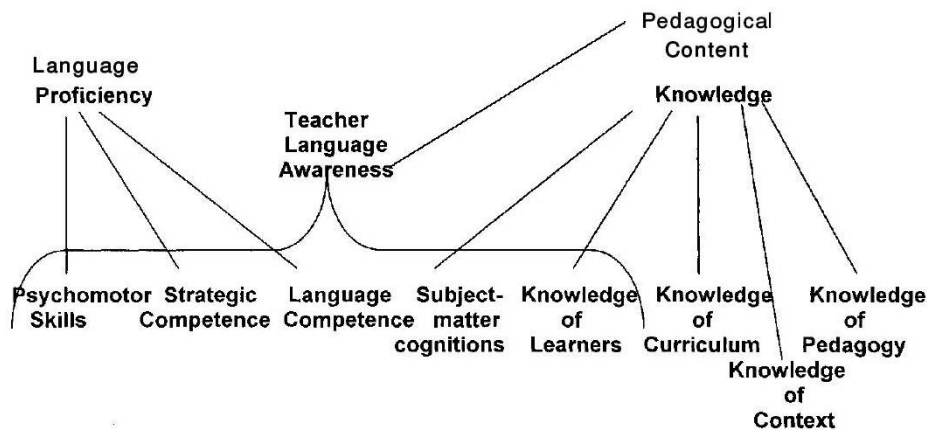


Figure 1. Teacher Language Awareness, Language Proficiency, and Pedagogical Content Knowledge (Andrews, 2003, p. 91)

Hence, Morin (2007) suggests that pronunciation training should include the following: (1) familiarity with relevant research on the many issues involved in the teaching and assessment of pronunciation; (2) an understanding of content areas such as target language sound/spelling relationships, segmental and suprasegmental features, and dialectal variation; (3) an understanding of the aspects of these content areas that are relevant at the elementary through secondary level and can be incorporated into the curriculum; and (4) an understanding of how to develop pedagogical materials and implement phonetics instruction in the communicative foreign language classroom (p. 343). Moreover, Gonzalez-Bueno (2001) outlines a seminar on teaching foreign language pronunciation and the seminar includes a variety of topics such as pronunciation teaching, the nature of teaching of connected speech, etc.

Training Activities for Teachers' Knowledge and Competence Construction

Language teachers should be trained to develop high quality and effective materials on teaching pronunciation (Gilakjani, 2012). Pronunciation training for language teacher education programs should progress beyond "being informed" (i.e., passively receiving information about which speech patterns to teach, which would be more suitable to EFL teacher education programs) to "becoming aware" about those pronunciation patterns that render communication successful (better suited to a post-EFL paradigm) (Sifakis, 2014; p. 136). Integration of technology into pronunciation is encouraged (Gilakjani, 2012; Jenkins, 2004).

With the materials, teachers could follow the PPP (presentation, practice, and production) teaching procedure. During the presentation phase, language teachers can be trained to be able to identify their and their potential learners' awareness of

their own accents and interaction with different interlocutors. In the practice phase, language teachers should be taught to design activities for their potential learners to be able to play with the target language based on their target needs. Finally, in the production phase, language teachers can be taught to help their learners engage in communicative and meaningful spoken interactions with different social, cultural and ethnic groups of people (Coskun, 2011; Fernánde & Hughes, 2009; Hişmanoglu, 2006; Jesry, 2005; Nikbakht, 2011; Sifakis, 2014).

The training for pre-service language teachers to acquire competence and knowledge in pronunciation instruction should involve the study of the theoretical basis, observations of demonstrations, practice in controlled conditions, and observing one another (Richards & Farrell, 2005). Day (1991) outlines the professional knowledge source continuum as in Figure 2. Moreover, Watson, Kendzior, Dasho, Rutherford, and Solomon (1998) recommended seven cooperative learning activities to be included in training including unity-building activities, direct instruction presentations, partner work, small-group discussions, practice sessions, co-planning activities, and reflection time (pp. 161-162). Therefore, pre-service teachers in the language teacher education programs can be engaged in small group discussions for constructivist learning. They share, discuss, or exchange ideas, knowledge, or concerns about pronunciation instructional techniques and strategies that are introduced and demonstrated by the instructor during the course.

