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## Analysis of Elementary School English Teachers' Perceptions of and Design for Differentiated Reading Instruction

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## **Analysis of Elementary School English Teachers' Perceptions of and Design for Differentiated Reading Instruction**

### **Introduction**

Elementary school English teachers in Taiwan face learners with different proficiency levels, learning styles, and strategies. In English classrooms, one-third of learners might have never studied English while another third may already have read easy readers (Chien, 2015). There is a danger of teaching to the mid-range ability alone (Subban, 2006). English teachers in non-differentiated classrooms often focus on the average learners, so learners at high or low proficiency levels seldom receive instruction to improve their reading ability (Ankrum & Bean, 2008). Differentiated instruction is a pedagogical solution to meet learners' different needs.

Most of the empirical studies on the integration of differentiated instruction into English instruction focus on learners' attitude and performance (e.g., Dai, 2017; Su, 2015; Wei, 2016; Weng, 2015; Weng & Chien, 2015), grouping strategies such as student team achievement division (e.g., Dai, 2017; Sun, 2015; Yeh, 2012), tiered assignments (e.g., Dai, 2017), learners' listening abilities (e.g., Chang, 2016), or writing abilities (Bantis, 2008). Survey studies focus on English teachers' perceptions of differentiated instruction (e.g., Hung, 2017; McLean, 2010; Rodrigue, 2012; Wang, 2016). Hung's (2017) survey study on seventy elementary school English teachers in New Taipei City concluded that there was a moderately positive correlation between teachers' beliefs and practices of differentiated

instruction. While Chu's (2016) study discovered that the major obstacles English teachers in Taiwan had regarding differentiated instruction were limited teaching time, lack of team discussion and preparation, parents' different perceptions, and insufficient resources, Tu's (2012) study identified four major challenges that twenty Vietnamese English teachers' implementation of mixed-level reading tasks faced. These challenges were time constraint on designing mixed-level tasks, lack of classroom management experience to organize mixed-level tasks, lack of tools for assessing learners' reading ability, and their unfamiliarity with mixed-level tasks.

Differentiated instruction can occur only when teachers are equipped with deep knowledge of essential components of reading instruction, understanding of the strengths and needs of their learners, and the ability to teach responsively (International Reading Instruction, 2000; Santangelo & Tomlinson, 2012; Wan, 2017). Hence, teacher education programs for differentiated reading instruction are crucial to provide language teachers with knowledge, competence, and skills that they need to ensure their learners' success related to targeted standards (De Neve & Devos, 2017; Gregory, 2003; McLean, 2010; Ruys et al., 2013).

Differentiated instruction has been one of the hot issues for elementary school English teachers' professional development promoted by the Ministry of Education of Taiwan since 2013 (Ministry of Education, 2012). In this study, differentiated instruction was integrated

into a summer endorsement program on English reading and writing instruction in a northwest teacher education program in Taiwan. This study analyzed 22 elementary school English teachers' perceptions of and designs for differentiated reading instruction. This study discussed the following issues. First, to what extent did elementary school English teachers' perception of differentiated instruction change following the endorsement program? Second, what instructional strategies did elementary school English teachers design for differentiated reading instruction? Third, how did they view the efficacy of their activity designs for differentiated instruction?

### **Literature Review**

Major issues were discussed in the literature review in terms of the overall review on differentiated instruction, elements, types of strategies, and empirical studies on differentiated instruction in reading, and the literature gap. Renzulli and Reis (1997) identified the content, process, product, classroom, and teacher as the dimensions of differentiated instruction. Differentiated instruction also relies on the three components of content, process, and product (Tomlinson, 1999, 2001).

Table 1 below reveals different scholars' proposals on elements for differentiated instruction in reading. Ankrum and Bean (2008) proposed that six elements are needed to implement differentiated reading instruction including assessment, grouping format, classroom management, materials, length and frequency of instruction, and lesson focus. First, assessments can be conducted through either formal or informal ways in terms of learners'

word level, higher-level strategies, comprehension. Next, teachers can differentiate reading instruction through whole-class, small group, or individualized instruction.

As for classroom management, teachers can employ different approaches, such as literacy centers, independent reading, or independent response. In addition, the materials for the reading instruction should be designed based on learners' reading levels and interests. Furthermore, the length and frequency of differentiated reading instruction are based on learners' attention level, the length of text, and depth of the lesson focus. Finally, the lesson focus should be designed based on governmental standards. Li (2015) claimed that English teachers should specifically focus on teaching materials (i.e., reading texts), teaching methods, grouping, and assessment for differentiated reading instruction. Overall, the key elements of differentiated instruction in reading should include identifying learners' needs, instructional strategies and materials, and assessments.

