การพัฒนาการออกเสียงพยัญชนะควบกล้ำต้นภาษาอังกฤษแบบสองและสามเสียง ของนักศึกษาชั้นปีที่หนึ่งของมหาวิทยาลัยเอกชนแห่งหนึ่งในจังหวัดนครปฐม

Development of English Pronunciation in Two and Three Initial Consonant Cluster of First-Year Students of A Private University in Nakhon Pathom

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Abstract: This study was conducted to develop English pronunciation in two and three initial consonant clusters by using cognitive and metacognitive pronunciation language strategies (PLS) of the first-year undergraduate students of a private university in Nakhon Pathom. 42 students who failed the English University Language Test had to participate in the Intensive English course and exposed to PLS in the English pronunciation module for 10 weeks. The pre-test and post-test were used to investigate the improvement of two and three initial consonant clusters in this study. A paired-samples t-test was used to analyze the collected data. The results showed that there were statistically significant differences of the pre-test and post-test in both two and three initial consonant clusters (t= 7.54; $P< 0.05$ and t= 5.54; $P< 0.05$), respectively. For these reasons, it showed that the use of cognitive and metacognitive PLS was effective in improving the pronunciation of both two and three initial consonant clusters of the first-year students.

Keyword: Cognitive, metacognitive, pronunciation language strategies

บทคัดย่อ: การศึกษาวิจัยครั้งนี้มีวัตถุประสงค์เพื่อการพัฒนาโมดูลการออกเสียงพยัญชนะควบกล้ำต้นภาษาอังกฤษแบบสองและสามเสียง โดยการใช้กลยุทธ์ความรู้ความเข้าใจและอภิปัญญาเข้ามาช่วยในการพัฒนาฝึกการออกเสียงภาษาอังกฤษ ของนักศึกษาชั้นปีที่ 1 ของมหาวิทยาลัยเอกชนแห่งหนึ่ง ในจังหวัดนครปฐม กลุ่มตัวอย่างเป็น

นักศึกษาจำนวน 42 คนซึ่งเน้นผู้ที่ไม่ผ่านการทดสอบภาษาอังกฤษก่อนเข้าเรียนของทางมหาวิทยาลัย และต้องลงเรียนในรายวิชา ภาษาอังกฤษขั้นพื้นฐานซึ่งมีการสุ่มตัวอย่างแบบมีวัตถุประสงค์เฉพาะ เพื่อการพัฒนาการออกเสียงทางด้านภาษาอังกฤษ โดยใช้กลยุทธ์ทางด้านการออกเสียงและแบบฝึกการออกเสียงภาษาอังกฤษระยะเวลา 10 สัปดาห์ และทดสอบก่อนเรียนและหลังเรียนในการพัฒนาการออกเสียงทางภาษาอังกฤษของนักศึกษา หลักสถิติที่ใช้ในการวิเคราะห์ข้อมูลคือการทดสอบทีแบบจับคู่ ผลงานวิจัยแสดงให้เห็นว่า คะแนนสอบก่อนเรียนและหลังเรียนของการออกเสียงพยัญชนะควบกล้ำต้นภาษาอังกฤษแบบสองและสามเสียง มีความแตกต่างอย่างมีนัยสำคัญทางสถิติ 0.05 (t= 7.54; *P*< 0.05 และ t= 5.54; *P*< 0.05) จากผลวิจัยแสดงให้เห็นว่า การใช้โมดูลการพัฒนาการออกเสียงมีประสิทธิภาพในการพัฒนาการออกเสียงพยัญชนะควบกล้ำต้นภาษาอังกฤษแบบสองและสามเสียงของกลุ่มนักศึกษาปีที่ 1

คำสำคัญ: ความรู้ความเข้าใจ อภิปัญญา กลยุทธ์ในการออกเสียง

Introduction

English pronunciation is one of the most difficulties to acquire in listening and speaking and learners should spend lots of time to improve their pronunciation (Gilakjani and Ahmadi, 2016). Understandable pronunciation is one of the basic requirements of learners' competence and it is also one of the most important features of English language. Good pronunciation leads to learning while bad pronunciation promotes to great difficulties in language learning (Gilakjani, 2012), especially in initial consonant clusters of speaking skill.