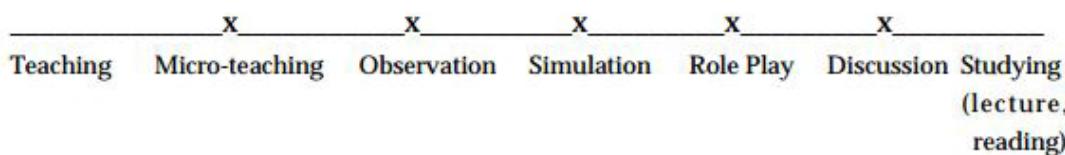


Figure 2. Professional Knowledge Source Continuum (Day, 1991, p. 2)

They should also be given opportunities to co-plan lessons and activities on specific pronunciation features. During role-playing and micro-teaching

sessions, they can take turns to demonstrate instructional techniques and strategies in groups. At the end of each demonstration, they can be asked to reflect on what they learned from their classmates either in partner or group discussions.

Empirical Studies and Literature Gap

The current empirical studies focus on in-service language teachers' perceptions and practice of pronunciation instruction (Baker, 2011; Baker, 2014; Breitreutz et al, 2009; Burgess & Spencer, 2000; Chiu, 2009; Coskun, 2011; Fernánde & Hughes, 2009; Hismanoglu & Hismanoglu, 2010; Huang, 2009; Jenkins, 2005; Murphy, 2014; Sifakis & Sougari, 2009). Activities and techniques designed by language teachers on pronunciation instruction should be focused from controlled, cognitively based performance to automatic, skill-based performance (Pennington & Richards, 1986). Baker (2014) uses observation, interviews, and questionnaires to examine five Intensive English Program (IEP) teachers' pronunciation techniques in North America. These five teachers began their pronunciation lesson with an explanation and examples of pronunciation features, provisions of controlled activities (i.e. production practice, repetition drills, visual identification, testing), checking students' work and practice with teachers' feedback. Mnemonics were employed to teach pronunciation among elementary school students, such as "a scooter produces /ŋ/ sound when moving" in Huang's (2009) study.

Only a very few studies discuss language teachers' knowledge base of pronunciation instruction (Baker, 2011; Morin, 2007). Morin (2007) discusses the elements that need to be included in pronunciation training for Spanish teachers to teach pronunciation. This study explored 36 undergraduates' construction and implementation of pedagogical competence in pronunciation instruction.

Conceptual Framework

Based on the above literature review, the conceptual framework of this study was revealed as in Figure 3. Undergraduates acquired their knowledge of pedagogy, knowledge of phonology and language competence from English Pronunciation Instruction class in the university. Undergraduates also needed knowledge of learners in order to design and deliver appropriate activities

on pronunciation to the non-English majors. Moreover, they also needed knowledge of contexts from the wider education context in Taiwan, such as the learning objectives and indicators about pronunciation learning and instruction. The conceptual framework was used later to analyze the data in terms of knowledge and activities on pronunciation learning and instruction.

METHOD

The case study method has been used widely to examine in depth pedagogical practice in schools (Shulman, 1992). The case study was employed here in order to explore the undergraduates' knowledge and competence construction in pronunciation instruction. Moreover, a case study is an analysis of a bounded system (Merriam, 2009), and the bounded system was the English Pronunciation Instruction class at a university and the analysis unit was the participants' knowledge and competence construction.

Setting and Participants

During the 2015 spring semester, 36 Taiwanese in this study simultaneously enrolled in an English Pronunciation Instruction class in a teacher education program in a city in northwest Taiwan. Convenience sampling was employed, because the researcher was the instructor of this course. Before taking part in this study, each participant was given a consent form. Participants were also informed that the data collected were stored in a safe place, and of their right to have the recorded data deleted at any stage. These 36 participants were juniors majoring in English instruction. Only seven were male and the rest were female.