**Table 1**

*Elements of Differentiated Instruction in Reading*

Scholars	Key Elements
Ankrum & Bean (2008)	assessment, grouping format, classroom management, materials, length and frequency of instruction, and lesson focus
Li (2015)	teaching materials, teaching methods, grouping, assessment
Servilio (2009)	identify students' needs and learning styles, assess current achievement, select research-based strategies for reading, comprehension, and personal connection, differentiated material, develop student choice and classroom management, conduct

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portfolio and evaluation system, evaluate students' performance

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Five essential components of reading instruction include phonemic awareness, phonics, vocabulary development, reading fluency and decoding, comprehension strategies (International Reading Association, 2000). When teachers differentiate their instruction for reading fluency, language learners benefit the most when they are asked to read the same reading texts containing familiar words and embedded target words (Jones et al., 2012). Teachers should also train learners to develop different comprehension strategies, such as making connections, visualization, prediction, story maps, character analysis, summary, finding the main idea, inferring, or figurative language (Walpole & McKenna, 2007; Witherell & McMackin, 2005)

Different scholars and educators propose different instructional strategies in differentiated reading instruction (e.g., Kapusnick & Hauslein, 2001; Kosanovich et al., 2007; Walker-Dalhouse et al., 2009; Walpole & McKenna, 2007; Witherell & McMackin, 2005). Chapman and King (2003) proposed eleven types of models of differentiated reading instruction, such as problem-solving, independent choice reading, guided reading, shared reading, or read aloud model. While independent choice reading provides learners with opportunities to choose a factual or fiction selection they want to read, a read-aloud experience gives students of all ages the opportunity to hear the sounds and rhythms of the language. Moreover, teachers can use total, alone, partner, and small group (T.A.P.S.) to

differentiate their instruction for reading and writing as revealed in Table 2 below. In choral reading as an example, teachers first model how to read while learners track their fingers and try to read along. Learners begin to reread the text. Later, learners read chorally and begin to read independently (Walpole & McKenna, 2007).

**Table 2**

*T.A.P.S. Strategies (Gregory & Kuzmich, 2004, p. 81)*

<b>Reading</b>	
total (T)	modeling new skills, using a jigsaw strategy, textbook assignment, guided whole class reading, choral reading
alone (A)	pre-assessment, choice for individual reading, self-directed reading, DEAR: drop everything and read, reflective reading, retell, relate, reflect
small group (S)	problem solving, round-robin reading, group guided reading, group investigation, prepare debates with reading materials
partner (P)	brainstorming, checking homework, checking for understanding, processing information, peer editing, peer evaluation, researching, echo reading, interest in similar topic, planning for homework, SQ3R

Some empirical studies focused on the influence of teachers' integration of differentiated instruction in reading on their learners' attitude and performance (e.g., Alavinia & Sadeghi, 2013; Ankrum, 2006; Driskill, 2010) as in Table 3. Alavinia and Sadeghi (2013) concluded that there was no significant difference in the influence of differentiated task-based instruction on Iranian freshmen's reading comprehension. However, while Boges (2014) employed flexible groups, tiered activities, and scaffolding among fourth graders with

reading struggles, Baumgartner et al. (2003) employed flexible grouping, student choice on a variety of reading tasks, increased learners' self-selected reading time, and learners' access to a variety of reading materials. Moreover, Baumgartner et al. (2003) delivered mini lessons on improving learners' phonemic awareness, decoding, and comprehension skills. The level of influence of differentiated instruction on learners' performance and attitude might result from learners' "affect" (i.e., the way how students feel about themselves) and "learning profile" (i.e., how learners learn the best; Tomlinson, 2001).

**Table 3***Empirical Studies on Differentiated Reading and Writing Instruction*

Studies	participants	Instructional strategies
Alavinia & Sadeghi (2013)	47 Iranian freshmen	task-based differentiated instruction
Ankrum (2006)	23 elementary school students in Pennsylvania	small group reading instruction
Baumgartner, Lipowski, & Rush (2003)	25 second graders, 27 third graders, and 25 middle school students in California	choices, self-selected reading, mini lessons on phonemic awareness, decoding, and comprehension skills, flexible grouping
Boges (2014)	120 fourth graders in the United States	flexible groups, tiered activities, and scaffolding
Chan (2008)	36 sixth graders in Taoyuan city	literature circle
Chen (2011)	58 fifth graders in New Taipei City	balanced reading instruction with differentiated group
Chien (2013)	23 fourth graders in Taiwan	question, author relationship
Driskill (2010)	20 fourth grade general education teachers in New York	scaffolding tasks, flexible grouping
Huang (2014)	Fifty fourth graders in New Taipei City	reading instruction
Li (2015)	Sixth graders in Hsinchu City	three cycles of reading instruction
Kazemi (2012)	38 Iranian university students	jigsaw reading
Reis, McCoach, Little, Muller, & Kaniskan (2011)	1,192 second through fifth grade in five elementary schools in the United States	schoolwide enrichment model—reading (SEM-R)
Tu (2012)	120 Vietnamese secondary students and 20 English teachers	mixed-level reading tasks
Werderich (2002)	15 seventh graders	journal letters

Some empirical studies explored the effects of specific instructional strategies on learners' reading comprehension, such as literature circles (Chan, 2008), balanced reading instruction (Chen, 2011), mixed-level reading tasks (Tu, 2012), journal letters (Werderich, 2002), jigsaw reading (Kazemi, 2012), or schoolwide enrichment model-reading (SEM-R) (Reis et al., 2011) as shown in Table 3. Chan (2008) employed literature circle among 36 sixth graders. The implementation of literature circle with four roles—connector, questioner, literary luminary, and illustrator—for differentiated reading instruction affected participants' reading comprehension. Moreover, Reis et al. (2011) explored the Phase 2 of the SEM-R model on 1,192 second through fifth grade students' reading fluency. These learners' oral fluency and comprehension increased because of their engagement in supported independent reading of self-selected, appropriately challenging books, with differentiated instruction in conferences with the teacher or another adult. Independent reading of appropriately challenging books affected learners' engagement in reading, because, as Knowles (2009) claimed, one of the most important factors in effective differentiated instruction in reading is students' choice in selecting reading material.