Based on the previous studies where English was used as a *foreign language*, Khanbeiki and Abdolmanafi-Rokni (2015) showed that the 60 Persian students had highly add vowels in the initial (88%) rather than final consonant clusters (16%), so it seems to be clear that the syllable structure of the Persian language did really affect to the learners to add extra vowels to the English words, particularly in initial consonant clusters. Moreover, Choi (2016) studied with 20 students in a Korean secondary school and the students were divided into two groups. He found that Korean students had more problem with /s/+liquid than /s/+nasal and three initial consonant clusters, /s/+stop+liquid was the biggest problem of the participants. Additionally, Safotso (2018) investigated the 20 undergraduate and postgraduate Chadian student-teachers who were the teachers after graduation. He found that two consonants (CC), three consonants (CCC) and four consonants (CCCC) in initial, medial and final position were dropped in

some items of the test by the participants, so the English production was heavily influenced by French and Arabic.

Furthermore, according to previous studies in Thailand, Chakma (2014) did a study about pronunciation of consonant sounds with Thai students and the results showed that individual English consonant sounds were not problematic for Thai students. In addition to Rungruang (2017), he did a study with 34 English major participants to investigate Thai speakers' perception of English initial and final consonant clusters during their four-year university degree. The results revealed that both initial and final consonant clusters were not statistically significant difference between the two tests. Thus, he stated that the learners still needed various materials, strategies and courses to improve their English pronunciation in speaking skill.

Notably, based on Oxford's taxonomy (1990), he developed it for pronunciation learning strategies (PLS) to help the learners to develop proper English pronunciation. This famous PLS was categorized into 2 groups: the direct and the indirect strategies. According to Mirza's study (2015), she did a study with two groups of ESL and EFL participants. The results revealed that PLS was able to improve the pronunciation of the 10 sounds of EFL and ESL learners and PLS did not improve the pronunciation of EFL and ESL learners differently. Although most students improved in English pronunciation after 5 weeks, they still had difficulty with some sounds to produce correctly.

For these reasons, this study was needed to fill a knowledge gap in this research area by using English pronunciation modules for 10 weeks and applying the PLS aiming to improve English pronunciation of the participants. The researcher will investigate a significant difference in two and three initial consonant clusters of the first-year students after exposure to PLS in the English pronunciation modules in 10 weeks.

Materials and Methods

Participants

This research was investigated at one of the Private University in Nakhon Pathom, Thailand. There were 180 first-year undergraduate students both English and Thai programs. 60 students enrolled in English program and 120 students in Thai program. They had to take University English

Language Test before they study in the first semester. 60 English major and 78 Thai major students passed the test so they were able to start studying Listening and Speaking in General English course (IENG 3108 English I). On the other hand, 42 Thai major students who failed the University English Language Test must enroll Listening and Speaking, Intensive English course (IENG 3001). Thus, the sampling procedure used by the researchers in this research was purposive sampling. It was used to develop the English pronunciation of two and three initial consonant clusters of 42 Thai major participants. They were aged between 17-19. They had no experiences to study abroad in any English-speaking counties and they had poor English pronunciation scores according to the test (below 50% of listening and speaking tests).

Tokens

All tokens were collected from Intensive English course and different references, so they were divided into two groups: two and three initial consonant clusters. More details are below.

Seventy-six tokens were two-initial consonant clusters, below are some of them:

1. /tr/	tree	/tri/
2. /qu/	queen	/kwin/
3. /cl/	cloud	/klaud/
4. /pr/	pram	/præm/

Fifteen tokens were three-initial consonant clusters, below are some of them:

1. /spl/	splash	/splæʃ/
2. /spr/	spring	/sprɪŋ/
3. /str/	straw	/strɔ/
4. /squ/	squeal	/skwi:l/

Research Instruments

English pronunciation's perception test was employed in this study. It meant that the 42 participants had to choose the correct choice from multiple choice items and consisted of three distractor questions after hearing the sound of each item. The sounds that used in the tests were recorded by a native American who was working in the same English section as the researcher. All 97 questions were divided into 79 English two-initial consonant clusters questions and 18 three-initial consonant clusters questions were included into the pre-test and post-test. The two and three initial consonant clusters from 10 weeks of English pronunciation modules were gathered and collected for making the pre-test and post-test to be the research instrument of the

study. The pre-test and post-test were designed by the researcher who were non-native English speaker and in charged of this Intensive English course as a major instructor for the participants. Afterward, the tests were considered and checked its validity by three experts in English language section. The pre-test was the same test as the post-test, it was used to measure the improvement of two and three initial consonant clusters both before and after 10 weeks of the English pronunciation modules.