This English Pronunciation Instruction class was a three-credit required course. This course aimed to provide these undergraduates and prospective teachers with theoretical knowledge on pronunciation instruction, to design lessons and activities on one particular aspect of pronunciation, and develop practical skills in different areas of pronunciation.

Data Collection

Data were collected from February to June 2015. One type of triangulation was to use multiple sources of data (Merriam, 2009), so data in this study included documentation, interviews, and videos. Documentation and interviews were used to answer the first research question "How did these 36 undergraduates construct their pedagogical competence in the design and delivery of pronunciation instruction?" Document and videos were used to answer the second research question, "What competence and knowledge did these 36 undergraduates demonstrate or lack in the design and delivery of these pronunciation activities among their learners?"

Documentation as data can furnish descriptive information and objective sources of data compared to interview (Merriam, 2009). Documentation included the instructor's PowerPoint slides, tasks completed by the participants in class, and participants' final projects. With regard to the final projects, each participant chose one non-English major as his or her learner and identified the learner's pronunciation strengths and weaknesses. Each participant focused on one specific pronunciation problem and designed instructional activities to help the learner overcome this problem. Each participant taught the learner pronunciation through these activities and videotaped their instruction.

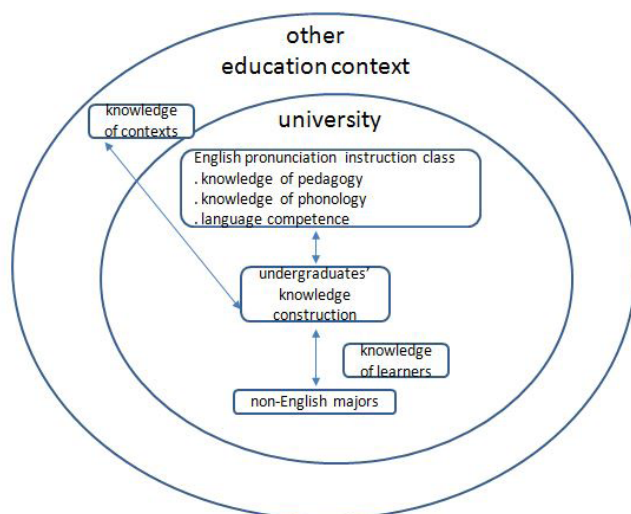


Figure 3. Conceptual Framework

They also wrote their reflection in terms of the effectiveness of designs and delivery of the instructional activities among the learners.

In June, the participants were put into groups of five and interviewed for twenty minutes. Semi-structured interviews were used in this study. According to Patton (2002), "Unlike a series of one-on-one interviews, in a focus group participants get to hear each other's response and to make additional comments beyond their own original responses as they hear what other people have to say" (p. 386). The focus group interview was employed because participants in this study were the purposeful sampling and knew the most about the topic (Merriam 2009). The participants were asked about their rationale in designing the activities and the effectiveness of the instructional activities.

Data Analysis

All names in this study were pseudonyms. After transcribing the interviews and videos, the researcher engaged in early analysis of the interviews, videos, and documents. Thematic analysis was employed in this study to identify recurring patterns in the data (Braun & Clarke, 2006). An initial familiarization with all the data was followed by systematic coding and code description. Temporary codes were given for their internal relevance, such as worksheets, songs, or articulation of vowels as in Figure 4. Codes were later grouped into themes, such as teaching, lecture, or class discussions. The researcher used axial coding to look for relationships between the themes, such as knowledge of context, knowledge of learners. Based on the conceptual framework in Figure 3 and research questions, the broad emerging themes included types of knowledge and sources of knowledge as in Figure 4.