However, Huang's (2014) differentiated reading instruction among fourth and fifth graders influenced only their word recognition, but not overall reading comprehension. Word recognition involves receptive knowledge of word forms, word parts, meaning, association, but comprehension is a process in which the reader constructs meaning in interacting with

text (International Reading Association, 2000). Reading comprehension might take longer time to develop for these young learners.

Chen's (2011) experimental study employed balanced reading instruction with a differentiated group. Based on the data analysis of a reading attitudes questionnaire, word recognition tests, reading comprehension tests, teacher journals, students' feedback, and worksheets, 29 fifth graders in the experimental group had better performance in English word recognition and reading comprehension. Compared to another 29 fifth graders in the control group under the traditional instruction, learners in the experimental group had better reading attitudes.

The current empirical studies mainly employed an experiment study on one specific instructional reading strategy (e.g., literature circle, jigsaw reading, SEM-R) among specific learners (e.g., Kazemi, 2012; Li, 2015) or a survey study on English teachers' perceptions of differentiated instruction (e.g., Hung, 2017; Wang, 2016). Only a very few studies focused on teachers' teaching beliefs, efficacy, and readiness on differentiated instruction (Wan, 2016, 2017). This study aimed to use both qualitative and quantitative data to explore the influence of professional development on differentiated instruction in reading on elementary school English teachers' perceptions, teaching efficacy, and activity designs.

## **Method**

A mixed-methods approach was employed in this study because it provided valid findings. The quantitative data on the questionnaire could explore elementary school English

teachers' perceptions of and efficacy in differentiated instruction in reading. The qualitative data on the participants' final projects, their peer and self-evaluation could review and explain the quantitative data.

### **Setting and Participants**

The study was conducted with a convenient sampling group of 22 elementary school English teachers enrolled in an intensive endorsement program in a northwest university in Taiwan in the summer of 2017. This three-credit course was called Reading and Writing Instruction, and was comprised of six class periods per day for nine consecutive days. Of all 54 class periods, nine class periods were used to introduce the theoretical and practical applications of differentiated instruction, such as choices, learning stations, questioning strategies, content, and tiered assignments.

The majority of the participants ( $n=9$ ) taught in medium-sized schools with 13-26 classes, followed by small-sized schools ( $n=7$ ) with less than 12 classes, and medium-to-large-sized schools ( $n=6$ ) with between 37-60 classes. As for participants' status, the majority of them were full-time English teachers ( $n=14$ ) and taught eleven to twelve class periods per week.

While three of them were homeroom teachers, another five were section chiefs and English teachers. With regard to their teaching experience, the majority of them had only two to five years of English teaching ( $n=16$ ). While four participants were beginning teachers with less than a year of teaching experience, only two teachers had taught English for six to

ten years.

As for their education background, the majority of them were English majors ( $n=15$ ).

While five completed a post-bachelor's degree elementary school English teacher education program, three participants became English teachers because of their English proficiency level equivalent to B2 Vantage or upper intermediate of the Common European Framework of Reference for Languages (CEFR).

### **Data Collection**

Data collected in this study included a questionnaire on English teachers' perception of differentiated instruction and teaching efficacy, self- and peer-evaluation, and their projects on differentiated instruction in reading. First, the questionnaire was designed based on different scholars (e.g., Blaz, 2006; Gilbert & Graham, 2010; Servilio, 2009; Tomlinson & Allan, 2000; Wertheim & Leyser, 2002). The questionnaire included five parts. The ten questions in Part 1 were designed to gather each participating teacher's demographic information, academic background, English teaching experience, career history, and professional development. In Parts 2 and 4, participants were asked to respond to ten statements each on a five-point Likert-type scale in regard to their perception of differentiated instruction in reading and their teaching efficacy. Ratings ranged from 1 "not at all" to 5 "in every aspect." Part 3 explored participants' familiarities with the instructional strategies for differentiated instruction and participants were asked to read the definitions of each instructional strategy and choose Yes or No. Part 4 aimed to discover participants'

implementations of these instructional strategies and they were asked to choose from 1 “never” to 5 “all the time.”

At the beginning of the study, participants were asked to complete the first four parts of the questionnaire. After the introduction on differentiated instruction, participants were asked to complete the second part of the questionnaire. When they completed the project on differentiated instruction in reading, they were asked to answer the questions in Part 5.

The second type of data was self- and peer-evaluation sheets, designed based on different scholars (e.g., Gilbert & Graham, 2010; McLean, 2010; Servilio, 2009; Wertheim & Leyser, 2002). Ten criteria were designed for participants to evaluate their own and peers’ final projects in terms of assessment, objectives, content, process, and product. Participants were asked to write a description on evidence on differentiated instruction next to the criteria.

