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Constructing Greater Meaning: From Think-aloud to Visual Maps

從有聲思維與概念構圖談國小英語閱讀教學

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Abstract

With the published guidelines of Ministry of Education on Grade 1-9 Integrated English Curriculum focusing on the training of oral skills, the challenge that English teachers most likely have to encounter is that elementary school students may not comprehend reading text fully, though equipped with letter sound decoding skills. Unlike word-for-word interpretation, reading comprehension involves a process of constructing or assigning meaning by words that learners see in text and interact with it. The reading development requires learners to activate their background knowledge and to construct meaning through a transaction with written text. Acquiring reading comprehension strategies is therefore essential to qualify elementary graders as proficient English learners. Employing strategies such as think-alouds with visual maps as an instructional tool, teachers can monitor students' progress in reading comprehension and assess students' reading achievement as well as cognitive growth. By teaching language learners to reflect on their thinking processes, elementary school students in Taiwan stand a better chance to become successful English learners.

Key words: reading comprehension, think-alouds, visual maps

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摘要

在九年一貫新課程綱要中，國小英語教學偏重於口語能力的訓練，相形之下國小學生在缺乏英語閱讀經驗的學習當中，接踵而來可能面對的挑戰是國小學生英語閱讀能力的匱乏。有效率的閱讀在於學習者能將故事或文章的內容與其背景知識作相關連結，並經由與讀文互動的過程中，進而瞭解文中之大意與內涵，在閱讀能力的發展其中，如何運用掌握閱讀策略會是有效閱讀的重要關鍵。本文建議在英語教學中，教師可結合讀文朗讀與圖像閱讀分析策略活動於英語課程中，藉而強化學習者的閱讀能力。經由聽覺與視覺回溯的閱讀過程裡，教師不只可以精確掌控學習者的進度亦可同時瞭解學生學習的成果與英語認知能力的成長。

關鍵詞：閱讀理解，發聲思考，視覺構圖

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Introduction

Research for the last decade (National Reading Panel, 2000) has converged with the view that language literacy includes word identification skills as well as comprehension skills. The essential components consist of phoneme awareness, phonics, fluency, vocabulary, and comprehension. It implicates language learners with the need to learn all aspects of the target language such as speech sounds, word structure, printed symbols, vocabulary, sentence structure, paragraphs and overall text structure. While language subsystems are interdependent, improvement in one subsystem does support improvement in others. Namely, language proficiencies are gained in parallel, even though each one may be gained in sequence.

As the published guidelines of Ministry of Education on Grade 1-9 Integrated English Curriculum underscores the importance of fluency training in oral skills (MOE, 2003), most elementary school English instruction in Taiwan accordingly centers on mastering accurate and fast word recognition. Drawing from research on language literacy, the challenge the elementary school English teachers most likely have to face is that students, equipped with letter sound decoding competence, may demand more to comprehend reading texts appropriately. Not only must English teachers teach differentiation of speech sounds from letters, they also need to instruct students on how to describe aspects of reading texts, and linking various levels of text organization. It is therefore worth the effort to integrate teaching reading comprehension into the English curriculum of the early second language acquisition in elementary schools.

Reading comprehension requires learners to construct meaning from words in text and interact with it (Hudelson, 1994; Urquhart & Weir, 1998). Teaching reading strategies explicitly and systematically helps students become more effective learners (Oxford, 1990). Moreover, to activate the learner's learning process also hinges on how one links individual's learning style with educational context in which affective factors are involved. The view suggested in this study is that employing reading strategies such as think-alouds with visual maps can be a useful instructional tool in teaching reading and monitoring students' reading progress. There are practical suggestions from think-alouds for teachers as to how to be the support for their students in their reading efforts: facilitating comprehension, modeling the fluent reading process, providing interactions with a variety of texts, and making connections (Wilhelm, 2001; Beers, 2003; Block & Israel, 2004). As language learners are individuals seen as active explorers constantly constructing a mental model of how they think English fits their experience in light of the new language experience they encounter, adjusting the theories when necessary. Visual maps can build on the known and connect the new knowledge with the old, a strategy which has been

shown to be useful in facilitating learning (Hyerle, 1996).