Using the thematic analysis to explore the research problems and questions, the researcher performed data-driven analysis by sharing and discussing the recurring patterns with some of the participants and the researcher's colleagues. Discussions with the researcher's colleagues who were in the field regarding the congruency of emerging finding and tentative interpre-

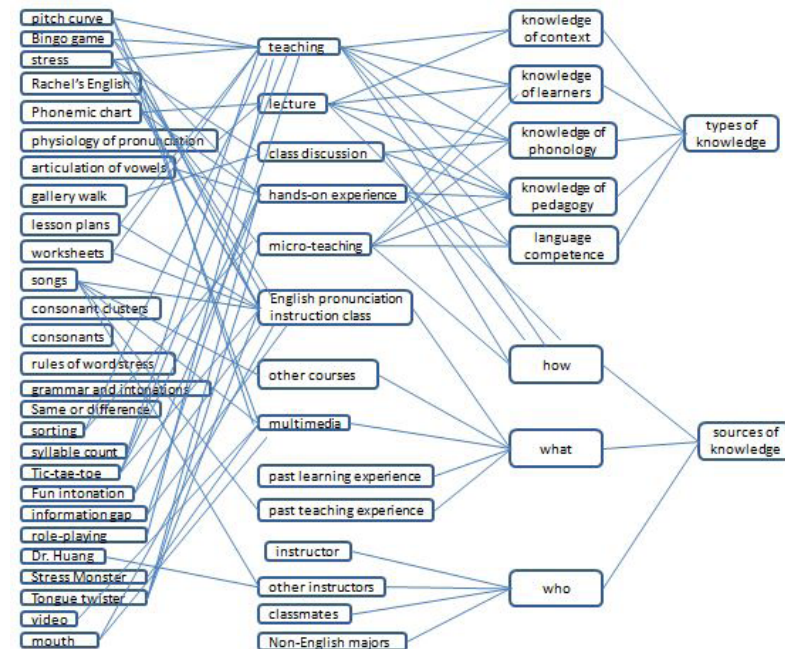


Figure 4. Data Analysis

tations could promote the validity (Merriam, 2009). Moreover, taking the data and tentative interpretations back to some of the participants with time and willingness to do the member checks ensured the internal validity (Merriam, 2009). Based on the analysis, results were discussed to explain the ways in which the knowledge and competence on pronunciation instruction were constructed and demonstrated, or were lacking.

RESULTS AND DISCUSSION

Data were analyzed based on the research questions and conceptual framework in Figure 3. The results were discussed in terms of sources of knowledge constructed, activities for teachers' knowledge construction, knowledge and competence in explanations and instruction and activity designs and implementation.

Sources of Knowledge Constructed

When asked "What helped you design your activities on pronunciation instruction," the majority of the participants ($n=30$, 83%) answered "English Pronunciation Instruction class," followed by "online resources" ($n=25$, 69.4%) as in Figure 5. While Rebecca said, "I used the activities demonstrated by the instructor in the English Pronunciation Instruction class, because I thought these activities are very interesting to help students learn the intonation," Hank responded "The online resources were useful. I used the Pitch curve introduced in English Pronunciation Instruction class. I also used Useful English.com and one video from Elemental English.com." Participants like Rebecca and Hank regarded the usefulness of the class and online resources for their activity designs on final project.

The content taught in English Pronunciation Class was highly valued by the majority of the participants. Theoretical knowledge on English pronunciation and its instruction was taught in English Pronunciation Instruction class. Language teachers should be trained to understand the rules of the sound system of the target language, describe how target language sounds are articulated, describe target language phonological features, diagnose their own target language pronunciation problems and those of their students, and design and implement pedagogical materials on pronunciation instruction (Gilakjani, 2012; Morin, 2007). Language teachers should make good use of other resources as the teaching input, such as online resources used by Hank in this class. Teachers can draw their learners' attention to a particular feature provided by the online resources (Andrews, 2003).

As for past English learning experience, Eddie said, "For the first activity, knowing the appearance of /e/, /ɛ/, and /æ/, I remembered that my teacher let me draw the alphabet for the first time." According to Jenkins (2005), "past experiences, both classroom and social, factors in their present situation, and their assessment of their future chances of success may combine to affect their attitudes to English at the deeper level" (p. 541). Pre-service language teacher's pronunciation learning experience affects their beliefs, competence, and identity on pronunciation learning and teaching (Chien, 2014; Warford & Reeves, 2003).