This study followed Dee’s (2010) qualitative study on content analysis of participants’ projects on differentiated instruction. The content analysis can uncover patterns and meaning from the written documents (Borg, 2007) and the content analysis was used to investigate participants’ manifestation of competence in differentiated instruction in reading. A total of 22 projects were collected, but only 18 met the criteria for the data analysis.

### **Data Analysis**

The names used in this study were pseudonyms. The quantitative data from the questionnaire, self- and peer-evaluation were analyzed using IBM’s Statistical Package for the Social Sciences (SPSS). Descriptive statistics, including frequencies, percentages, means,

and standard deviations, were used to analyze data from the questionnaire. As for the qualitative data, the researcher read through the final projects and gave tentative coding (e.g., QAR, tiered assignments). Second, the researcher repeated the analysis to identify the major categories (e.g., activity designs, attitude).

The preliminary data analysis was given to the researcher's two colleagues for checking and participants' member checking in order to promote trustworthiness and authenticity.

## **Results and Discussion**

Based on the data analysis on the final projects, peer- and self-evaluation, and the questionnaire, four issues were discussed in terms of participants' perceptions and competence of, activity designs on, and efficacy of differentiated reading instruction.

### ***Perceptions and Competence of Differentiated Instruction***

Before the intensive endorsement program, participants had better perceptions of differentiated instruction in "identify learners' needs and styles" and "model and practice different choices" with a mean of 3 as in Table 4. Identifying learners' unique styles is crucial and can be valuable for the implementation of differentiated instruction (Alavinia & Sadeghi, 2013). Participants' perceptions of differentiated instruction were the lowest in "select research-based strategies for reading" ( $M=2.22$ ). Participants in this study might lack the competence of research-based strategies for reading. However, evidence-based instruction is essential for teachers to teach at all levels. Language teachers have to make choices every day,

respond to individual learners' needs, and provide what works best for them. Hence, Jones et al. (2012) suggested that evidence-based or scientifically-based instructional strategies and interventions should be available to teachers.

**Table 4**

*Participants' Perceptions of Differentiated Instruction*

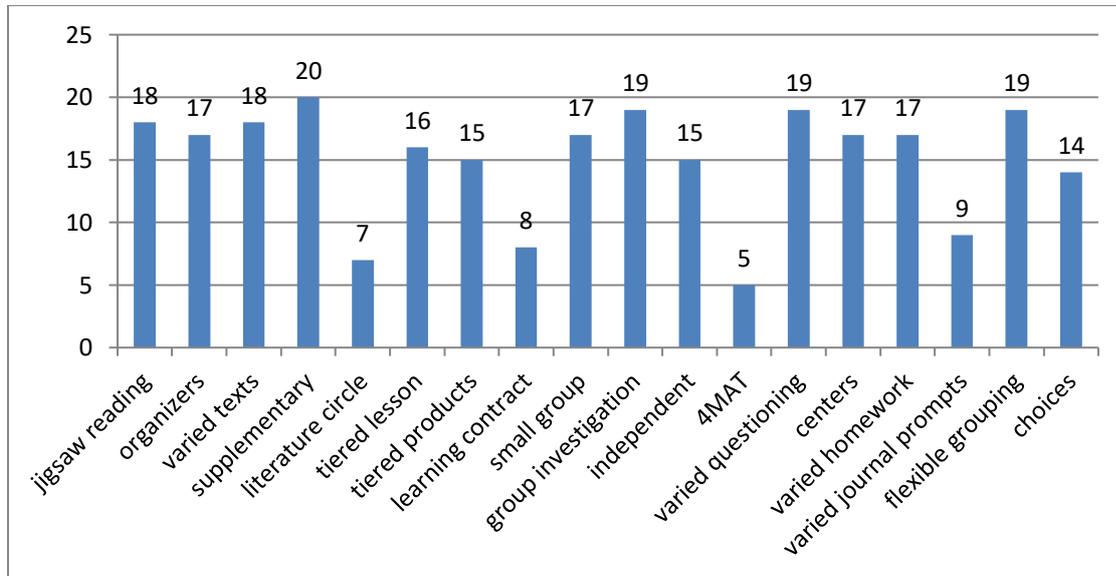
Statements	mean		<i>t</i> -test
	before	after	
1. identify learners' needs and styles	3	3.13	0.21
2. reading goals and objectives	2.91	3.18	0.0413
3. assess students' current achievement	2.86	3.18	0.0414
4. modifications for learners with special needs.	2.72	3.13	0.0107
5. select research-based strategies for reading	2.22	4.27	0.0002
6. identify approaches for differentiated reading instruction	2.63	4.13	0.0001
7. differentiate reading materials	2.41	3.09	0.0213
8. match reading materials to objectives	2.36	3.09	0.0032
9. offer learners with choices	2.86	3.23	0.0527
10. model and practice different choices	3	3.32	0.0816

In this endorsement program, the teacher trainer modeled instructional strategies, such as station teaching, choices, or Question-Answer-Relationship (QAR). As in Table 4, the paired *t*-test revealed that participants demonstrated a significant difference regarding their perception of differentiated instruction after the program, particularly in terms of “select research-based strategies for reading” and “identify approaches for differentiated reading instruction.” This finding is in accord with Ruys et al. (2013) that congruent training given by

