Self-Regulated Reading Comprehension Strategy Selection Through Diagnostic-Prescriptive Instruction: A Case Study

Kelly M. Parker

Abstract

This demonstration of concept applies diagnostic-prescriptive reading instruction, a methodology used in United States developmental education, toward improving reading comprehension and self-regulated comprehension strategy selection in Chinese postsecondary education. A single tutor, also the researcher, works closely with one Chinese university student to develop student-centered comprehension strategies that she can practice on her own. After a battery of formal and informal assessments and interviews, decoding and understanding deficiencies are identified, characterized, and discussed. Both the student and her tutor develop and execute a study plan, which was completed during the spring semester of 2010 at Sha’anxi University of Science and Technology (SUST) in Xi’an, People’s Republic of China (PRC). By focusing on the subject’s primary decoding deficiency, spelling, and her primary understanding deficiency, lack of background knowledge, the subject and her reading tutor are able to strategically tackle five reading comprehension goals: (1) spelling; (2) phonemic awareness; (3) noticing structural and cohesive elements; (4) comparing argumentative and evaluative texts; and (5) analyzing expository texts in business and economics. A final discussion analyzes both qualitative and quantitative data, including unexpected discoveries such as the salience of cohesion in reading comprehension and the cultural biases of standardized reading assessments.

Keywords

Reading, comprehension, self-regulation, diagnostic-prescriptive, strategies

During the author’s first two years of English teaching in China tertiary institutions, he noticed that students tended to follow the same academic path as their cohorts even though they may individually be far above or far below the mean competency of their classmates. These outliers would often disengage from their studies. His presumption then was that most advanced students were simply bored while the less proficient students were overwhelmed. With rare exceptions, these disengaged students were the least likely to consult with teachers during office hours, participate in classroom learning activities, or revise papers in order to improve their grades. It was one of

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these exceptional students, a 3rd-year student named Jenny who was struggling with her English readings, who inspired the author to try applying diagnostic-prescriptive reading instruction in order to mitigate student disengagement. The results of this teaching intervention are presented here as a demonstration of concept only.

Diagnostic-prescriptive teaching presumes that students begin learning with both strengths and weaknesses and that these strengths and weaknesses are both measurable and connected to the ability to acquire academic skills (Ysseldyke and Salvia 1974). Combining task analysis and abilities training models and applied to special education (Ewing and Brecht 1977; Smead 1977; Arter and Jenkins 1979), diagnostic-prescriptive teaching eventually became an approach toward remedial reading (Arter and Jenkins 1979; A. Manzo, U. Manzo, and Albee 2004).

The diagnostic-prescriptive model for this study comes from A. Manzo, U. Manzo, and Albee (2002; 2004), who have compiled a comprehensive teachers’ textbook used by reading specialists in the United States. A. Manzo, U. Manzo, and Albee’s methodology is applicable to both children and adults, incorporates both formal and informal assessments, and considers reading pedagogy as a system of “acquisition of effective strategies” (Manzo et al. 2004: 19) for reading, writing, thinking, and needs analysis.

In diagnostic-prescriptive teaching of reading, a student’s reading competence is initially diagnosed with formal and informal assessments. An instructor then evaluates assessment data and prescribes an intervention, during which both student and instructor work together to remedy comprehension problems. The goal is to scientifically improve both bottom-up decoding skills and top-down understanding skills, which together strengthen reading comprehension.

METHOD

This study was conducted through three primary stages: a preliminary diagnosis followed by prescription and instructional intervention. All activities took place during the spring semester of 2010 at Sha’anxi University of Science and Technology (SUST) in Xi’an, People’s Republic of China (PRC).

Participant

This study is of one female Chinese university student, aged 22, with the English name of “Jenny”. An intake interview revealed her to be from a low socioeconomic status family in Henan Province. A former law student at another university, she had given up to study English at SUST. At the time, she was only allowed to audit university English courses but still kept on track with English majors as her cohorts. For this reason, she may be considered an outlier from the normal student profile.

Diagnosis

Jenny’s reading skills were tested during five sittings during February and March, 2010, using a total of eight formal and informal assessments. Every assessment involved a post-analysis with impromptu teaching.

Adolescent and Adult Intake Inventory (AALI). The AALI is an informal open-ended and closed-ended interview sequence that starts with rapport building (Manzo et al. 2004).

Learning and Study Strategies Inventory (LASSI). The LASSI (Weinstein and Palmer 1990) is a formal online instrument, which measures three factors, though developers and prior researchers have some disagreements on what each factor really might be (Eldredge 1990; Olejnik and Nist 1992; Olivarez and Tallent-Runnelsa 1994; Olaus sen and Bråten 1998; Cano 2006). For Jenny, the LASSI was intended to assess the interplay of affect, metacognition, and motivation.

Informal Reading (Thinking) Inventory (IRTI). This informal instrument measures word recognition, silent reading comprehension, and oral reading rate.
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(Manzo et al. 2004; U. Manzo and A. Manzo 2013). It also gives some indications of metacognition during reading comprehension activities. Most significantly, it allows determination of grade level as understood in the United States.