What these undergraduates learned from other classes also helped them design activities on

pronunciation. Bob said, "I used the lines from the movie 'Fairland' that Dr. Edwards played in class when I was a freshman." Amy also said, "I used the activities, worksheets, and websites from other classes such as TESOL Materials and Multimedia in English Instruction." Participants put what they learned from other courses in the university into their activity designs on pronunciation instruction.

Undergraduates also learned from their non-English majors, their learners, as Ann said, "Learning through teaching. My learner's English ability was much better. She helped me to clarify my own pronunciation problems, such as 'knees' and 'niece'. Next time I teach I will not make the same mistakes." It is crucial for language teachers to understand their learners' pronunciation problems and the sources in order to assist them in every possible way (Chen & Yang, 2007).

Activities for Teachers' Knowledge Construction

With regard to the question, "How did the English Pronunciation Instruction class help to prepare you for designing activities on pronunciation instruction," the top answer was "the activities that the instructor demonstrated in class" (n=31, 86%), followed by "teaching experience that I had from the final project" (n=28, 77.8%), "microteaching" (n=15, 41.7%), "class discussion" (n=10, 27.8%), "lectures and theories given by the instructor" (n=8, 22.2%).

Undergraduates appreciated having the chance to teach non-English majors for their final project. Joy said, "It was a valuable experience for me to apply what I had learned in class to my teaching. In my opinion, I considered lots of practice was essential to improve pronunciation. Thus, not only in this teaching, but in my future teaching I will still focus on drills." Hence, teacher's knowledge and competence are constructed through the management of teaching and learning and the enactment of the curriculum in the classroom (Tsui, 2003). It is imperative to include teaching practice in the language teacher education program. Tsui (2003) claims that teachers' reflections on their practices and their context of work inform their understanding of teaching and learning (p. 66).

Undergraduates in this study had hands-on experience of the pronunciation activities modeled and demonstrated by the instructor of the English Pronunciation Instruction class. Novice and pre-service teachers need to observe how various instructional strategies can be effectively implemented. Teacher educators must model these strategies in the method courses in the teacher education program (Shulman & Relihan, 1990). So the novice and pre-service teachers can imitate their teacher educator's techniques (Wallace, 1991).

The undergraduates also appreciated the microteaching opportunities offered in class to practice one teaching strategy on pronunciation. Undergraduates worked in groups and chose one authentic material. They designed activities and modeled these activities in class. Figure 6 was a group teaching procedure on using limericks to teach /l/ and /aɪ/.

The microteaching provided in this study provided the undergraduates with an opportunity to practice their teaching skills. In this simulated situation, pre-service teachers were given opportunities to put what they had learned into practice through conducting a mini-lesson to their classmates. Such microteaching experience could provide pre-service teachers with practical

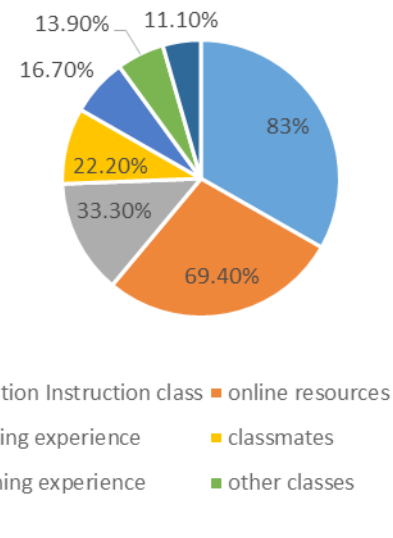


Figure 5. Sources of Knowledge

experience before they start their practice among real learners (Fernandez, 2010; Ismail, 2011).