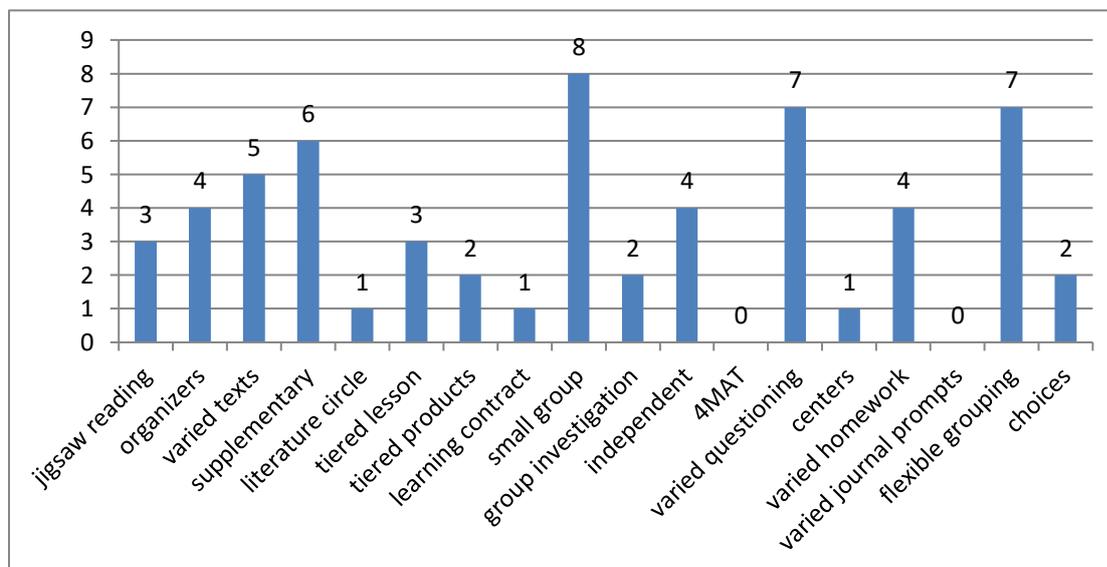
the teacher trainers can improve teachers' pedagogical behavior and practice. In addition to modeling the instructional strategies, teacher trainers are expected to legitimize the pedagogical choices by linking them to the theoretical concepts.

After the program, participants' perceptions of differentiated instruction were the lowest in "differentiate reading materials" and "match reading materials to objectives" ( $M=3.09$ ). Participants in this study might still lack adequate competence and knowledge in choosing appropriate leveled reading passages or materials. Helping learners access to appropriate reading materials is one of the major factors that influence teachers' differentiated reading instruction (Ankru, 2006; Knowles, 2009). Jones et al. (2012) suggested that teachers should have competence in choosing appropriate leveled books for younger learners.

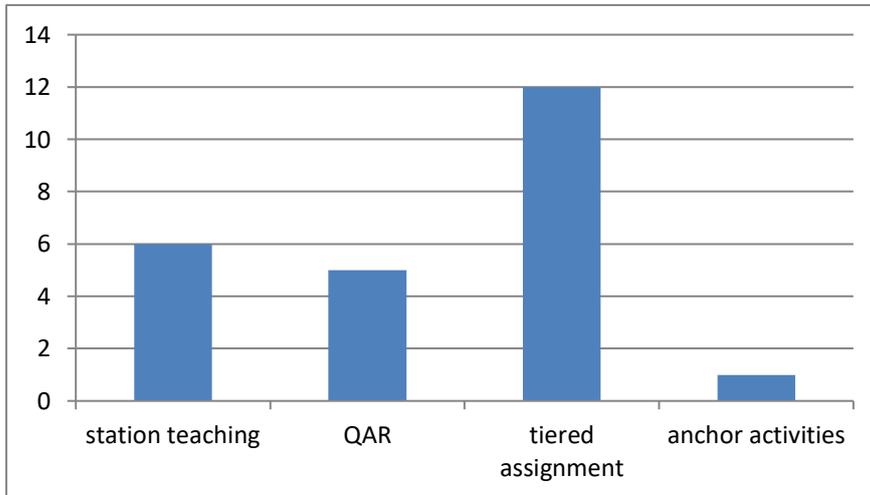
The needs of individual learners must not be overlooked when teachers nurture their growth in reading. Varying the method of instruction can meet learners' diverse needs for reading (Baumgartner et al., 2003). As revealed in Figure 1, "supplementary materials" was the most common instructional strategy that participants were familiar with ( $n=20$ ), followed by "group investigation," "varied questioning," and "flexible grouping" ( $n=19$ ) before the training program. Only five participants knew "4MAT" as one type of instructional strategy for differentiated instruction. "Literature circle," "learning contract," and "varied journal prompts" were three instructional strategies that participants were not familiar with.

