Academic reading with longer texts: Assessing reading styles with substance

Richard Spiby
Test Development Researcher

LTF Reading
November 2016
Background context

• Turkish University – English medium (CEFR B2 requirement)

• Needs analyses:
  • Freshman students
  • Faculty members
  • English teachers
  • Faculty course/text analysis

• Faculty reading requirements vs. student performance

• Priority = high demands for quantity

• Outcomes:
  • Use of longer texts in all reading tests
  • Balance of expeditious & careful reading

• Need to investigate actual reading behaviour
  • i.e., “Task assigned” = “task performed”? (Coughlan and Duff, 1994)
Background Issues

- EAP reading needs (e.g. Moore et al., 2012; Weir et al., 2009a)
  - Location of information
  - Quantity of text vs. time allowed

- Flexibility of reading styles and strategies
  - Link metacognition & cognition
  - Enable allocation of resources to task
  - Allow “compensating for deficiencies” elsewhere (CEFR, 2001)

- Reading speed:
  - Desirable: 140-300 wpm (Carver, 1992; Grabe, 1991; Pressley, 2006)
  - Actual: 50-150 wpm? (Jensen, 1996; Chang, 2010)
  - Expeditious reading – bridging the gap

- Research approaches:
  - Large scale – quantitative, questionnaires (Weir et al., 2009, Khalifa, 2010)
  - Case studies – verbal protocols (Krishnan, 2011)

- Multidimensional tests justified
- Expeditious underrepresented
# Matrix of Reading Types

*Urquhart & Weir (1998), Khalifa & Weir (2009)*

<table>
<thead>
<tr>
<th></th>
<th>Global level</th>
<th>Local level</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Expeditious Reading</strong></td>
<td><strong>Skimming</strong> quickly to establish discourse topic</td>
<td><strong>Scanning</strong> to locate specific points</td>
</tr>
<tr>
<td></td>
<td>and main ideas, or macrostructure of text, or</td>
<td>of information</td>
</tr>
<tr>
<td></td>
<td>relevance to needs</td>
<td></td>
</tr>
<tr>
<td></td>
<td><strong>Search reading</strong> to locate quickly and</td>
<td></td>
</tr>
<tr>
<td></td>
<td>understand information relevant to</td>
<td></td>
</tr>
<tr>
<td></td>
<td>predetermined needs</td>
<td></td>
</tr>
<tr>
<td><strong>Potential non-linear</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Reader-driven</td>
<td></td>
<td></td>
</tr>
<tr>
<td><strong>Fast processing</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td><strong>Selective sampling of</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td>text</td>
<td></td>
<td></td>
</tr>
<tr>
<td><strong>Limited careful reading</strong></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

| **Careful Reading**      | Establishing accurate comprehension of explicitly stated main ideas and supporting details **across sentences** | Establishing accurate comprehension of explicitly stated main idea or supporting details **within a sentence** |
|                          | Making propositional inferences                   | Identifying lexis                        |
|                          | Establishing how ideas and details relate to each other in a whole text | Understanding syntax                     |

**Linear**

**Text-driven**

**Full comprehension**
Research questions:

a) To what extent does performance vary on tests of expeditious and careful reading?

b) According to candidates’ self-reports, what are the differences between the strategies they employ on tests of expeditious and careful reading?
Study Methodology

• Informants
  • 88 upper-intermediate students (CEFR B2)
  • 3 upper-intermediate course instructors/testers

• Procedure
  • 2 tests – 3000-word text
    • expeditious – 8 matching items, 16 minutes.
    • careful reading – 13 open-ended short answer items, 45 minutes.
  • 2 questionnaires to students
  • Interviews (stimulated retrospective think-aloud) with 10 students + 3 instructors
‘A long text’ — 700 words
‘A long text’ – 1050 words
Test formats

Expeditious

- This part of the exam aims to test your ability to locate main ideas in a text. The text is about major environmental issues related to cities.

- Each of the following headings matches one of the paragraphs in the text. Write the paragraph number next to the correct heading. The headings are not in the same order as the information in the text. One of the answers is given as an example.

- It may be useful to spend a few minutes previewing the text before you begin answering the questions.

- Each question is worth 1 point.