Undergraduates were given many opportunities to share what they learned with others through turn-and-talk and group discussions. During the training, teachers should be given ample opportunity to absorb new information, participate in group discussion, discuss problems, and arrive at solutions and applications to their own classroom practice (Richards & Farrell, 2005). The undergraduates also thought that the lectures and theories given by the instructor helped them acquire knowledge about pronunciation instruction, such as the factors that teachers should take into consideration in the teaching of pronunciation.

Therefore, three important elements should be included in language teacher education programs to help pre-service teachers acquire competence in teaching pronunciation including pronunciation learning and practice in the broad context of second or foreign language learning, the study of pronunciation teaching methodology, and the study of phonology in the training and education of language teachers. Language teachers must have knowledge of the phonology of the target language that consists of theories and knowledge about how the sound system of the target language works including the segmental and suprasegmental features. Moreover, they also need to be familiar with the theories on pronunciation in language learning, and the practice and meaningful use of target language phonological features in speaking and discourse (Burgess & Spencer, 2000; Celce-Murcia et al., 1996).

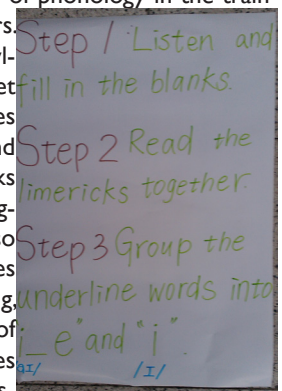


Figure 6. Group's Project on Limerick

Knowledge and Competence in Explanations and Instruction

Of these 36 lesson plans, four pre-service teachers (11.1%) did not provide any explanations on pronunciation features, but they provided activities for helping their learners to practice the pro-

nunciation. While seventeen pre-service teachers (47.2%) used online resources such as *Rachel's English* to explain the pronunciation features or rules, fifteen pre-service teachers (41.7%) made their own PowerPoint slides or teaching aids to explain these rules.

However, the introduction and explanations of pronunciation features provided by online resources were mainly in English only. The undergraduates' learners could not understand the explanations, so the undergraduates had to translate these concepts from English into Chinese for their learners as in Excerpt 1.

Excerpt 1: Cindy's Integration of a Video on Pronunciation Instruction

Cindy: Let's watch the video. (Plays the video "Introduction to Intonation" from YouTube)

After 10 seconds...

Cindy's learner: Can you explain in Chinese?

Cindy: Sure.

Undergraduates in this study, like Cindy, were motivated to use multimedia or online resources in their pronunciation instruction. They were informed of available pronunciation teaching sites and resources through the English Pronunciation Instruction class. They should also be trained to raise their awareness for selecting appropriate pronunciation teaching sites (Hişmanolu & Hişmanoglu, 2010).

In addition to integration of multimedia and online resources into pronunciation instruction, undergraduates used teaching aids, body parts, or association to teach their learners different pronunciation features. In Excerpt 2, Ann explained to her learner how to pronounce /s/ and /z/ through mirrors, touching vocal cords, and sound association. She also asked her learner to try to use these ways to pronounce /s/ and /z/.

Excerpt 2: Ann's Explanations of /s/ and /z/

Ann: First, I will teach you how to pronounce the sound /s/. You can associate it with the snake. (Takes out a picture of a snake.) A snake uses its tongue to make a "sss" sound. Try to pronounce this sound.

Ann's learner: Snake, "sss"

Ann: (Takes out the mirror.) If you are not sure about your mouth shape, you can use the mirror.

Ann: We are going to compare /z/ to /s/. The difference is... Put your fingers to your vocal cord. (Puts her fingers on her vocal cord.) When you make /z/, can you feel that your vocal cord is vibrating?

Ann's learner: (Puts her fingers on her vocal cord.) Yes.

Ann: How about when you make the /s/ sound, does your vocal cord vibrate?

Ann's learner: (Puts her fingers on her vocal cord.) No.

Gestures are commonly employed by language teachers as tools to facilitate learners' identification and production of syllables, word stress, and rhythm (Smotrova, 2017). Ann's pedagogical practice in teaching /s/ and /z/ was a demonstration of

her knowledge and competence, described as Tsui's (2003) dimensions of knowledge in terms of the English language, language teaching and language learning; knowledge of how learning should be organized; and knowledge of students' interests.

