A Pilot Study on the Effectiveness of a Modified OG Approach on “Struggling” English Learners in Hong Kong

Cheung Chor Wang, Alice, Vocational Training Council, Hong Kong
Ngai Sze Yee, Jessica, Vocational Training Council, Hong Kong
Ho Kai Yan, Clive, Vocational Training Council, Hong Kong
Kwok Lap Hang, Calvin, Vocational Training Council, Hong Kong
Wong Man Sum, Sam, Vocational Training Council, Hong Kong

The IAFOR International Conference on Language Learning - Dubai 2016
Official Conference Proceedings

Abstract
The teaching and learning of English has always been an issue to language teachers and students at a post-secondary college in Hong Kong. Entering the college with below Level 1 in English Language in the Diploma of Secondary Education Examination in Hong Kong, students are found very weak in phonological awareness. They find it very difficult to cope with their study needs at the college. They tend to arrive with much frustration in English language learning as they failed to grasp a satisfactory understanding of the English language system in their primary and secondary studies (approximately 12 years in total). With its effectiveness in college students who are learning disabled (Guyer & Sabatino, 2001), the current pilot study aims to find out if the modified Orton-Gillingham (OG) approach, found useful in the teaching of reading instruction to students with learning disabilities or dyslexia, can help this group of struggling English language learners in their awareness of the underlying phonological structure of words. The 32 subjects were very weak in English foundation and had obtained below Level 1 in English language in the public examination. Pre- and posttest results reflected that the subjects had shown improvement in phonological awareness. The study not only supports the effectiveness of the modified OG approach in teaching English pronunciation in a post-secondary college, but also indicates that it can be a structured quick-fix approach to help improve students’ pronunciation and modify their attitude towards English language learning within a very short time.
Introduction
Despite the fact that English language education is a key learning area in the 9-year basic education and the 3-year senior secondary education in Hong Kong, the HKDSE\(^1\) English results statistics reveal that around 20% of the secondary school graduates fail to meet the minimum English entry requirement for admissions to first-degree courses in local tertiary institutions (HKEAA, 2015). Working in a local post-secondary institution in which nearly 95% of the students it admits failed the HKDSE English exam, it is important that the English teachers adopt effective strategies to help students regain their confidence as well as building up their English language foundation.

The current study took place in a local post-secondary institution which specializes in offering education and professional training at Diploma level to senior secondary graduates. Designed with the dual objectives of preparing students for further studies as well as employment, the programme offers an array of specialisations ranging from business studies, design and technology, fitness and sports to various engineering majors and so on. Depending on their own interests and needs, students can choose to enroll in any one of the specialist programmes.

To equip students with a solid foundation necessary for further studies and employment, the Diploma programme also comprises a suite of modules intended to develop students’ generic competence (i.e. Chinese, English, Mathematics, Information Technology and Whole-person Development) alongside the industry-specific modules. Upon successful completion of all the industry-related and generic modules, the Diploma holders are eligible to apply for admissions to Higher Diploma programmes in the post-secondary institutions.

Since a large proportion of the students admitted to this Diploma programme are those whose overall performance in the HKDSE English exam was designated as “Unclassified”\(^2\), most students apparently lack a basic understanding of the English language system. In particular, pronunciation is perceived by both teachers and

---

\(^1\) HKDSE stands for Hong Kong Diploma of Secondary Education Examination, an exam taken by students at the end of their six-year secondary education; the minimum English entry requirement for admissions to local 4-year undergraduate programmes is an attainment with Level 3 in English Language.

\(^2\) Standards-referenced Reporting (SRR) is adopted for HKDSE English exam. There are five levels of performance (1-5), with 5 being the highest and 1 being the lowest. The highest-achieving Level 5 candidates are awarded Level 5**. Performance below the Level 1 standard is designated as “Unclassified” (U).
students as one of the biggest challenges. Together with students’ frustrating past experience in learning English, it is important that the English teachers adopt strategies that could effectively and efficiently improve students’ pronunciation.