Data Collection

The first class of Intensive English course, the pre-test was distributed to the participants to collect the pre-test scores of their English two-initial and three-initial consonant clusters by the researcher. This English course was given 1 time a week. Therefore, the researcher applied the English pronunciation modules in this course for 10 times, an hour per each. The cognitive (repeating after the teachers in the classroom) and metacognitive (searching for practice and try new sound) PLS were employed into the English pronunciation modules in 10 weeks aiming to enhance English two-initial and three-initial consonant clusters of the participants. In other words, the participants had 10 hours in 10 weeks to expose themselves to the English pronunciation modules to practice and improve pronouncing in English two and three consonant clusters.

The two teachers are non-native English teachers in English section of the university and they are Thai and Filipino. The English modules were employed into 10 weeks and divided into 5 weeks for two initial consonant clusters and 5 weeks for three initial consonant clusters. The teachers showed the participants how to pronounce correctly of each word then let them repeat after the teachers. After the class, the teachers also assigned the participants to search for practicing and trying new sounds. After finish 10 weeks of the English pronunciation modules, the post-test was distributed to collect the scores and investigate the improvement of English two-initial and three-initial consonant clusters of the participants.

Data Analysis

The pre-test and post-test were used to measure the improvement of English two-initial and three-initial consonant clusters of the participants. However, the test questions 1-3 of both pre-test and post-test

were not calculated because they were used to reduce nervousness or excitement. Then, the test question 4-97 were the main focus of the study. After the participants finished the pre-test and post-test, the researchers collected the data. Thus, a paired-samples t-test of the pre-test and post-test were employed to determine statistically significant of the two test or not.

Results

The research findings, pre-test and post-test scores of the students were revealed in this part. A paired sample t-test to analyze whether there was a significant difference before and after the students exposed to the English pronunciation modules. The result of the gathered data would answer the two research questions.

Table 1. Dependent t-test in two-initial consonants clusters (76 tokens)

Types of tests	Mean	Percentage	SD	t	*P* value
Pre-Test	51.50	67.76%	8.39		
Post-Test	58.90	77.5%	6.54		
Pretest & Posttest	7.40		6.36	7.54	.00

**P–value ≤ .05

Table 1 showed that an overall picture of the students' performance of two-initial consonants clusters of this study. It illustrated that there was statistically significant difference between the two tests (t= 7.54; $P<$ 0.05). Therefore, statistical findings presented the mean scores and percentage of English two-initial consonant clusters performance of the two tests. It showed that the students got pre-test scores 51.5 (67.76%). On the other hand, after the students exposed the English pronunciation modules in enhancing speaking skills for 10 weeks, they got the post-test scores 58.9 (77.5%). Thus, it indicated that the post-test score of the students was higher than the pre-test after 10 weeks of exposing the English pronunciation modules.

Besides, if the students who got the mean scores of post-test higher than the pre-test, they were interpret as a positive performance. Secondly, If the two tests scores were the same, it was a neutral

performance. Lastly, if the pre-test scores were higher than the post-test scores, it was regarded as a negative performance. Thus, based on Table 2 below, these findings also deeply revealed the students' performance of the two-initial consonant clusters of the study. It presented that the two-initial consonant clusters were more positive performance (55.27%) and follow by negative and neutral (23.68% and 21.05%, respectively)

Table 2. A summary of two-initial consonant clusters performance (Rungruang and Glover, 2017)

N = 76	Number of tokens	Positive	Neutral	Negative
Two-initial consonant clusters	76	42 (55.27%)	16 (21.05%)	18 (23.68%)

On the other hands, in terms of three-initial consonants cluster, in Table 3 below, it illustrated an overall picture of the participants' performance of acquiring three-initial consonants clusters of the study. A dependent t-test also was employed to analyze three-initial consonants clusters. It illustrated that there was significant difference between the two tests (t= 5.54; *P*< 0.05) of three-initial consonants clusters. Additionally, it displayed that mean scores and percentage of English three-consonant clusters performance of the two tests in this study after the students exposed to the English pronunciation modules. It presented that the post-test scores of the students 11.48. (76.54%) were higher than the pre-test scores 9.5 (63.34%).