<table>
<thead>
<tr>
<th>Paragraph Number</th>
<th>Heading</th>
</tr>
</thead>
<tbody>
<tr>
<td>12</td>
<td>e.g. The importance of waterways for the situation of a city.</td>
</tr>
<tr>
<td></td>
<td>a) Making cities attractive for people to live in.</td>
</tr>
<tr>
<td></td>
<td>b) Utilising the power of the sun as a source of energy.</td>
</tr>
<tr>
<td></td>
<td>c) A rare example of a city which has a very good position.</td>
</tr>
<tr>
<td></td>
<td>d) The increase in the number of very large cities in the world.</td>
</tr>
<tr>
<td></td>
<td>e) Optimistic and pessimistic views of the future development of cities.</td>
</tr>
<tr>
<td></td>
<td>f) The negative impact of change in the site of a city.</td>
</tr>
<tr>
<td></td>
<td>g) Different sources of air pollution in cities.</td>
</tr>
<tr>
<td></td>
<td>h) Growing awareness of the importance of the urban environment.</td>
</tr>
</tbody>
</table>

Careful

- You have 45 minutes for this part.
- Read the text and write your answers in the spaces provided below. Where blanks are provided, give short answers of one or more words.
- The questions are in the order in which the information appears in the text (1 point each question).

1. As nuclear plants became common, what unexpected disadvantage of nuclear power became known?

2. Which aspect of coal-generated electricity is most harmful to human health?

3. What measurement is used by Dr. Bernard L. Cohen to show the danger of different methods of generating electricity?

4. Why does the production of nuclear power produce greenhouse gases?

5. Which source of energy could possibly be replaced by nuclear power in electricity production?
Score Distributions (1)

Expeditious Reading

- Mean: 5.20
- SD: 1.72

Careful Reading

- Mean: 6.39
- SD: 2.72
Score Distributions (2)

Correlation $r=0.44$, $p<0.001$
Which test is more difficult?

46% Expeditious Reading
54% Careful Reading
Previewing Behaviour

Expeditious Reading

- Questions first: 9%
- Text - quick reading: 91%

Careful Reading

- Questions first: 66%
- Text - slow reading: 24%
- Text - quick reading: 10%
Overall approaches to the text and task

1. I read the **title** and the **subheadings** before reading the text.
2. I only read the parts of the text which seemed **related to specific questions**.
3. I read the **last paragraph** before some other parts of the text.
4. I tried to understand the **organization of the text**.
5. I read different parts of the text at **different speeds**.

6. I looked for **relationships between** different **ideas** in different parts of the text.
7. I **translated** important words and ideas into Turkish/my own language.
8. I read all of the **first paragraph**.
9. I thought about the **background knowledge** I have about this topic.

10. I tried to understand the **ideas in every sentence** very clearly.
11. I read the **text in order** from beginning to end.
12. I tried to answer the **questions in** the same **order** as they are written.
13. I **read** difficult or important **parts of the text twice** or more.
Most common approaches to the text and task according to associated reading style

**Expeditious**
- Reading title & subheadings*
- Assessing text organisation
- Varying reading speed

**Careful**
- Answering items in order*
- Reading text in order*
- Rereading sections of text*
- Reading only item-related text*

*significant differences
Overall approaches to the text and task

- Title & subheadings
- Relationships across text
- Use background knowledge
- Translation
- Evaluate organisation
- Vary reading speed
- Last paragraph
- Understand all ideas
- First paragraph
- Questions in order
- Text in order
- Reread
- Only item-related text

**p<0.01
Themes from student interviews

• Rereading text – checking and comprehension

Careful reading – But I didn’t read the paragraph well. I couldn’t understand it, actually. And I read it again and again. After reading a couple of times I understood the meaning. SR3
Themes from student interviews

• Selective reading

Careful Reading – *For example, if there is ‘for instance’, I can pass over this because this example is about the thing that we have just mentioned and it does not interest me for the answers.* SR7
Themes from student interviews

- Expeditious strategies in careful reading – selectivity

Careful Reading – ‘Why did Soviet authorities not destroy...?’ There is ‘Soviet authorities’ and ‘Chernobyl’. I passed to the Chernobyl part and started to search for ‘food’. I found the foods – meat, milk, et cetera. SR7
## Estimated text coverage