**Informal Vocabulary Estimator (IVE).** This instrument measures vocabulary decoding (spelling) and understanding (word meaning) competence, using word lists common to U.S. students at various grade levels (Manzo et al. 2004).

**Performance/Mastery Goals Questionnaire (PMGQ).** This instrument was designed to formally determine a mastery or performance focus in East Asian students by He (2008). The author had used this in prior research of Chinese postsecondary student achievement goal profiles, finding it very reliable and culturally appropriate (Parker 2010).

**Sylvia Greene’s Informal Word Analysis Inventory (SGIWAi).** The SGIWAi helps identify problem letter combinations and syllable forms by reading words aloud to test decoding and writing down heard words to assess encoding. Two lists of words are used.

**Degrees of Reading Power (DRP).** This instrument attempts to both measure student reading levels and determine readability of instructional materials (Kibby 1981; Bormuth 1985; Carver 1985).

**Nelson Denny Reading Test (NDRT).** The NDRT is a formal instrument which measures reading comprehension and vocabulary, using readings from the domains of science, social science, and humanities (Brown 1960).

**Prescription**

Jenny’s top five strengths and needs were determined, and a study plan developed. Since they had at least five sessions available during the semester, they planned on a single focus for each session. Together, they decided to keep new words and topics relevant to Jenny’s own interests, to keep her motivation high and her affective filter low. After these five sessions, post-tests of the NDRT were performed.

**Instructional Intervention**

After a battery of formal and informal assessments and interviews, decoding and understanding deficiencies were identified, characterized, and discussed, a study plan was developed and executed.

**RESULTS & DISCUSSION**

**Diagnosis & Prescription**

Throughout the diagnostic sessions, Jenny showed high motivation for, and competence in, comprehension monitoring. She also tended to defy her measured instructional levels, proving to be a very sharp and quick learner of word meanings. Her most obvious handicaps were lack of domain knowledge and poor spelling with certain problematic phonemes. Her strengths were high knowledge of word meanings and word relationships. Trial teaching after each assessment helped validate measurements and indicate whether they should take any specific assessment too seriously in the study plan.

**AALI.** The AALI suggested that Jenny was truly motivated to become bilterate in Chinese and English. Extrinsically motivated to learn English, she was intrinsically worried about losing competency in her mother tongue. This was especially noticeable in her English classes, where she and her fellow English majors were often discouraged from using any Chinese in the classroom. To meet Jenny’s motivational needs, her reading intervention considered the interplay of high stress, biliteracy, and adult development.

**LASSI.** Jenny scored very low on attitude and motivation. On reflection, she noted a tendency to engage only in those subjects that were uninteresting, because she knew that she must work harder on those subjects. She explained that she was strongly motivated toward mastery of English but unconcerned
about peer competition, which may indicate the LASSI’s motivation measurement as performance-focused rather than mastery-focused (He 2008; Parker 2010). Her measured areas for improvement were information processing, selecting main ideas, use of study aids, and test strategies.

**IRTI.** The word recognition test confirmed the author’s expectations that Jenny would be capable of recognizing many words at fairly high grade levels. That is, she could be exposed to many new words relevant to her fields of interest, negotiating meanings from recognition of related words. Her oral reading was very fluent, evincing difficulty mainly with words that require cultural knowledge endemic to North America, such as “Eskimos”, “moccasins”, and “canoes”. She started the first word with a long /e/, used a long /a/ in the second word, and separated the /oe/ into two syllables in the third word. All of these were vowel errors, which she corrected after the author modeled pronunciation was modeled for her. Another word she showed difficulty with was “American”, where she simply dropped the final syllable to say “Americ”.

In addition to difficulty pronouncing culturally specific words, Jenny’s metacognition seemed tempered by affect. For reading-the-lines and reading-between-the-lines questions, she was only half-certain of her answers, but felt she answered well on the reading-beyond-the-lines questions. In the first case, she admitted that she was always uncertain of pleasing teachers with her answers, and in the second case, she felt more confident with what she called an “open topic, own opinion” type of prompt.

**IVE.** Jenny’s low spelling scores which indicated a possible phonemic awareness problem. She also had low word meaning scores which may not be valid as East Asian students of English may not be exposed to the same words that similarly aged students in the United States (US) are exposed to.

Discussion revealed that Jenny was easily distracted by similar words to what she already knew, which gave her a tendency to jump ahead of herself when guessing word meanings. For example, when she heard “biographer”, she thought of the affixes bio- and -er, and a word that she already knew, “biology”—guessing that a biographer is someone who studies life. When introduced a different affix, -ist, with “psychologist” as an example, she quickly learned that a “biologist” studies life. Intervention showing her how the words “psychology” and “biology” end in -y allowed her to deduce a rule for deleting the -y and adding an -ist or -er words to change senses of meaning—this led to her revelation that she had extracted too little from the word “biographer” in guessing its meaning. Throughout this morphological modeling and error analysis, she took notes and noticed her progress—that is she was actively monitoring comprehension.