When introducing these pronunciation features to their learners, these undergraduates lacked knowledge of phonology in explaining the rules and gave inaccurate pronunciation. These undergraduates are not native English speakers, so they are language learners themselves. They may have problems in explaining all the pronunciation features and rules. Kana said, "I am not a native English speaker. I personally have problems in pronouncing some words. I do not know how to explain all these rules." Language teachers must be cultivated with solid knowledge in phonetics and phonology. They should understand the differences between the target language and the native language of the learners in order to provide the greatest benefit to their learners in learning pronunciation (Burgess & Spencer, 2000; Cheng & Yang, 2007).

As the undergraduates are not native speakers, they made mistakes in pronouncing English words, sentences, or phrases. In Excerpt 3, Sharon explained about rising and falling intonations. But she made mistakes on saying the sentence "Have you got a pen?" with the correct intonation. Undergraduates need linguistic competence, the proficiency to communicate at a high level of target language proficiency in terms of listening, speaking, reading, and writing (Beth, 2002; Peyton, 1997).

Excerpt 3: Sharon's Instruction on Intonation

Sharon: Today I want to focus on rising and falling intonation. There are several categories. First, "wh" questions have a falling intonation. For example, where are you?

Sharon's learner: Where are you? (Falling intonation.)

Sharon: Right.

Sharon's learner: Where are you? (Rising intonation.)

Sharon: No. You have a rising intonation.

Sharon: Have you got a pen? (Falling intonation.) It's rising intonation.

Sharon's learner: You said, "Have you got a pen?" with a rising intonation.

Sharon: (Laughs.)

Knowledge and Competence in Activity Designs and Implementations

The most common activity designed by the undergraduates was "listen and find or identify, circle, or write" (n=16, 44.4%), followed by "pronunciation quizzes" (n=13, 36.1%), "imitate the native speaker and record" (n=11, 30.6%) and "hold up signs" (n=7, 19.4%). The top three activities designed by these 36 undergraduates indicate the popularity of the direct method and audio-lingualism "listen and repeat" approach and the overemphasis of accurate production of discrete sounds in pronunciation instruction. Learners who seem to be able to accurately pronounce sounds in controlled practice may not be able to spontaneously transfer what they have learned into actual communicative lan-

guage use (Chen & Yang, 2007; Cohen, Larson-Freeman, & Tarone, 1991).

Almost all the learners (n=33, 91.7%) enjoyed completing the pronunciation activities. However, some of the activities designed by these undergraduates were for children, not appropriate for adult learners. Eddie asked his learner to color and circle three symbols /æ/, /ɛ/, and /e/ in the picture. Eddie's learner was an adult learner, not a young child. Eddie said, "Coloring and underlining KK symbols may not be suitable for my learner."

Moreover, some of the activities were not interactive or in a meaningful context, but designed only for learners to pronounce the words. Penny asked her learner to listen to her pronunciation and fill in the blank as "Listen and write down what you hear, *Story*." Controlled techniques can have a positive impact on learners' development of pronunciation intelligibility and phonological improvement (Baker, 2014; Saito, 2012). However, language teachers should design more communicative activities for pronunciation practice, because the interaction occurring during communicative activities can have a greater influence on language learners' uptake and use of target pronunciation features than the form instruction (Baker, 2014; Saito & Lyster, 2012).

Therefore, instead of the use of mechanical drills alone, language teachers should design pronunciation exercises with the integration of both controlled and communicative activities. Activities that involve a two-way exchange of information such as information gap can provide language learners with opportunities to use the pronunciation features and develop their comprehensible pronunciation. Learners will be able to use the language and pronunciation features in free activities or outside the classroom setting (Baker, 2014; Khatib & Nikouee, 2012).