Motivated by the positive findings in numerous studies which reported the use of Orton-Gillingham (OG) instruction with dyslexic children, this pilot study aims to find out if a modified OG approach could be a practical solution to students’ pronunciation problems.
Literature Review

The Orton-Gillingham (OG) Approach

The Orton-Gillingham (OG) approach was developed in the early twentieth century by Anna Gillingham and Bessie Stillman in association with Dr Samuel Orton, a child neurologist, and has been used since the 1930’s mainly with children suffering from dyslexia. Characterized by its use of all learning pathways in the brain, including visual, auditory and kinesthetic-tactile, the OG approach is a multisensory, sequential, synthetic and phonics-based approach to teaching reading, spelling and writing. An OG or OG-based instructional program involves the systematic and explicit instruction of phonology and phonological awareness, sound-symbol correspondence, syllables, morphology, syntax and semantics (Ritchey & Goeke, 2006). To ensure mastery and to bring students to the automatic response level, ample practice is given throughout the OG course. Continuous assessment of students’ learning is necessary in order that teachers can adjust the teaching pace and give individualized instruction to address the needs of each individual student.

Effectiveness of OG and OG-based Programs with Dyslexic Students

To investigate the effectiveness of OG instruction, Guyer and Sabatino (1989) conducted a quasi-experiment with 30 college students who were suffering from reading and spelling disabilities. The results indicated that students in the OG group made better progress in word attack, word analysis and spelling skills than the group receiving nonphonetic reading instruction as well as the non-intervention comparison group. In another college-level study, Guyer, Banks and Guyer (1993) reported positive results in the spelling performance of dyslexic students who were provided with 16 weeks of spelling instruction using the Wilson Reading System (Wilson, 1996).

In their study conducted in 2012, Giess, Rivers, Kennedy & Lombardino (2012) also concluded that the explicit instruction involved in an OG-based treatment was effective in improving the “word recognition and spelling abilities” of a group of adolescents with persistent reading problems. With an attempt to examine the efficacy of a one-year OG instruction based reading intervention program for primary-school-aged children with dyslexia in Singapore, the results published by Noel & Houghton’s team (2011) revealed that OG-based instruction was “effective in bringing out significant improvements in the word recognition (aural-visual decoding) and word expression (visual-oral decoding) performances” (p. 146) of the dyslexic children.
Effectiveness of OG and OG-based Programs in General Education Setting

The effectiveness of OG-oriented programs was also examined in general education setting. Using a quasi-experimental design, Dooley (1994) revealed that middle school students who were given multisensory integrated reading instruction outperformed their peers in the control group in various aspects such as word attack and reading rate. In 2002, Joshi, Dahlgren and Boulware-Gooden conducted a quasi-experiment which involved the use of Language Basics, a curriculum based on Cox’s 1992 Alphabetic Phonics (Cox, 1992), on two classes of first-graders. Compared to the control group who showed progress only in comprehension, the OG-based group demonstrated significant growth in word attack, phonological awareness and comprehension.

Contrary to the positive findings reported in the studies of Dooley (1994) and Joshi et al (2002), with an attempt to find out the effectiveness of OG instruction on the reading performance of community college students, Chandler, Munday, Tunnell and Windham (1993) reported that the group who received traditional reading instruction performed significantly better than the OG group, as revealed by their increased overall reading levels in the Nelson Denney Reading Test.

Although research concerning the effectiveness of OG or OG-based approach has been conducted with students from different backgrounds and in different settings, most of them were situated in the United States where the research participants are L1 learners. Considering the difference between an L1 context and an L2 industry-related setting with regard to institutional context, curriculum components, students’ background and English language proficiency and so on, the current pilot study aims to fill the research gap and answer the following three research questions:

1. Can the modified OG-based instructional program help the “struggling” post-secondary English learners in Hong Kong?
2. In what ways can the approach help students in their learning of English pronunciation?
3. What are the implications of these findings for the teachers in this context?
Methodology
A pilot study on using a modified OG-based instructional program to teach English pronunciation was conducted in a post-secondary college in Hong Kong in the academic year 2014 to 2015. The study employed both quantitative and qualitative tools to collect data to answer the above research questions.