**PMGQ.** Jenny’s PMGQ score indicated a strong-mastery and weak-performance achievement goal profile, suggesting that the LASSI paradigm for motivation may tend toward performance motivation. In other words, Jenny was not strongly motivated to compete in academe, though very much motivated to master English for her life goals.

**SGIWAI.** Jenny did not recognize all final consonants, and often conflated vowel sounds. Specifically, final consonants, such as /t/ or /d/, unaspirated by native English speakers but aspirated when they are initial consonants, were predictably dropped in spelling. That is, this inventory helped us characterize the final-consonant dropping earlier noticed with the IRTI results. Her instructional plan would include precise pronunciation of these difficult consonants (encoding), with the goal of improving spelling skills (decoding).

**DRP.** The DRP indicated that Jenny was initially able to read teen magazines independently and international news with instruction. Since Jenny was already reading international news magazines for leisure, her DRP score may have indicated a taste for challenge corroborated with high mastery motivation.
measured by the PMGQ and the desire to engage in more difficult subjects noticed when discussing her LASSI results.

In comprehension monitoring practice after the DRP, Jenny was guided into noticing preceding sentences, paragraph themes, and passage themes before guessing the words that she had missed. This coaching in cohesion seemed to improve her reading comprehension.

NDRT. Jenny’s NDRT Grade Equivalent (GE) measured at 10.6, about the equivalent of a US high school sophomore. Her silent reading rate was 192 words per minute (WPM), which exceeds the US National Institute for Literacy (NIL) recommendation for college readers of 189 WPM.

Instructional Intervention

Considering all the formal and informal measurements, Jenny’s word recognition profile most closely matches the US NIL Profile 3, “Good but need print skills (alphabetic)”, which suggests a benefit from knowledge of various reading comprehension strategies, including companion writing tasks such as summarizing and weighing multiple viewpoints. Writing practice, such as preparation for high-stakes tests, could also develop higher-level comprehension skills.

Jenny’s top five strengths and needs are summarized in Table 1.

Jenny’s study plan was weighted so that effort was applied where needed, and not wasted. For example, while practicing phonemic awareness with all new words, they focused on the problem phonemes identified in the SGIWAI. They focused on new word meanings in her domains of personal interest, rather than her academic subjects, and placed special emphasis on noticing cohesive devices in texts.

Since they had at least five sessions available during that spring semester, they planned on five tutorial sessions outside of her classroom hours: (1) word meanings and phonemic awareness; (2) tools for increasing background knowledge; (3) domains of interest: business and economics; (4) analysis of argumentative and evaluative texts; and (5) surveying common text structures. Each sessions would include four constant strands: (1) noticing cohesive elements; (2) phonemic awareness of new words; (3) comprehension monitoring; and (4) spelling practice. Together, they decided to keep new words and topics relevant to Jenny’s interest, which helped keep her motivation high and her affective filter low.

Table 1. Assessed Strengths and Needs

<table>
<thead>
<tr>
<th>Strengths:</th>
<th>Needs:</th>
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<tbody>
<tr>
<td>Word recognition (reading)</td>
<td>Spelling</td>
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<tr>
<td>Comprehension monitoring</td>
<td>Phonemic awareness</td>
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<tr>
<td>Word meaning</td>
<td>Structure/Cohesion of texts</td>
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<tr>
<td>Highly mastery motivation</td>
<td>Argumentative/Evaluative texts (logic)</td>
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<tr>
<td>Positive affect (emotions/attitude)</td>
<td>Expository texts (background knowledge)</td>
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POST-TEST

A diagnostic-prescriptive reading approach was performed with only one student for only one semester, with observable success. Jenny felt greater confidence reading advanced texts, and knew enough about her learning needs to focus on developing them. Still, it is uncertain whether the assessment instruments chosen are ideal for larger-scale studies within China. While the PMGQ, for example, proved reliable for a Chinese student, the LASSI was
insufficient for analyzing motivation, and the IRTI proved culturally inappropriate.

CONCLUSIONS

A diagnostic-prescriptive reading approach was performed with only one student for only one semester, with observable success. Jenny developed greater confidence reading advanced texts, and finished her semester with enough awareness of her learning needs to continue development after tuition. Still, it is uncertain whether the LASSI was sufficient for analyzing motivation and the IRTI proved culturally inappropriate outside of the US.

That is, the general approach of diagnostic-prescriptive reading could work in Chinese English teaching. With a fair number of informal assessments available online, global tools for diagnostic-prescriptive reading teaching are accessible to most teachers. The personalized approach inherent in this method can keep students involved in understanding their own learning needs and thus heighten mastery-goal motivation. However, more informal instruments may be necessary to apply diagnostic-prescriptive teaching toward English reading of Chinese students.

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Bio

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