Investigating Young EFL Learners’ Cognitive Processes When Taking an English Language Test

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Background

• Little practical information is available about young language learners’ cognitive processes

• In general, young learners...

  – have not fully developed their physical, cognitive, and social/emotional capacities (Demster, 1981, Mackinlay et al, 2008)

  – have relatively limited exposure to and experience with the world

  – have a short attention span and are less efficient in managing irrelevant information while completing tasks than adults (e.g., Robert et al., 2009)
Purpose of the Study

• To gain a better understanding of the cognitive processes that young EFL learners engage in when answering questions on an English language test

• To provide practical feedback to test developers
Research Questions

• What are the factors that may influence young test takers’ perceptions of task difficulty on an English language test?

• What are the strategies that young test takers employ when answering English language test questions?
Participants

• 12 Korean EFL elementary students attending an after-school English program in an affluent area in Korea

• Participants’ proficiency levels are considered Intermediate to Highly Proficient, according to teachers’ evaluation.
## Instruments

- English language test task prototypes designed for young EFL learners aged between 8-11
- Test-tasks based on EFL curricula from several countries

<table>
<thead>
<tr>
<th>Listening (50 questions)</th>
<th>Reading (50 questions)</th>
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</thead>
<tbody>
<tr>
<td>1. Sentence-picture matching</td>
<td>1. Word-picture matching</td>
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<td>2. Directions-picture matching</td>
<td>2. Sentence-picture matching</td>
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<td>3. Question-answer matching</td>
<td>3. Form and meaning</td>
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<td>4. Sound-word matching (3 sounds)</td>
<td>4. Passage comprehension</td>
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<td>5. Sound-word matching (1 sound)</td>
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<td>6. Conversation comprehension</td>
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<td>7. Story comprehension</td>
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<td>8. Minimal pair</td>
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</table>
Instruments

• Interview protocol including questions about ...
  – demographic information
  – task difficulty, and
  – decision-making processes

• Examples of questions:
  – Were the directions clear and easy to follow?
  – Tell me which question(s) was the easiest?
  – Tell me which question(s) was the most difficult?
  – How did you figure out the answer?
Procedures

- Individual introspective interviews
- Each student participated in a 1-hour study session consisting of the test administration and an interview
  - 6 students completed the listening section
  - 6 students completed the reading section
- Interviews were conducted in Korean. All verbal protocol data were audio-taped and transcribed directly in English for coding
Analysis

• Verbal protocol data were initially coded by two independent coders to explore coding categories in terms of task difficulty and test-taking strategy

• Discrepancies in coding categories were discussed to reach a consensus
Results
## Participants

<table>
<thead>
<tr>
<th>Demographic information</th>
<th>Listening (n=6)</th>
<th>Reading (n=6)</th>
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</thead>
<tbody>
<tr>
<td>Age</td>
<td>9 – 11</td>
<td>9 – 11</td>
</tr>
<tr>
<td>Gender</td>
<td>2 males; 4 females</td>
<td>4 males; 2 females</td>
</tr>
<tr>
<td>Grade</td>
<td>3 – 6</td>
<td>3 – 5</td>
</tr>
<tr>
<td>Performance (%correct)</td>
<td>80 – 92%</td>
<td>64 – 96%</td>
</tr>
<tr>
<td>Years of English Education at school</td>
<td>2 – 7 yrs</td>
<td>2 – 5 yrs</td>
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<tr>
<td>Hours of studying English per week</td>
<td>4 – 14 hours</td>
<td>10 – 19 hours</td>
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<tr>
<td>Lived in English-speaking country</td>
<td>3 Yes ; 3 No</td>
<td>4 Yes ; 2 No</td>
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<tr>
<td>Time lived in English-speaking country</td>
<td>2 yrs</td>
<td>1 mo. - 1 yr</td>
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</tbody>
</table>
## Factors Related to Task Difficulty: Listening

<table>
<thead>
<tr>
<th>Student</th>
<th>Sam</th>
<th>Ella</th>
<th>Irene</th>
<th>Lisa</th>
<th>Tom</th>
<th>Wendy</th>
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</thead>
<tbody>
<tr>
<td>Performance (% correct)</td>
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<tr>
<td>Factor</td>
<td>Difficulty remembering information</td>
<td>Simultaneous processing of listening and reading</td>
<td>Complexity of language in questions and options</td>
<td>Ambiguity in task description</td>
<td>Difficulty marking on a separate answer sheet</td>
<td>Child speakers’ gender unclear from voice</td>
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</tbody>
</table>
# Factors Related to Task Difficulty: Reading

<table>
<thead>
<tr>
<th>Factor</th>
<th>Alice</th>
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<td>Ambiguity in picture</td>
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</table>
Narrator: *Which picture shows what the girl should do?*

**Woman:** No more sleeping. It’s late. Time to wake up and go!

**Narrator:** *Which picture shows what the girl should do?*
Example: Ambiguity in task description

(Irene, 10 yrs, Gr. 5, 82%)

S: I didn’t know which part was the question or directions. On this one (Question 10), I wasn’t sure whether the mom had to say so because the girl was sleeping or whether the girl got up because of what her mom said.