Subjects
Subjects were 32 post-secondary school students whose overall performance in the HKDSE English exam was designated as “Unclassified” (below Level 1). According to the subject descriptors written by the Hong Kong Examinations and Assessment Authority (HKEAA, 2014), a typical candidate who achieved Level One could “understand speakers who speak slowly and clearly on very familiar and predictable topics”, “identify some simple factual information, record information such as names and addresses, numbers, and brief messages”, and “communicate some brief, factual information, take part in very predictable short conversational exchanges, and make brief contributions to discussions if given time and support from others”. In other words, the subjects of the present study failed to meet the aforementioned standards. They could not understand words and phrases even on very familiar and predictable topics. These students also failed to record and communicate brief factual information. Moreover, they could not successfully take part in very short and predictable conversational exchanges even if time and support from others were given.

The 32 students were selected from three programmes on a voluntary basis. Twenty two of them majored in Digital Electronics Technology, while eight of them majored in Aircraft Maintenance and the remaining two majored in Computer-aided Product Engineering.

Modified OG-based instructional program
In response to the needs of the subjects, some modifications had been made to the Orton-Gillingham Approach. First, the kinesthetic-tactile elements were kept to a minimum. For instance, “finger-spelling” was employed only with weaker students because of some adverse feelings shown in some classes. Second, a number of vocabulary items frequently used in the college’s English curriculum were included in the word list for practice as a “quick-fix” for students to handle their English modules.
Data Collection

Pretest and Posttest
The study employed the Reading Readiness Screening Tool (RRST) (Version 7.5) developed and published by the Learning Disabilities Association of Alberta in 2011 as the pretest and posttest. It tested subjects in two main areas including phonological awareness and handling phonics tasks. Details of the tasks are shown in Table 1.

<table>
<thead>
<tr>
<th>Areas</th>
<th>Tasks</th>
</tr>
</thead>
<tbody>
<tr>
<td>Identification</td>
<td>Letter Sound Identification</td>
</tr>
<tr>
<td>Rhyme</td>
<td>Rhyme Detection</td>
</tr>
<tr>
<td>Detection</td>
<td>Syllable Detection</td>
</tr>
<tr>
<td>Blending</td>
<td>Syllable Blending</td>
</tr>
<tr>
<td>Deletion</td>
<td>Syllable Deletion</td>
</tr>
<tr>
<td>Isolation</td>
<td>Initial Sound Isolation</td>
</tr>
<tr>
<td></td>
<td>Medial Sound Isolation</td>
</tr>
<tr>
<td>Recognition</td>
<td>Non Word Decoding</td>
</tr>
<tr>
<td>Encoding</td>
<td>Spelling</td>
</tr>
</tbody>
</table>

Table 1  Tasks of Reading Readiness Screening Tool

Questionnaire Survey
In addition to collecting quantitative data using the pretest and posttest, the study conducted a questionnaire survey to collect subjects’ views on English learning. Thirty two questionnaires were received and analysed.

Focus Group Interview
As the second means to collect qualitative data, two focus group interviews were conducted to collect subjects’ views on the effectiveness of the modified OG-based instructional program.

Procedures
A pretest using the RRST was conducted in November 2014 before the students attended the modified OG-based instructional program.

After the pretest, students were arranged to attend program for fifteen weeks which added up to a total of thirty training hours. They were divided into four groups with the class size ranged from eight to eleven. In the program, students received a series
of “systematic, sequential, multisensory, synthetic and phonics-based” (Goeke & Ritchey, 2006) training that involved a systematic and explicit instruction of phonology and phonological awareness, sound-symbol correspondence and syllables. Language components were taught in a specially designed sequence so as to enhance learning and help students master the knowledge. During the program, individualised instruction was given to address the needs of each student. After attending the program, students were arranged to take a posttest to find out their improvement in phonological awareness and handling phonics tasks.

Upon completion of the program in May 2015, questionnaires were given to the students to collect their views on English learning. Four of them were randomly selected for focus group interviews conducted in August 2015 to further collect their views on the effectiveness of the modified OG-based instructional program.