**Figure 1***Participants' Perceptions of Instructional Strategies*

As revealed in Figure 2, before the training program, the most popular strategies that participants employed for differentiated instruction was “small group” ( $n=8$ ), followed by “varied questioning” and “flexible grouping” ( $n=7$ ). On the other hand, none of the participants employed “4MAT” and “varied journal prompts.” These participants’ lack of knowledge and competence about “4MAT” and “varied journal prompts” might result in no implementation of these two instructional strategies in classroom practice. Differentiated instruction could be hindered because teachers lack content knowledge and pedagogical knowledge and skills. Teachers are not sufficiently equipped with procedural and pedagogical knowledge in differentiated instruction (VanTassel-Baska & Stambaugh, 2005).

**Figure 2***Participants' Implementation of Strategies for Differentiated Instruction**Activity Designs*

Of all the eighteen final projects, four major activities were designed for differentiated instruction. As revealed in Figure 3, tiered assignments were the most popular activities, followed by station teaching and QAR, because these activities were used to work on both basic and more advanced outcomes. Moreover, learners could benefit from working to achieve the same objective but doing different kinds of work (Heacox, 2002). Only one teacher included anchor activities for differentiated instruction in the final project. Six projects included two types of instructional strategies for differentiated instruction.

**Figure 3***Activity Designs on Differentiated Instruction*

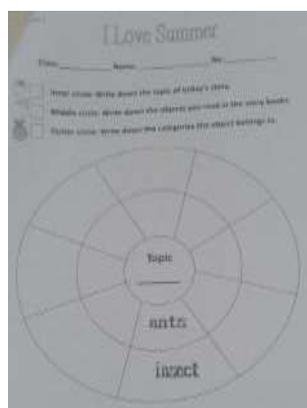
Sophie wrote in the final project “The teacher trainer modeled differentiated instruction, such as QAR, tiered assignment, choices, and station teaching. I decided to integrate tiered assignments and QAR into my reading instruction.” Sunny also wrote, “I like station teaching and QAR which the teacher trainer demonstrated in the endorsement program. So I integrated these two instructional strategies into my activity designs.” Teacher education has positive impacts on teachers’ perceptions and use of and preparation for planning differentiated instruction (Edwards et al., 2006). Teachers who have completed professional developments on differentiated instruction have a better understanding of and positive attitude toward the instructional strategies (Burkett, 2013; Wan, 2017).

Parker (2007) defined tiered tasks or assignments as “varied levels of depth, complexity and abstractness depending on their ability” (p. 26). Tiered assignments were the common instructional strategies designed by the participants in this study. Christine designed

a worksheet *I Love Summer* for three levels of learners as in Figure 4. While beginners were asked to complete the inner circle, intermediate learners were asked to write down the objects in the storybook. Advanced learners were asked to categorize these objects. One of the advantages of tiered assignments is that no learners will feel left out, as each of them is appropriately challenged (Kapusnick & Hauslein, 2001; Richards & Renandya, 2002).

#### Figure 4

##### *Christine's Tiered Assignments*



Under station teaching, learners rotate between stations where they work on certain assignments (Chien, 2011, 2017; Murawski, 2005). Flexible grouping and station teaching are types of differentiated instruction. Learners work in groups, pairs, or individually at different stations. Language teachers can deliver explicit and targeted instruction on reading strategies with some learners, while the rest of the class can rotate independently around the different stations (Jones et al., 2012). Stations are proved to influence elementary school EFL learners'

phonics and oral reading fluency (Chen, 2011; Tseng, 2007). Coca designed four stations based on the reading text from *Unit 2 Where Are You From?* of the textbook as in Figure 5. For Station 1, learners were asked to complete the self-introduction card. For Station 2, learners were asked to design the face, clothing, and food of a person from a specific country. For Station 3, learners were asked to complete the reading comprehension task.

## Figure 5

### *Coca's Station Teaching*

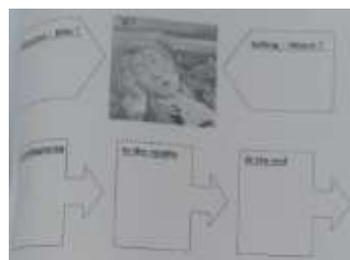
Station 1



Station 2



Station 3



Question Answer Relationship (QAR) is one type of instructional strategy for differentiated instruction. Four types of questions are designed including (1) *Right There* questions have only one answer that can be found at one place in the reading text, (2) *Think and Search* questions have answers that can also be found in different parts of a text, (3) *Author and You* questions require readers to read between the lines and make inferences, and (4) *On Your Own* questions are related to students' experiences and feelings on a topic

(Raphael, 1982). After the story telling on *Penny Loves Pink*, Judy designed QAR for reading comprehension as shown in Figure 6 below.

## Figure 6

### *Judy's QAR*

QARs on Penny loves Pink  
Grouping the students. Put four types of questions on the ppt. Ask students to write down the answer on the colorful sticky notes. First, write "Right there" and "On my own" answers on the green sticky notes; then write "Think and search" answers on the yellow sticky notes. Finally write "Author and me" answers on the pink sticky note. After 5 minutes, choose tiered students to answer in order to get the answers from various types of questions.<sup>4</sup>

(1) Right there (green): What color does Penny love? What color is the shoe? What color is the cotton candy?<sup>4</sup>

(2) Think and search (yellow): Does Penny like other colors? How many things are in pink? What are they? How did Penny feel when she saw her brother?<sup>4</sup>

(3) Author and me (pink): Were you surprised at the end? What is the big change in this story? Why in the end of the page Penny and Parker both wear pink and blue?<sup>4</sup>

(4) On my own (green): What is your favorite color? What are your favorite things? What color is it? Do you like to have a room with everything in your favorite color?<sup>4</sup>

An anchor activity is a privileged task provided to engage students when teacher-directed assignments are completed (Chapman & King, 2008, p. 10). Only one teacher included an anchor activity into the final project. After the story telling on *Panda Bear Panda Bear What Do You See?*, Linda designed an anchor activity for early finishers as shown in Figure 7.