<table>
<thead>
<tr>
<th>Interviewee</th>
<th>Expeditious (%)</th>
<th>Careful (%)</th>
</tr>
</thead>
<tbody>
<tr>
<td>SR1</td>
<td>-</td>
<td>70-75</td>
</tr>
<tr>
<td>SR2</td>
<td>70</td>
<td>75</td>
</tr>
<tr>
<td>SR3</td>
<td>50</td>
<td>80</td>
</tr>
<tr>
<td>SR4</td>
<td>40</td>
<td>-</td>
</tr>
<tr>
<td>SR6</td>
<td>70-80</td>
<td>90</td>
</tr>
<tr>
<td>SR7</td>
<td>-</td>
<td>30</td>
</tr>
<tr>
<td>SR10</td>
<td>only keywords</td>
<td>100</td>
</tr>
</tbody>
</table>

| TR1         | 30-40           | 70          |
| TR2         | -               | 60-70       |
| TR3         | 30              | two-thirds  |
Strategies used while responding to items

1. I used the subheadings in the text.
2. I looked at the beginning of the paragraph.
3. I looked at the end of the paragraph.
4. I searched for specific names or numbers.
5. I matched words in the question with the same words in the text.
6. I matched words in the question with synonyms in the text.
7. I searched for keywords in the text related to the general topic of the question.
8. I guessed the meanings of unknown words in the text using the context.
9. I read the whole paragraph slowly.
10. I made inferences about the information in the text.
11. I looked at the connections between sentences.
Most common strategies in responding to items

<table>
<thead>
<tr>
<th>Expeditious</th>
<th>Careful</th>
</tr>
</thead>
<tbody>
<tr>
<td>• Looking for names and numbers*</td>
<td>• Guessing vocabulary from context*</td>
</tr>
<tr>
<td>• Looking for synonyms of words in</td>
<td>• Reading the whole paragraph slowly*</td>
</tr>
<tr>
<td>items*</td>
<td>• Looking at connections between sentences*</td>
</tr>
<tr>
<td>• Using subheadings*</td>
<td></td>
</tr>
<tr>
<td>• Looking at beginning &amp; end of</td>
<td></td>
</tr>
<tr>
<td>paragraphs</td>
<td></td>
</tr>
<tr>
<td>• Matching identical words in item</td>
<td></td>
</tr>
<tr>
<td>and text</td>
<td></td>
</tr>
<tr>
<td>• Looking for topic-related keywords</td>
<td></td>
</tr>
<tr>
<td>in the text</td>
<td></td>
</tr>
<tr>
<td>• Making inferences</td>
<td></td>
</tr>
</tbody>
</table>

*significant differences
Strategies used while responding to items

- Names & Numbers**: 90.0%
- Match synonyms*: 70.0%
- Use subheadings**: 60.0%
- Beginning of paragraph**: 50.0%
- End of paragraph**: 40.0%
- Match words from item: 30.0%
- Match keywords: 20.0%
- Make inferences: 10.0%
- Guess vocab**: 5.0%
- Read paragraph slowly**: 3.0%
- Connections between sentences**: 2.0%

*p<0.05
**p<0.01
Themes from student interviews

• Monitoring

Expeditious Reading – I made a mistake while answering this question. Firstly, I said it was the sixth paragraph, and then realised it is not about air pollution. It is about general pollution. And then I realized, I erased my answer, and looked for some air pollution paragraphs. SR3
Themes from student interviews

• Direct can also be too direct

Careful Reading – I again looked for synonyms, similar phrases, I mean, paraphrases of the questions. And I again looked at the first sentences of the paragraphs, but then I had to read further and look at it more carefully and see the link between the sentences and everything. I had to reread some parts to make sure that it is really talking about the same thing or it is the answer. TR1
Conclusions

• Behaviours largely conformed to expectations:
  • in expeditious reading, dependence on selected text features
  • in careful reading, greater linear engagement with text

• Overlap in strategies
  skimming
  scanning
  search reading
  careful reading

• Why?
  • Time pressure & text length
  • Test as a problem-solving activity
  • Minimal deployment of resources

• Skills and strategies sampled at different points on spectrum
Conclusions

• Use of longer texts in reading tests:
  • Does it work?
  • Is it worth it?

• Expeditious reading ✓

• Careful reading ???

Or should we combine both types in one test?
Implications & further research

• Back to needs analysis:
  • Reading behaviour in L1 and L2 students
  • Actual text coverage
  • Role of expeditious reading in EAP

• Test design:
  • Value of testing expeditious reading
  • Time/text length balance
  • Variation in no. of items, text length, response format

• Research needed in:
  • Metacognitive strategies: goalsetting, monitoring
  • Careful reading processes
  • L2 reading speed
Thank you!

richard.spiby@britishcouncil.org