Findings
The findings are shown in the following sections.

Relative Gain
Relative gain (RG) was calculated by dividing the maximum possible gain score by the absolute gain score, which was gained by subtracting the pretest score from the posttest score, and expressing in percentage. Theoretically, it reflected the individual progress and/or improvement contributed by the modified OG-based instructional program.

Overall Results
The results of the pre-test and post-test were analysed and compared. Overall, positive results were found. Results are shown in Table 2.

<table>
<thead>
<tr>
<th>RG</th>
<th>Overall Results</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>No. of Students</td>
</tr>
<tr>
<td>&gt;10%</td>
<td>32</td>
</tr>
<tr>
<td>&gt;20%</td>
<td>27</td>
</tr>
<tr>
<td>&gt;25%</td>
<td>23</td>
</tr>
<tr>
<td>&gt;30%</td>
<td>15</td>
</tr>
</tbody>
</table>
After receiving the modified OG-based instructional program, all students (100%) showed an increase and improvement in phonological awareness and handling phonics tasks. Also, nearly half of them (47%) showed a general improvement of more than 30% in terms of RG.

**Phonological Awareness**

In the RRST, the phonological awareness of students was tested in the areas of rhyme detection, rhyme generation, syllable detection, phoneme detection, syllable blending, phoneme blending, syllable deletion, phoneme deletion, initial sound isolation, final sound isolation and medial sound isolation. Results are shown in Table 3.

### Table 3  Results of Phonological Awareness

Regarding phonological awareness, students showed different improvement in different areas. For instance, a majority of them showed a small improvement (RG>10%) in rhyme generation (84%), phoneme detection (84%), phoneme blending (81%), initial sound isolation (91%) and medial sound isolation (94%), whereas around half of them showed a 10% improvement in syllable blending (44%), syllable deletion (59%), phoneme deletion (63%) and final sound isolation (53%). In addition, approximately one-third of them showed a 10% improvement in rhyme detection (28%) and syllable detection (31%). Among all the tasks, students improved the most (RG>30%) in rhyme generation (66%), phoneme detection (59%) and phoneme blending (72%).
Handling Phonics Tasks
In the RRST, phonics tasks included letter identification, sound identification, non-word decoding and spelling. Results are shown in Table 4.

<table>
<thead>
<tr>
<th>RG</th>
<th>Letter Identification</th>
<th>Sound Identification</th>
<th>Non-word Decoding</th>
<th>Spelling</th>
</tr>
</thead>
<tbody>
<tr>
<td>&gt;10%</td>
<td>13%</td>
<td>97%</td>
<td>88%</td>
<td>66%</td>
</tr>
<tr>
<td>&gt;20%</td>
<td>6%</td>
<td>97%</td>
<td>81%</td>
<td>50%</td>
</tr>
<tr>
<td>&gt;25%</td>
<td>0%</td>
<td>88%</td>
<td>81%</td>
<td>50%</td>
</tr>
<tr>
<td>&gt;30%</td>
<td>0%</td>
<td>84%</td>
<td>72%</td>
<td>31%</td>
</tr>
</tbody>
</table>

Table 4 Results of Handling Phonics Tasks

Most students (97%) showed improvement (RG>10%) in sound identification, followed by non-word decoding (88%) and spelling (66%). Only 13% of the students showed a small improvement in letter identification. In addition, many students improved more than 30% in sound identification (84%) and non-word decoding (72%).

Questionnaire Survey
The summary of the questionnaire survey is shown in Table 5.

