Diagnostic information from the ELPA English Diagnostic Test of Grammar

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Presented at the symposium (Theme: Diagnostic testing in language teaching) at the 14th Annual Conference of the Japan Language Testing Association (JLTA), Toyohashi University of Technology, Aichi, Japan on September 11th, 2010

The Test

- The English Diagnostic Test of Grammar (EDIT Grammar)
  - a diagnostic grammar test
  - mainly targeting Japanese secondary school students (especially 8th- to 12th-year students) learning English as a foreign language (beginning learners, especially low-achievers who have difficulty with English)
  - to identify the grammatical weaknesses of learners that teachers cannot easily detect during teaching activities and to present information that can be used for future teaching

Selected Structures

- basic English noun phrases (NPs)
  - (a) NP boundaries
  - (b) internal structures

Example: Yesterday the window near Ken’s desk was broken.

Readers need to:
(a) identify the meaning chunk the window near Ken’s desk and the existence of boundaries before the and after desk
(b) comprehend that near Ken’s desk modifies the window

In order to obtain more detailed diagnosis, however, we currently focus on (b), namely the knowledge of the NP internal structures.

NP Internal Structures

- NPs are categorized into six NP groups according to their internal complexity (see Table 1).
- NP Groups 1 and 2 consist of basic NPs, whereas NP Groups 3 to 6 include NPs with post modification.
- Grammatical items in this table consist of what all 7th- to 9th-year students should learn in Japan (Ministry of Education, Science & Culture, 1999).
- Among the six NP groups, the EDIT Grammar focuses on NP Groups 2 to 6, because the structure of Group 1 is easily mastered by students.
- A variety of grammatical points need to be understood in order to understand NP structures, such as articles, possessives, plurals, adjectives, prepositional phrases, and relative pronouns.

<table>
<thead>
<tr>
<th>NP Groups</th>
<th>Structure</th>
<th>Example</th>
</tr>
</thead>
<tbody>
<tr>
<td>Group 1</td>
<td>Determiner (article, possessive) + noun</td>
<td>my brother</td>
</tr>
<tr>
<td>Group 2</td>
<td>Determiner + premodifier (adjective, NP) + noun</td>
<td>my green sweater</td>
</tr>
<tr>
<td>Group 3</td>
<td>NP (Group 1 or 2) + prepositional phrase</td>
<td>my high school boy</td>
</tr>
<tr>
<td>Group 4</td>
<td>NP (Group 1 or 2) + present participle phrase</td>
<td>which beautiful place</td>
</tr>
<tr>
<td>Group 5</td>
<td>NP (Group 1 or 2) + relative clause</td>
<td>things I bought yesterday</td>
</tr>
<tr>
<td>Group 6</td>
<td>NP (Group 1 or 2) + infinitive phrase</td>
<td>chances to go to parties</td>
</tr>
</tbody>
</table>

We predicted this order mainly based on Pienemann (1998).

- G2 is easier because premodification is easier than postmodification (e.g., Hashimoto & Hirai, 2007).
The EDiT Grammar

- a multiple-choice format of matching a Japanese phrase with one of four English alternatives

Example item 1

**Stem:** 丘の上の白い建物は、私の学校です。

*(NP Group 3)*

(The white building on the hill is my school.)

**Options:**
1. the hill on the white building
2. the white building on the hill*
3. the white on the hill building
4. on the hill the white building

Analysis of Wrong Answers

Option 1: Test-takers may rely on the Japanese word order.

Option 3: Test-takers may not be able to understand the NP internal structure of Group 2. *(e.g., [the white ???], [the ??? building])*

Option 4: Test-takers may be able to understand the structure of Group 2 but may lack the understanding of the internal structure of Group 3. *(e.g., [on the hill] + [the white building])*

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The EDiT Grammar

- Each test item belongs to one of the four NP groups
- G2 \( k = 12 \)
- G3 \( k = 10 \)
- G4 \( k = 8 \)
- G5 \( k = 12 \)
- G6 \( k = 4 \)

Scoring
- dichotomous scores (correct or wrong)

Analysis of Wrong Answers
- advantage of utilizing distractors as a means of identifying the difficulties experienced by learners

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**Table 2**

<table>
<thead>
<tr>
<th>Problematic area</th>
<th>Description (Diagnosis)</th>
<th>Example</th>
</tr>
</thead>
<tbody>
<tr>
<td>Premodification structure</td>
<td>When students select an option with a split premodification structure. Students do not understand NP internal structures of Group 2. <em>(e.g., [the white ???], [the ??? building])</em></td>
<td>No answer boy's name</td>
</tr>
<tr>
<td>Phrase structure</td>
<td>When students select an option with a split phrase structure. Students do not understand phrase structure.</td>
<td>No in boy in the room</td>
</tr>
<tr>
<td>Clause structure</td>
<td>When students select an option with a split clause structure. Students do not understand clause structure.</td>
<td>any friends who can play the guitar</td>
</tr>
</tbody>
</table>

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**Research questions (RQs)**

- **RQ1:** What types of score profiles can be made from test-takers' responses?
  - At the cut-off point of 80%
  - At the cut-off point of 60%

- **RQ2:** What types of error pattern profiles can be made from test-takers' responses?
  - At the cut-off point of 50%
  - At the cut-off point of 30%
Method

- Participants
  - 107 Japanese learners of English (9th-year; Lower secondary school)
  - They have already studied all the grammatical items in the test.

- Instrument: EDiT Grammar

- Analyses
  - Counting numbers and calculating percentages

Results of RQ1: Types of score profiles

- Groups test-takers passed
  - E.g., 80% 60%
  - Only Group 2 n = 14, n = 21
  - No groups passed n = 58, n = 27
  - (see Table 3 for details)

- 80% 16 types
- 60% 19 types

Results of RQ2: Types of error pattern profiles

- Error profile types test-takers belonged to
  - E.g., 50% 30%
    - Japanese word order n = 1, n = 12
    - Premodification and Japanese word order n = 0, n = 1
  - (see Table 4 for details)

- 50% 2 types
- 30% 11 types

Example of diagnostic feedback

- See Figures 1, 2, and 3.

Conclusions

- Teachers can receive their students’ diagnostic information using the EDiT Grammar.
- The diagnosis includes score profiles and error pattern profiles.
- They may be able to start remedial teaching based on the information.

Further studies (a)

- Further validation studies (Koizumi et al., 2010)
  - Especially by using cognitive diagnostic assessment frameworks (e.g., Lee & Sawaki, 2009)
- Effectiveness of the diagnostic feedback for teachers
- Types of diagnostic feedback given to students
Further studies (b)

- Effectiveness of types of remedial activities (e.g., Sakai & Koizumi, 2008)
  - Review test items with students
  - Drill activities using similar/different item format
  - Checking the internal structures of noun phrases in reading texts.
- Explore more test formats and more areas to be tested
- Check of unintended side-effects of the diagnostic information (Kunnan & Jang, 2009)

Acknowledgement

- We are deeply indebted
  - to Takahiro Ido, Hiroshi Ota, Megumi Hayama, Masatoshi Sato, and Akiko Nemoto for their cooperation, and
  - to ELPA (Association for English Language Proficiency Assessment), especially Etsuro Ikawa, who granted us permission to present the results.

References