**Figure 7***Linda's Anchor Activity*

Anchor Activity  
 Reading Corner: Teacher checks out some books related to endangered animals and conservation. Students who finish early can go to the reading corner to get a book to read.

***Efficacy of the Activity Designs***

As revealed in Table 5 below, participants' claimed that they had better efficacy in differentiated instruction in terms of "learners' reading improvement" ( $M=3.95$ ) and "solving learners' reading problems" ( $M=3.91$ ) after the training program. Teachers have their personal teaching efficacy or belief, as having the skills and abilities to influence student learning and behavior (Ashton, 1985). This study is in accord with Wertheim and Leyser (2002) that teachers with high self-efficacy scores on differentiated instruction focus more on adapting teaching practices. However, participants' efficacy in differentiated instruction was the lowest in "adjusting reading assignments" ( $M=3.32$ ) and "assessment" ( $n=59$ ).

**Table 5***Participants' Efficacy of Differentiated Instruction*

Statements	mean	SD
1. Learners' reading improves because of my differentiated reading instruction.	3.95	0.88
2. I increased learners' retention from previous reading lessons.	3.73	0.79
3. I knew the steps for differentiated reading instruction.	3.86	0.94
4. My differentiated reading instruction solved learners' reading problems.	3.91	0.91
5. I exerted extra effort differentiated reading instruction.	3.64	0.85
6. I adjusted reading assignments to learners' levels.	3.32	0.95
7. I assessed my learners' reading performance.	3.59	0.73
8. I know techniques to redirect learners to read.	3.64	1.05
9. Learners' performance improves because of my competence in approaches.	3.82	0.80
10. My differentiated reading instruction was effective.	3.6	0.96

As revealed in Table 6, project 12 was evaluated with the biggest discrepancy between the self-evaluation (26) and mean of peer-evaluation (38.5). Project 12 was designed based on *Unit 3 How Many Tigers Are There?* for sixth graders. Tiered assignments were integrated into the lessons for word (i.e., animals) and sentence reorganization (There is/are \_\_\_\_). Such discrepancy was revealed in criteria 2 (TAPS strategy), 3 (instructional strategies), 5 (assessment), 6 (grouping strategies), 8 (pre-assessment), and 10 (grading criteria) with  $SD=1.154$ . The existence of such a discrepancy might result from participants' varying degrees of knowledge, competence, experience, and commitment in teaching and

differentiated instruction. Experience could be linked with their confidence and efficacy in differentiated reading instruction (Ankrum, 2006).

**Table 6**

*Discrepancy Between Self- and Peer-Evaluation*

Projects	self-evaluation	mean of peer-evaluation	criteria
1	37	47.5	6, 8
4	36	47	5, 8
10	42	36	1, 4
12	26	38.5	2, 3, 5, 6, 8, 10
17	31	43	1, 2, 4, 6, 8, 10
18	45	39	2

Project 17 was evaluated with the second biggest discrepancy between the self-evaluation (31) and mean of peer-evaluation (43). Project 17 was designed based on *Unit 3 What Do You Like to Do?* for sixth graders. Tiered assignments were integrated into the lessons for word (i.e., leisure) and sentence reorganization (I like to \_\_\_\_). Such discrepancy was revealed in criteria 1 (choices), 2 (TAPS strategy), 4 (learning goal), 6 (grouping strategies), 8 (pre-assessment), and 10 (grading criteria) with SD (=1). Such a discrepancy could result from teachers' different teaching experience or their uncertainties about differentiated instruction (Wan, 2016). After professional development or training on differentiated instruction, teachers might at first struggle and decide how they should act or

differentiate their instruction. Their uncertainties might fall back on their beliefs and belief systems and how they perceive differentiated instruction (Wan, 2016).

### **Discussion and Implications**

This study analyzed 22 elementary school English teachers' perceptions of and design for differentiated reading instruction. The data analysis of participants' final projects, questionnaires, and peer and self-evaluation reached the following major conclusions. First, through the endorsement program, 22 participants' perception of differentiated instruction was changed into being aware of research-based instructional strategies and approaches for differentiated reading instruction.

Secondly, Figures 2 and 3 revealed that participants were familiar with most of the instructional strategies for differentiated instruction, but they implemented them less in their classroom practice before the endorsement program. They were less familiar with literature circle and various journal prompts. Moreover, the instructional strategies that these participants integrated into final projects for differentiated reading instruction were limited, including tiered assignment, station teaching, and QAR.

Third, the endorsement program helped them gain efficacy in differentiated reading instruction in terms of improving learners' reading performance and difficulties. However, the discrepancy between self- and peer-evaluation was revealed particularly in the criteria of assessments.