<table>
<thead>
<tr>
<th>Learning Outcome</th>
<th>Mean (scale of 1 to 10)</th>
<th>Percentage of Students Scored Higher than 8</th>
</tr>
</thead>
<tbody>
<tr>
<td>My English vocabulary bank was expanded.</td>
<td>8.64</td>
<td>83.3%</td>
</tr>
<tr>
<td>My English listening skills have been improved.</td>
<td>8.60</td>
<td>83.3%</td>
</tr>
<tr>
<td>I experienced a sense of success during the lessons.</td>
<td>8.52</td>
<td>78.6%</td>
</tr>
<tr>
<td>I am able to pronounce English words using the strategies I learnt in the lessons.</td>
<td>8.48</td>
<td>76.2%</td>
</tr>
<tr>
<td>I have become more interested in learning English.</td>
<td>8.26</td>
<td>76.2%</td>
</tr>
<tr>
<td>I have become more confident in using English.</td>
<td>8.21</td>
<td>71.4%</td>
</tr>
</tbody>
</table>
A majority of students commented that after attending the modified OG-based instructional program, their English vocabulary bank was expanded (83.3%) and their listening skills had been improved (83.3%). Moreover, approximately three-fourths of the students remarked that they experienced a sense of success during the lessons (78.6%), were able to pronounce English words using the strategies I learnt in the lessons (76.2%), had become more interested in learning English (76.2%), and more confident in using English (71.4%). Overall, students expressed a positive attitude towards the modified OG instructional program.

Focus Group Interview
Students being interviewed gave positive responses. They generally favored the approach and found the learning experience fruitful in helping them improve their English pronunciation. They were surprised by the effectiveness of the study. Also, they had realised that there was a relationship between the sound and letters (i.e. sound-symbol correspondence). In addition, they agreed that they had learnt to blend the phonemes and pronounce the words. These observations were supported by comments made by the students in the interview. A few examples are translated quoted below:

“I haven’t expected that my pronunciation could be improved that much” (Student A);
“When I saw a word, I could only read it as one word but now I can see and pronounce it as a combination of letters” (Student D);
“I have learnt how to pronounce a word by blending the sound of letters” (Student A).

Not only did the modified OG-based instructional program enhance students’ ability in English pronunciation, it also changed their perspectives on English learning and raised their confidence in speaking English. This positive change could be seen in students’ comments such as “I thought pronunciation was a basic and simple thing, but after attending the training, I have learnt that there are, in fact, many rules to help me pronounce a word more accurately” (Student A), “it helped me to talk to native English speakers” (Student C), and “the training has built my confidence in using and speaking English” (Student D).
Discussion
The present study sought to evaluate the efficacy of the modified OG-based instructional program to teaching English pronunciation in a post-secondary context. From the findings, positive results were generally observed, which suggested that the modified OG-based instructional program would be effective in bringing about significant improvements in students’ English pronunciation including phonological awareness and skills of handling phonics tasks, and positive influences on their attitude towards English learning. Details are discussed along the following lines.

Phonological Awareness
It is of paramount importance to improve students’ phonological awareness as revealed by Liberman and Shankweiler (1985), students’ success in reading and writing is directly related to their awareness of the underlying phonological structure of words. Weak language learners usually find dividing words into their phonological elements challenging. As shown in Table 3, the highest degree of improvement was found in the areas of rhyme generation, phoneme detection and phoneme blending. All these three areas belong to the two lowest levels of the “four levels of metalinguistic skill” (Lane, Pullen, Eisele, & Jordan, 2002) as shown in Table 6.

<table>
<thead>
<tr>
<th>Level</th>
<th>Meaning</th>
</tr>
</thead>
<tbody>
<tr>
<td>Word Level</td>
<td>Ability to isolate individual words from the speech flow</td>
</tr>
<tr>
<td>Syllable Level</td>
<td>Ability to blend and segment chunks within words</td>
</tr>
<tr>
<td>Onset-Rime Level</td>
<td>Ability to manipulate intrasyllabic units</td>
</tr>
<tr>
<td>Phoneme Level</td>
<td>Ability to manipulate individual sounds within words</td>
</tr>
</tbody>
</table>

Table 6 Levels of Phonological Awareness

The findings seemed to suggest that after receiving the modified OG-based instructional program, students made the most improvements in “onset-rime” and “phoneme” levels, which means they gained the abilities to manipulate “intrasyllabic units” and “individual sounds within words” (Lane, Pullen, Eisele, & Jordan, 2002). In other words, the findings would appear to support the proposition that the modified OG-based instructional program could help the struggling post-secondary English learners in Hong Kong raise their phonological awareness from the lowest level and hence improve their English pronunciation.
This is further proven by the fact that a majority of learners (83%) agreed that their “English listening skills have been improved” and many of them (76%) said that they were then “able to pronounce English words using the strategies (s) he had learnt in the lessons”.