Table 3. Dependent t-test in three-initial consonants clusters (15 tokens)

Types of tests	Mean	Percentage	SD	t	*P* value
Pre-Test	9.50	63.34%	2.73		
Post-Test	11.48	76.54%	2.69		
Pretest & Posttest	1.98		2.31	5.54	.00

** *P*–value ≤ .05

Moreover, according to Table 4 below, these findings also presented the students' performance of the three-initial consonant clusters of this study. It showed that the three-initial consonant clusters reveal more positive performance (60.00%) than neutral and negative (33.34 and 6.66%, respectively)

Table 4. A summary of three-initial consonant clusters performance (Rungruang and Glover, 2017)

N = 15	Number of tokens	Positive	Neutral	Negative
Three-initial consonant clusters	15	9 (60.00%)	5 (33.34%)	1 (6.66%)

For these reasons, based on these research findings, it indicted that the cognitive (repeating after the teachers in the classroom) and metacognitive (searching for practice and try new sound) pronunciation language strategies in the English pronunciation modules for 10 weeks were able to enhance the students' pronunciation in terms of two and three initial consonant clusters. However, the students might not review and practice two and three initial consonant clusters when they were outside the class. Thus, the different percentage between the pre-test and post-test of two and three initial consonant clusters were only 9.24% and 13.20%, respectively, even though the students exposed themselves to the English pronunciation modules for 10 weeks. In other words, not every student could apply the pronunciation language strategies which were given by the teachers to practice and improve their English pronunciation. For more detail will be discussed in discussion of this study.

Discussion

Based on the research findings, the discussion part deeply focuses on the two and three initial consonant clusters, which clusters students identified well and which ones they did not have high performance after 10 weeks of the English pronunciation modules. According to Oxford's Taxonomy (1990), the cognitive and metacognitive PLS were deployed into the English pronunciation modules aiming to enhance the students' pronunciation. The results of the study showed that the post-test scores

of two and three initial consonant clusters were higher than the pre-test (58.9 or 77.5% and 51.5 or 67.76%) and (11.48. or 76.54% and 9.5 or 63.34%), respectively.

Furthermore, for two-initial consonant clusters, some tokens that identified well by the students in both two tests (sm-,sl-,tw-,tr- [42/42]), in the square brackets was the pre-test and post-test scores, respectively. In fact, all students were able to accurately identify these tokens in the perception test of this study. Additionally, many two and three initial consonant clusters were highly improved after the students exposed to the English pronunciation modules. As the results, it revealed that pl-[32/40], gr-[36/40], sph-[22/28], dw-[14/26], th-[16/28], qu-[14/22] and fr-[10/28] and spl-[24/32], spr-[24/32], str-[18/36], scr-[14/32] and squ-[12/34] were highly improved after 10 weeks.

Moreover, according to two-initial consonant clusters, the results also displayed that the students had high scores in pre-test and after 10 weeks, the post-test scores still improved in terms of these tokens sn-[40/42], st-[40/42], sp-[38/42], cr-[34/38], fr-[38/40], bl-[40/42], pl-[32/40], bl-[40/42]. For these reasons, it demonstrated that they were not improving only their pronunciation and phonetics but also the awareness and understanding of the English pronunciation in speaking skills (Bukowski, 2004). Including, the students reflected by the increasing of their post-test in many tokens above. Moreover, Abdul-Ghafour and Alrefaee (2019) pointed out that there were statistically significant differences between high and low achievers in the overall use of PLS and also in the use of the three categories of PLS, namely, meta-cognitive (searching for practice and trying new sounds), compensation (helping facial muscles to become accustomed to moving in new ways to accommodate the target language pronunciation by producing approximate sounds) and cognitive strategies (studying and practicing the target language pronunciation, such as repeating after the teacher). In addition, Pawlak (2006) asserted that the cognitive and metacognitive PLS could encourage the students to improve their English pronunciation because the students preferred the use of repetition and learning pronunciation rules which were classified as a cognitive strategy. Similarly, Pawlak (2008) confirmed that PLS (repeating after the teacher or tape, listening to the

model provided, and using transcription) could improve the English pronunciation for aiming to enhance speaking skills of the students. Thus, based on the results of this study, it presented that cognitive and metacognitive pronunciation language strategies also had effects to the students who want to improve their English pronunciation in enhancing speaking skills (Mirza, 2015 and Pawlak, 2010).

Nevertheless, most students improved in many two and three consonant clusters after 10 weeks of the English pronunciation modules but there were some unimproved tokens and students still has difficulty with these 5 following two-initial consonant clusters (sw-[38/38], sk-[42/38], pr-[28/28], gr-[30/30] and gl-[14/14]). According to Phootirat (2012) pointed out that two consonant clusters in terms of [l] and [r] sounds were very problematic for Thai speakers. Sometimes Thai people replace one sound for another; many Thai drop the [l] and [r] in consonant clusters such as [pleng] > [peng] 'music' and [prik] > [pik] 'chili'. Not surprisingly, Thai students had a difficulty to identify English consonant clusters with [l] and [r]. The findings reflected that the problematic [l] and [r] in Thai had an influence on the perception in the English [l] and [r] as well. For these reasons, Mirza (2015) explained that there would have some two and three consonant clusters that students could not improve after practicing with PLS. Moreover, she revealed that the use of PLS; namely, the cognitive and social strategies (practicing with others and correcting others' pronunciation mistakes) were highly effective in improving the English pronunciation of the students at the university level. She confirmed that the students will not practice or review English pronunciation when they were outside the class so they could slowly improve their English pronunciation. Maybe the students need more time and proper PLS to understand and improve English two and three consonant clusters.