CONCLUSION AND IMPLICATIONS

This study explored 36 undergraduates' scholarship of teaching and learning in knowledge construction and implementation of pedagogical competence in pronunciation instruction. This study has the following major findings. First, the 36 undergraduates' knowledge and competence in pronunciation instruction were constructed mainly through the English Pronunciation Instruction class, particularly through the instructor's demonstration of activities and their teaching practice. Secondly, when explaining the pronunciation features to their learners, they demonstrated a certain level of knowledge of pedagogy and phonology. However, they still lacked knowledge of phonology and accurate pronunciation in explicitly explaining pronunciation features to their learners. These 36 undergraduates demonstrated knowledge of pedagogy in the design of activities and delivery. However, most of the activities were drill practice, rather than communicative and interactive tasks. The activities were not designed for adult learners, but more for children.

In order to effectively construct undergraduates' competence and knowledge for pronunciation instruction in the language teacher education program, several elements should be included for the scholarship of teaching and learning as in Figure 7. First, undergraduates' knowledge of pedagogy and phonology as well as language competence should be constructed and fostered in the English Pronunciation Instruction class. In addition to the English Pronunciation Instruction class, the undergraduates' past English learning and teaching experiences, other related

courses, and online resources also help construct undergraduates' knowledge and competence in pronunciation instruction. Multimedia such as apps or TED talks can provide authentic modeling and different accents (Dinh, 2018; Mindog, 2016). Knowledge and competence can be constructed through the instructor of the English Pronunciation Instruction class, other instructors from related courses in the tertiary level, the undergraduates' student learners and peers (classmates). Moreover, knowledge and competence can be constructed in the English Pronunciation Instruction class through the instructor's teaching, microteaching, hands-on experience, lectures, and class discussion. Finally, the knowledge of learners and contexts should also be taken into consideration. This study and framework provided insights into the key competences and knowledge for pronunciation teachers. The sufficient description to contextualize this study including the findings and framework on knowledge construction for pronunciation instruction can be used in the education of language teachers.

The study had some limitations. First, the sample was rather small, only 36 Taiwanese undergraduates and so may not be representative of the population of pre-service teachers as a whole regarding pronunciation instruction. Because participation was voluntary, practitioners who were more interested in pronunciation instruction may be overrepresented in the sample. However, the applicability of the findings resulted from the quality of the methodology and the triangulation (interview, document, videos).

This study discussed the 36 undergraduates' design and implementation of pronunciation activities among non-English majors. These 36 undergraduates found their own learners. Their learners were at different levels of English proficiency and from different regions or countries. The researcher was able to collaborate with an instructor who teaches low or intermediate learners in Freshmen English classes at the same university. The 36 undergraduates were able to design communicative tasks to teach these learners in order to improve their pronunciation problems. A further study can explore how different communicative tasks can impact learners' pronunciation.

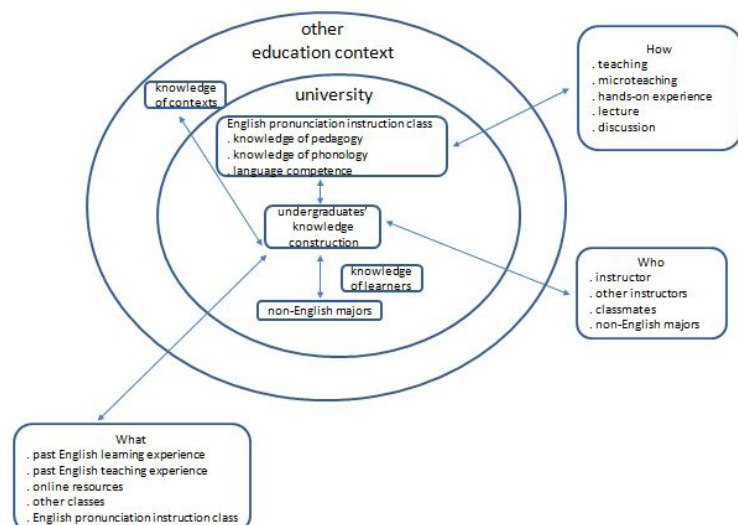


Figure 7. Knowledge Construction for Pronunciation Instruction

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