Handling Phonics Tasks
Other than raising students’ phonological awareness, the modified OG-based instructional program also seems to demonstrate a great efficiency in improving students’ skills for handling phonemic tasks (i.e. raising phonemic awareness). We can see from Table 4 that, in general, many students improved in handling all four phonics tasks, particularly in the tasks of sound identification and non-word decoding, which are both related to sound production. Concerning sound identification, students had to produce the sound of any letters the teacher pointed to. As for non-word decoding, students had to read out any words the teacher made up. 84% and 72% of students showed a significant improvement (RG>30%) in the posttest in sound identification and non-word decoding respectively, reflecting perhaps the modified OG-based instructional program would help raise students’ phonemic awareness.

Attitude towards English Language Learning
Research showed that there was a close relationship between learning a language and learners’ attitude towards the target language (Starks & Paltridge, 1996). Choy & Troudi (2006) averred that “the inner feelings and emotions of learners influence their perspectives and their attitudes towards the target language”. Karahan (2007) claimed that “positive language attitude let learners have positive orientation towards learning English” (p. 84). In other words, attitude has been generally believed to play an important role in language learning as they would appear to influence students’ success or failure in learning the target language. Therefore, an improvement in learners’ attitude would probably help them learn and master the target language better. From the results of the questionnaire survey, struggling English learners seemed to agree that the modified OG-based instructional program had made their attitude towards learning English more positive as they “experienced a sense of success during the lessons”, “became more interested in learning English” and “became more confident in using English” (students’ written comments). Because of these positive changes in attitude, theoretically, those students would appear to perform better and have more confidence in using and, especially, speaking English.
Implications
The modified OG-based instructional program could help raise students’ phonological awareness, improve their skills in handling phonics tasks, and modify their attitude towards English language learning within a short period of time as reflected in the focus group interviews, a student commented that he did not “expect that [his] pronunciation could be improved that much”. So it seems fair to say that not only could the OG-based approaches help students with learning disabilities, the modified OG-based instructional program used in the present study, could also be a quick-fix or practical solution to helping students with prolonged failing experience in English learning and trouble pronouncing English words.

Limitations & Further Research
Though the modified OG approach is theoretically sound, there are limitations in the present study such as the lack of a control group for making comparison of results, small sample size, the short duration of the training period, the teacher factor and other variables like the regular English lessons and unknown language activities that might lead to different results. Hence, further research should be conducted to include a control group, a larger sample size, a longer duration and control of other factors to further confirm results.

In addition, there is an “important relationship between phonemic awareness and reading acquisition” (Kame'enui, et al, 1997). Lane (2007) stressed the importance of phonological awareness suggesting that one’s phonological awareness is “directly related to [his/her] reading ability”, and “improvements in phonological awareness can and usually do result in improvements in reading ability”. Thus, not only would the modified OG-based instructional program seem to help raise students’ phonological and phonemic awareness, but also perhaps contribute to the development of their reading skills. This could be another direction for further research under the same context.
Conclusion
The modified OG-based instructional program appears to increase the phonological awareness of struggling post-secondary English learners, improve their skills for handling phonics tasks, make them become more positive towards English learning, and increase their confidence in learning English. In conclusion, we now have some evidence that it is appropriate to expose weaker students to OG-based remedial programs that can help them make improvements in English language learning and pronunciation. It would be beneficial to students at large if there could be a large scale research on the effectiveness of a structured OG or OG-based program to draw the attention of the Education Bureau (EDB) of Hong Kong for the need to make the teaching of phonics compulsory in the local education system.

Acknowledgements
We express our thanks to the project team members and students who made this pilot study possible. We very much appreciated their cooperation and support.
References


Liberman, I., & Shankweiler, D. (1985). Phonology and the problems of learning to read and write. Remedial & Special Education, 6(6), 8-17


Contact email : alicec@vtc.edu.hk