Based on the results, in order to help elementary school English teachers effectively implement differentiated reading instruction in their classrooms, three issues were discussed in terms of calling for differentiated reading instruction workshops: the gap between teachers' competence and implementation of instructional strategies, and an emphasis on differentiated assessment.

### ***Call for Workshops on Differentiated Reading Instruction***

Implementation of differentiated instruction can be problematic and challenging to language teachers due to the lack of competence, professional development, resources, and administrative support (Edwards et al., 2006; VanTassel-Baska & Stambaugh, 2005; Walker-Dalhouse et al., 2009; Wan, 2017). The mean of participants' perceptions of differentiated instruction increased from 2.22 to 4.27, particularly in "select research-based strategies for reading." Such gain resulted from the teacher trainer's modeling research-based instructional strategies for reading during the training program. Hence, the need for professional development on differentiated reading instruction is essential to language teachers (McLean, 2010). Language teachers need ongoing professional support from experts and consultants (Jones et al., 2012; Ruys et al., 2013; Wan, 2016). Hence, Wertheim and Leyser (2002) concluded,

More extensive training and practice are required in the areas of individualized and differentiated instructional techniques by stressing adaptations of materials,

assignments, and assessment, and in the area of classroom and behavior

management by focusing on systematic data-based management strategies. (p. 62)

### ***The Gap Between Teachers' Competence and Implementation***

In this study, participants were aware of the instructional strategies for differentiated reading instruction; however, they only put a few strategies into practice in their classrooms. Although teachers acknowledge the need and importance to address their learners' variance and differences, most of the time teachers often use a one-size-fits-all approach in their classrooms, disregarding their learners' individuality. They have difficulties in bringing differentiated instruction into practice (Ruys et al., 2013).

The findings of this study were accorded with Ruys et al. (2013) that congruent teaching and explicit modeling could be the answers to solving the gap between teachers' competence and implementation of differentiated instruction. Explicit modeling is defined as "demonstrating modeling behavior in an intentional or unintentional way, with a view to stimulating the professional learning of student teachers" (Ruys et al., 2013, p. 96). Therefore, more instructional strategies on differentiated reading instruction could be modeled in teacher education programs (Wan, 2016). Moreover, language teachers should develop the requisite skills and competence to independently apply these instructional strategies in the classroom (Jones et al., 2012; Walker-Dalhouse et al., 2009; Wan, 2016, 2017). Through authentic

practice, language teachers can identify their learners' needs and respond accordingly with appropriate instructional strategies for differentiated reading instruction (Ankrum, 2006).

### ***Emphasis on Differentiated Assessment***

The finding of this study is consistent with other studies (e.g., Wan, 2016, 2017) that in-service teachers perceived differentiated assessment to be the most challenging aspect of implementing differentiated instruction. Therefore, an emphasis on differentiated assessment should be included in elementary school English teachers' professional development and workshops. Assessment should be context-specific and continuous. Learners' readiness, interests, profiles, and characteristics should be taken into consideration (Tomlinson, 1999, 2001).

Instruction and modification of assessments should be catered to the needs of all learners in order to accommodate learners' differences. While some learners may be challenged by a task that requires that they work with others, others may complete the same task at ease. By differentiated assessment on learners' learning, teachers can ensure that learners are working on tasks at their levels, interests, and styles (Ankrum, 2006; Heacox, 2002).

### **Conclusion**

This study explored the influence of a course in an endorsement program on 22 elementary school Taiwanese English teachers' perceptions of and designs for differentiated

reading instruction. Based on the data analysis of the questionnaire, peer- and self-evaluation, and final projects, this study has two major findings.

First, participants gained professional learning in research-based instructional strategies and approaches for differentiated instruction through the endorsement program. They mostly employed the instructional strategies into their activity designs, such as station teaching, QAR, and tiered assignments. Before the workshop, they were aware of different strategies for differentiated reading instruction; however, they seldom put them into their daily classroom practice.

Secondly, their self-efficacy gained in terms of improving their learners' reading performance and solving their reading problems. However, their different teaching experience, competence, and knowledge led to discrepancies in efficacy evaluation. This study was significant, because both qualitative and quantitative data were used to explore in-service English teachers' efficacy in teacher education and differentiated instruction. This study gains an insight into what aspects of a complex teaching method teachers continue to find challenging after an endorsement program and therefore needed to be included into continuous professional development and learning.

This study has two limitations. First, the number of participants in this study was limited by small sample size; only 22 elementary school English teachers enrolled on this endorsement program. Moreover, the researcher focused only on these teachers' perceptions,

designs, and efficacy in differentiated reading instruction. This study did not seek to measure learners' reading achievement and their attitude toward their English teachers' differentiated reading instruction. This study did not attempt to determine how English teachers' effective differentiated reading instruction and efficacy were in relationship to learners' learning.

This study focused on only a relatively small sample size of participants in an endorsement program in the northwest of Taiwan. A larger and further study can focus on the influence of different contents of professional development on elementary school English teachers' perceptions, practice, and efficacy in reading instruction across different cities in Taiwan. Additionally, surveys of learners and administrators could provide more insight into how differentiated instruction is being implemented.

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