Eight types of different graphic maps are proposed to be integrated into three phases of think-alouds strategies development: before reading, during reading and after reading. By employing reading strategies of think-alouds with visual maps, greater depth of meaning can therefore be created. The meaning is created from the multiple sensory input both orally and visually, extending and connecting to one another. Think-alouds with visual maps not only activate students' background knowledge but also enables them to build up meaning through a transaction with written text, ultimately interpreting it. The breadth of the reading experience suggested in this study allows students to monitor their reading achievement and cognitive growth for them to become better English learners.

Think-Alouds in Reading Comprehension

While the ultimate goal of proficient reading is comprehension of meaning, the purpose of learning to read is to acquire the skills that will contribute to fluent reading. Research on reading proficiency identifies the following dimensions of reading as critical during the early literacy period of development: phonological awareness, word recognition, background knowledge, vocabulary, comprehension strategies and fluency. In general, highly proficient readers use similar skills and thought processes mentioned above at different developmental stages to attain reading fluency.

Reading a foreign language in an EFL environment like Taiwan, however, creates barriers for the learner in using reading skills. It is the teacher's job to re-activate the skills by making students less anxious or frustrated and thus removing some of the barriers. The line of such reading inquiry in this study has taken the form to investigate the strategies to enhance reading comprehension of L2 learners to achieve early literacy. Think-aloud, a strategy shown to be efficacious in teaching, can build students' decoding and comprehension, as it enables readers to pause periodically to reflect on the thinking process they have in reading. Most importantly, it facilitates comprehension by thought processes as to oral reading selections (Harris & Hodges, 1995; Oster, 2001).

Components of Think-alouds

Think-aloud introduces a theme, opens up new worlds, monitors students' thinking processes present during reading, and familiarizes students with various text structures and genres. Teachers employing think-alouds strategies can effectively demonstrate for their students as to what they can do in selecting an appropriate comprehension process at a particular point in context. Think-alouds actively engage students in the reading process, involving strategies within a lesson in phases: pre-reading, during reading and post reading.

The general think-aloud scenarios are the following (Wilhelm, 2001: Beers, 2003):

- Teacher models the think aloud process; students observe.
- Teacher thinks aloud; students listen and assist.
- Students think aloud as large group; teacher monitors and assists.
- Students think aloud in small groups and teacher facilitates.
- Students think aloud individually and compare with others.
- Students think aloud orally and then share.

The pre-reading strategies activate students' prior knowledge and vocabulary in relation to the text. The during-reading strategies aim to promote reading comprehension and fluency, assisting students to link what they know with new information and being aware of their thinking processes. During this phase, the processes include analyses of main ideas, summarization, cause and effect, comparison and contrast, feature analysis, inference and generalization, point of views, facts and opinions, etc. The post reading strategies encompass checking for reading comprehension. The purpose is to encourage students to apply skills, and elevate thinking to higher levels.

Reading Consolidation

Think-alouds are strategies underscoring the verbalization of thoughts in reading selections. As Beers (2003) puts it rigorously, "The more we frontload students' knowledge of a text and help them become actively involved in constructing meaning prior to reading, the more engaged they are likely to be as they read the text." Modeling think-alouds enhances students' reading abilities in the following dimensions (Keene & Zimmermann 1997):

- Assess and establish prior knowledge
- Make new connections
- Summarize
- Predict
- Synthesize
- Monitor understanding
- Demonstrate the fix-up strategies when students cannot make sense of the reading.

As learners are diverse in the ways that learn, perceptual learning preference can be either auditory, visual or kinesthetic. The learners thrive on both the internal and external feedback received from the challenge. The more enriched the input of the challenge, the greater the learning. Empowering the think-aloud technique by visual mapping further consolidates the learning process in which students not only can orally report but also visualize the info with mental images they create with the text.