R: What did the question ask?

S: Hmm..

R: Why did you choose ‘B’?

S: Mom said to wake up, so I chose ‘B’.
Boy: I made some food for the party. I spent all afternoon in the kitchen.

Girl: Wow! You made sandwiches and cake and cookies.

34. What surprises the girl?
   A. Who made the food
   B. Where the boy made the food
   C. How much food the boy made
Example: Language Complexity

34. What surprises the girl?
   A. Who made the food
   B. Where the boy made the food
   C. How much food the boy made

(Ella, 9yrs, Gr. 2 , 92%)
S: Question 34 was a bit confusing. Between ‘B’ and ‘C’.
R: Why? Was ‘A’ OK?
S: Well, because the speaker said that the man made the food, and ‘B’ and ‘C’ say so.
R: Why did you think ‘B’ was the answer?
S: Hmm... just.
R: Why were you sure that ‘A’ was not the answer?
S: Because the speaker said that the man made the food, but A is asking who made the food.
Example: Difficulty Remembering Information

(Sam, 9 yrs, Gr. 3, 90% correct)
S: They (referring to question-answer items) were somewhat difficult because I had to remember the question and the three choices.
R: OK. Was it because what the speaker said was difficult to understand?
S: No. I could understand what the speaker said. It was difficult to remember everything.

(Lisa, 11 yrs, Gr. 5, 94% correct)
S: I suddenly forgot the question.
R: What do you mean? You seemed to be paying attention.
S: I was paying attention, but when I heard the first option, the question I remembered just disappeared.
R: So, how did you answer Question 17?
S: I just guessed.
Example: Simultaneous Processing of Listening & Reading

(Sam, 9 yrs, Gr. 3, 90% correct)
R: How were these questions? (referring to conversation questions)
S: Slightly more difficult than the other parts.
R: Can you tell me why?
S: Because when (the speakers) talk, this, this, and this (pointing to the written question and options) are mentioned, right? If I listen to (the conversation?) without reading these (the question and options), I don’t know what it is. So I keep reading them, and then I miss what they have said. So it’s difficult to answer the question.

(Lisa, 11 yrs, Gr. 5, 94% correct)
R: How about Question 36?
S: I read the question and options too late. At the last second, so I couldn’t remember the dialog. All the options say ‘painting,’ ‘painting,’ uhh...
## Test-Taking Strategies: Listening

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Example: Background knowledge

• Positive effect of background knowledge
  (Ron, 11 yrs old, Gr. 5, 76%)
R: Why did you choose ‘A’ on Question 88?
S: “Why does John go to the Kitchen?” “Kitchen” is kitchen. Because we usually eat and wash dishes in the kitchen.

• Ineffective logical thinking
  (Ron, 11 yrs old, Gr. 5, 76%)
R: Why did you choose ‘A’ for Question 97? (student indicated the question was difficult).
S: I think it (referring to the question) is about food, but ‘B’ and ‘C’ were about water and air, so I didn’t think they were related to food.
Example: Meaning-focused approach

67. I am cooking ___ dinner.
   A. them  B. they  C. those

(Ron, 11 yrs, Gr. 5, 76%)
S: All these three mean the same thing, so it was...
R: They mean the same thing?
S: Yes.
R: Why did you pick ‘C’ even though they mean the same thing?
S: I think, according to what I remember I learned, ‘C’ sounds better.

(Jason, 10 yrs, Gr.5, 96%)
S: ‘C’, but ‘A’ could be an answer, too. But ‘C’ looked better for some reason (hesitating).
R: Why not ‘B’?
S: “they” cannot be used here.
R: Between ‘A’ and ‘C’, why did you pick ‘C’?
S: I cook dinner for... to... them (hesitating)With “those,” I cook those (dinner). Argh., I don’t know.
Conclusions?

• Young EFL learners’ test performance may be adversely impacted by their relatively short memory span.
• Young EFL Learners are not cognitively mature enough to resolve ambiguity in task descriptions.
• Young EFL learners focus on meaning more than on linguistic form.
• Young EFL learners’ less developed reading skills may interfere with their test performance.
Limitations

• Data used in the study based on a limited sample
• Variation among individual students
• Study results - dependent on study instruments and procedures
Practical Suggestions

Potentially beneficial practices:
• Provide clear descriptions through sample items and visual support.
• Simplify language in the assessment when it is not part of the construct being measured.
• Employ visuals as stimuli and answer choices.

Things to avoid:
• Avoid the use of a separate answer sheet.
• Avoid explicit measures of linguistic form.