Conclusion

Learning and improving proper pronunciation in 21st century of English language learners is crucial. The results of the study revealed that there were statistically significant differences in pre-test and post-test both two and three initial consonant clusters of the first-year undergraduate students after exposing to the English

pronunciation modules in 10 weeks. In other words, the use of cognitive and metacognitive PLS was effective in improving the pronunciation of both two and three initial consonant clusters of the students. However, the results also displayed that PLS that the teachers provided to the students were effective but little so the students should have an opportunity to involve and choose PLS to fit with their learning style. For these reasons, their English pronunciation might be highly improved after participating in the English pronunciation modules through their own learning style. Finally, English consonant clusters studies should be more investigated and improved in the future to increase the accuracy of English pronunciation of English language learners.

References

Bukowski, D. 2004. On the training of metacognitive and socio-affective strategies—Some implications for teaching and learning English phonetics. *In*: W.E. Sobkowiak Waniek-Klimczak (Eds.). Zeszyty Naukowe Państwowej Wyższej Szkoły Zawodowej w Koninie nr 1/2004 pp. 20–27. Wydawnictwo Państwowej Wyższej Szkoły Zawodowej w Koninie, Konin.

Chakma, S. 2014. Difficulty in pronunciation of certain English consonant sounds. Sripatum Chonburi Journal 10(3): 110-118. (in Thai)

Choi, J. 2016. Investigation into Korean EFL learners' acquisition of English /s/ + consonant onset clusters. Advances in Language and Literary Studies 7(2): 48-54.

Institute of Language and Culture for Rural Development, Mahidol University. (in Thai)

Abdul-Ghafour, A.K.M and Alrefaee, Y. 2019. The Relationship between Language Learning Strategies and Achievement among EFL University Students in Yemen. Applied Linguistics Research Journal 3(3): 64 83.

Gilakjani, A.P. 2012. Visual, auditory, kinesthetic learning styles and their impacts on English language teaching. Journal of Studies in Education 2(1): 104-113.

Gilakjani, A.P. and S.M. Ahmadi 2016. The effect of text familiarity on Iranian EFL learners' listening

comprehension. Journal of Language Teaching and Research 2(4): 783-789.

Khanbeiki, R. and S.J. Abdolmanafi-Rokni 2015. A study of consonant clusters in an EFL context. International Journal of Learning Teaching and Educational Research 10(4): 1-14.

Mirza, H.S. 2105. ESL and EFL learners improve differently in pronunciation: The case of Lebanon. Procedia - Social and Behavioral Sciences. 199: 486-495.

Oxford, R.L. 1990. Language Learning Strategies: What Every Teacher Should Know. Heinle, Boston MA.

Pawlak, M. 2006. On the use of pronunciation learning strategies by polish foreign language learners. pp. 121–135 *In*: W. Sobkowiak, and E. Waniek-Klimczak (eds.). Dydaktyka Fonetyki Języka Obcego w Polsce. Wydawnictwo Państwowej Wyższej Szkoły Zawodowej w Koninie, Konin.

Pawlak, M. 2008. Another look at pronunciation learning strategies: An advanced learner's perspective. pp. 304–322. *In*: E. Waniek-Klimczak (ed.). Issues in Accents of English. Cambridge Scholars Publishing, Newcastle upon Tyne.

Pawlak, M. 2010. Designing and piloting a tool for the measurement of the use of pronunciation learning strategies. Research in Language 8(1): 189-202.

Phootirat, P. 2012. Register variation in Thai-English interphonology: The contrast of /r/ and /l/. (Unpublished doctoral dissertation). The University of Wisconsin-Milwaukee, USA.

Rungruang, A. 2017. Consonant clusters acquisition by L2 Thai speakers. English Language Teaching 10(7): 216-231.

Rungruang, A. and R. Glover. 2017. English consonant cluster perception by L2 Thai speakers. Paper presented at the Payap University Research Symposium. Chiangmai, Thailand. (in Thai)

Safotso, G.T. 2018. A study of Chadian learners/ speakers of English's pronunciation. English Language Teaching 11(10): 1-9.