Visual Mapping

Hyerle (2004) contends that teachers can use visual representations as key tools for concept development, interpreting and assimilating new information in every content area. Visual maps function as a synthesis of a variety of such visual tools, including brainstorming webs, graphic organizers, and deep cognitive processing found in concept maps.

Visual Maps

Eight types of visual maps are developed accordingly: circle maps, bubble maps, double bubble maps, tree maps, brace maps, flow maps, multi-flow maps, and bridge maps.

1. Circle Map

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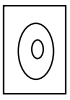

- The circle map enables students to generate relevant information about a topic as represented in the center of the circle.
- The map is often used for brainstorming.

2.Bubble Map

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- The bubble map is designed for describing attributes.
- This map is used to identify character traits (language arts), cultural traits (social studies), properties (sciences), or attributes (mathematics).

3.The Double Bubble Map

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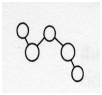

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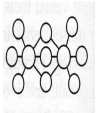

- The Double Bubble Map is used for comparing and contrasting things, such as characters in a story.
- It's also used for prioritizing which information is most important within a comparison.

4. The Tree Map

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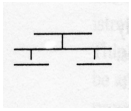

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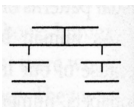

- The Tree Map enables students to do both inductive and deductive classification/organization.
- Students learn to create general concepts, main ideas, or category headings at the top of the tree, and supporting ideas and specific details in the branches below.

5. The Brace Map

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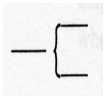

- The Brace Map is used for identifying the part-whole, physical relationships of an object.

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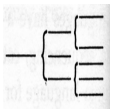

- This map supports students' spatial reasoning and for understanding how to determine physical boundaries.

6. The Flow Map

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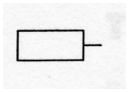

- The Flow Map is used for showing sequences, order, timelines, cycles, actions, steps, and directions.

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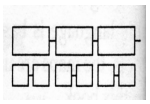

- This map focuses students on seeing the relation between stages and substages of events.

7. The Multi-Flow Map

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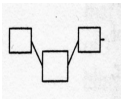

- The Multi-Flow Map is for seeking causes of events and the effects.

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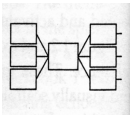

- The map expands when showing historical causes and for predicting future events and outcomes.

8. The Bridge Map

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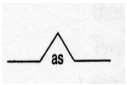

- The Bridge Map provides a visual pathway for creating and interpreting analogies.

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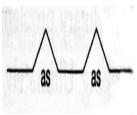

- This map is used for developing analogical reasoning and metaphorical concepts for deeper content learning.

Visual Mapping in Reading

These maps are flexible, developmental, integrative, and reflective. The maps have consistent forms, but with flexibility in forms that can be extended in many ways. Any learner can develop the maps with a blank sheet of paper; the learner and the content of learning determine how complex the maps are. The maps can serve as reflective tools for both the learners and the teachers so that they can monitor the learners' thinking process in reading. This being the case, learners can reflect on their own learning progress. Teachers can model or assess the content learning and the learners' cognitive growth. More importantly, the map patterns are in line with how the brain engages in learning (Jenson, 1998). The brain binds data together through neural patterns, networks information, and chunk information. It processes the information in short term memory, and holds linked information into long term memory. Suffice it to say that the brain seeks patterns of information to network. The maps function like the brain networking in that they supply explicit visual language for learners to find the patterns and further construct

their knowledge networks. This means that the better-organized information through the maps, the better the connection of the neural network for better memory retention.

The brain is a pattern seeker and is dominantly visual: "Ninety percent of all information that comes into our brain is visual (Jensen, 1996)." The maps are visual patterns of thinking, representing the brain's thinking process. The visual patterns inherent in the maps facilitate information process, assisting learners to chunk information for efficient processing in the short-term and working memories. A group of researchers led by Dr. Robert Marzano conducted a research in Jackson, Mississippi in 1996 and found that the maps gave students a way and a structure to connect pieces of information to each other. By recalling one bit of information on the map, students can easily retrieve the entire map denoting the whole concept. The more thinking patterns are rehearsed from the maps, the stronger the links of the neural pathways for storing and retrieving information. Moreover, learners using the maps engage themselves in creating their own ideas as they contemplate and elaborate their thinking. Simply put, visual maps are an effective instructional tool to have learners embark on meaning-making process.

Think-Alouds with Visual Maps

The maps can be incorporated into the reading instruction, guiding students to construct their information in an organized way. By taking students across unfamiliar texts with the aid of visual maps, teachers provide students with reading strategies that they can use independently. For the purpose of illustration, take the story Johnny Appleseed as an example. It is a story describing an American pioneer who planted a large number of apple trees along the early frontier of America. Teachers in the pre-reading phase may use the circle maps for students to brainstorm and generate any of their ideas about the topic. Students are thus infused with the background information of the story. Bubble maps and tree maps may be used in the during-reading phase in which students can describe the character traits of John and give examples to his planting and even the things he did and people he met during his expedition to the west. In the post reading phase, teachers and students can use double bubble maps to compare and contrast America before and after John's expedition, use flow maps to sequence the events took place in the story, use multi-flow maps to look for the reasons and the result of John's planting, and use bridge map to create analogies for the story. The maps are so flexible that they can be integrated into the reading instruction as needed. Teachers are also recommended to mingle with different maps to introduce texts for different purposes such as the expository text of introducing the origins of dinosaurs. Brace maps can be useful to find out the traits of dinosaurs at different times and link parts with the whole concepts. Double bubble maps are instructive to compare and contrast the traits of two major kinds of dinosaurs: meat eaters and plant eaters.

The visual maps enable students to go through the reading comprehension paths with help and support of the teacher not only in oral reading selections but also in visualizing the thinking processes from texts on a consistent basis above their independent reading level. Most importantly, teachers can introduce the maps for different purposes. By familiarizing students with the visual maps, reading modeling does not stop after the teacher has introduced the strategies. Explicit instruction from think-alouds with visual maps teaches students strategic knowledge through actively modeling how to work through a task by setting oral and visual goals as to how particular strategies can be used, and by monitoring the strategies before, during, and after reading. Think-alouds with visual maps help students understand that reading should make sense. Employing such strategies facilitates students' reading comprehension to move beyond literal decoding with varied texts. Students can therefore learn, think, and reflect on themselves as well as their reading. Most importantly, it is the students who decide and select a relevant action for a specific reading purpose (Piercy & Hyerle, 2004).

Conclusion

In the study of FL learners, Hosenfeld et. al. (1981) validate that L2 readers using strategic reading skills have the following prime characteristics:

- Keep passage meaning in mind during reading
- Grasp important ideas of phrases of the text
- Skip unimportant words to total phrase meaning
- Have positive self image as readers

Unsuccessful L2 readers, however, easily lose meaning of sentences as soon as they decode the text. They read in short phrases, hardly skip words as unimportant, or worse, have negative self concept as reader. Teaching reading with strategies of think-alouds with visual maps helps students see the importance of going beyond the text**.** It allows readers to organize, elaborate and evaluate information derived from a text. The use of such reading strategies shifts the focus to actions that readers can actively select and control to achieve desired goals or objectives (Carrell, 1998). With the application of the think-alouds with visual maps in the elementary school's English teaching, teachers can use them as an instructional tool to monitor students' progress in reading comprehension, and to assess students' reading achievement as well as cognitive growth. By teaching students to think about thinking verbally and visually, elementary school students in Taiwan stand a better chance to become successful L2 English learners. Employing the reading strategies proposed, they are more likely to integrate the various parts of the text, recognize important aspects of text structure, and associate personal experiences with the text. Most importantly, they can respond to the text not only in a reflective but also an

extensive mode to attain better reading comprehension.

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