Is your test question related to my answer?

Exploring the relationship between test-takers’ interpretations of spoken text and the MC-test format

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Main question

• How well do the MC-options (the key and the distractors) correspond to test-takers’ actual interpretations (correct interpretations as well as misinterpretations) of the spoken text?

Key option A
Distractor B
Distractor C

Correct interpretation X

Misinterpretation Y

Misinterpretation Z
Advantages of the MC-format:

- Most kinds of knowledge & comprehension on various levels (Cf. Haladyna 1994; Ebel & Frisbie 1991; Linn & Miller 2005) – many important aspects of most constructs (Haladyna 2004)
- Minimal amount of time to complete → many items, large groups of individuals (Mendelsohn & Rubin 1995)
- Fast, easy and economical to score (Bailey 1998)
- Reduces the chances of guesses compared to the T/F format
- Avoids the ambiguity and vagueness of the short-answer item
Disadvantages of the MC-format

- Construct validity?
- Processes not common to other comprehension situations (Buck et al 1997)
- Considerable processing demands (Hansen & Jensen 1994)
- Forces test-takers to
  - re-adjust their interpretation if it does not agree with the options (Nissan et al 1996; Buck 2001) or
  - consider alternatives they would not otherwise have considered (Alderson et al 1995)
- Invitation to guessing (Mendelsohn & Rubin 1995)
• Developing good MC-items:
  - Labour-intensive to write (Bailey 1998)
  - "To write plausible but incorrect options that will attract the weaker reader but not the better is far from easy" (Alderson 2000; cf Linn & Miller 2005; Haladyna 1994, Ebel & Frisbie 1991)

• A plausible distractor
  - will look like a right answer to those who lack the targeted ability
  - enhances the clarity and efficiency of the item without providing irrelevant clues that lead the uninformed to the correct response (Ebel & Frisbie 1991)
How can plausible distractors be constructed?

- Using students most common errors, misunderstandings or carelessness (Linn & Miller 2005; Cf Haladyna 1994)

- MC-items in particular ought to be pre-tested before being used in any high-stakes assessment (Buck 2001)

- Part of validation procedure: to make sure each item is qualitative (cf. Haladyna 2004)!
Pilot study: data and methods

• Data:
  - MC-test of listening comprehension of French as a FL (Matriculation Examination)
  - 217 test-takers

• Methods:
  - Same 4 questions as in the original MC-items, but no options provided: open-ended (172 test-takers)
  - OR Résumé (45 test-takers)
  - Test-takers listen twice to text passage
• ‘The entire Europe is growing older, but the French population is younger than most of its’ neighbours. The number of the under 25 year-olds is actually larger than in Germany, Spain or Italy. And what is a unique fact within the European Union is that the number of active people is increasing in France until the year 2006!’
Example: Original item 23

23. Que dit-on de la population de la France ?
   - A Elle vieillit de la même façon que toute l’Europe
   - B Dans les pays voisins, il y a plus de jeunes
   - C Elle vieillit moins que ses voisins*

’What is said about the population in France?

A It is growing older in the same way as the entire Europe
B In the neighbouring countries, there are more young people
C It is growing less old than its neighbours’*
### Item statistics from original administration

<table>
<thead>
<tr>
<th>Item Description</th>
<th>All candidates (N~2500)</th>
<th>Weakest group</th>
<th>Strongest group</th>
</tr>
</thead>
<tbody>
<tr>
<td>A Elle vieillit de la même façon que toute l'Europe</td>
<td>FIN 11,2 SWE 12,5</td>
<td>FIN 21.8 SWE 16.1</td>
<td>FIN 0.7 SWE 2.9</td>
</tr>
<tr>
<td>B Dans les pays voisins, il y a plus de jeunes</td>
<td>FIN 13,3 SWE 13,3</td>
<td>FIN 31.5 SWE 37.1</td>
<td>FIN 0.7 SWE 0</td>
</tr>
<tr>
<td>C Elle vieillit moins que ses voisins*</td>
<td>FIN 75,4 SWE 74,2</td>
<td>FIN 46.3 SWE 46.8</td>
<td>FIN 98.6 SWE 97.1</td>
</tr>
</tbody>
</table>
Open-ended question to the test-takers:

- *Mitä Ranskan asukkaista sanotaan?*
- *Vad sägs om Frankrikes befolkning?*
- ‘What is said about the French population?’
Vanhoja asukkaita, asukkaista muuttanut naapurimaidhin (O1:2)
‘Old inhabitants, some inhabitants have moved to the neighbouring countries’
Short open answers corresponding to key (C It is growing less old than its neighbours’) 63.5 %

- Nuorempi väestö kuin naapurimaissa ‘Younger inhabitants than in the neighbouring countries’ (O4:3)
- Ranskan väestö on nuorempaa kuin ympäröivän naapurivaltioiden väestöt (muualla Euroopassa väestö vanhenee)’ The French population is younger than the populations in the surrounding neighbouring countries (in the rest of Europe the population is growing older)’ (Q2:5)
- Befolkningen i Frankrike är yngre än i något av Frankrikes grannländer ’The population in France is younger than in any of the neighbouring countries’ (H1:4)
- Vaikka koko Eurooppa vanhenee, Ranskassa on vielä enemmän alle 25-vuotiaita kuin naapureissaan. Aktiivisen työiän omavien ihmisten määrä kasvaa vuoteen 2006 saakka. ’Even if the entire Europe is growing older, In France there are still more under 25-year-olds than in its neighbours. The number of people who are active is growing until the year 2006’ (J13:11)
Misinterpretation: The size of the population 8 %

- *Ranskalaisia on lukumäärältään enemmän kuin saksalaisia, espanjalaisia tai italialaisia* ’There are more French people than there are Germans, Spaniards or Italians’ (P6:4)

- *2006 mennessä väkiluku pienenee* ’By 2006 the size of the population is going to diminish’ (S4:5)

- *Résumé: Euroopan asukasluku pienenee, mutta Ranskan päinvastoin kasvaa toisin kuin esim. Espanjan tai Englannin* ’The number of inhabitants in Europe is decreasing, whereas in France it is growing, contrary to f.ex. in Spain or in the UK.’ (K1:2)
Misinterpretation: The different nationalities in France 10.5 %

- Heistä osa on alkuperäisesti kotoisin Italiasta ja Espanjasta ja Ranskassa asuu heitä monta kymmentä miljoonaa 'Some of them are originally from Italy or Spain and in France there are many tens of millions of them' (P5:3)
- Frankrike är väldigt folkrik och har invånare t.ex. från Spanien och Tyskland 'In France there is a high number of inhabitants for instance from Spain and from Germany' (H4:6)
- Nuoria muun euroopan asukkaisiin verrattuna. He ovat sekoitus italialaisia ja englantilaisia 'Young compared to the other European inhabitants. They are a mixture of Italians and English' (S3:4)
Misinterpretations: the age of the nation 5.5 %

- *He ovat nuorempia kuin naapurimaissa. Ranskaa on asutettu vasta 1800-luvulta lähtien kunnolla. ’They are younger than in the neighbouring countries. France was properly settled only in the 19th century’* (X1:3)
- *Muiden maiden asukkaisiin verrattuna Ranskan kansa on nuori. Muut maat asutettiin aikaisemmin.’Compared to the inhabitants in other countries the French nation is young. The other countries were settled earlier’*  (Q3.7)
- **Résumé:** *Eurooppa on vanha, mutta Ranskan kansa suhteellisen nuori. ’Europe is old, but the French nation is comparatively young’*  (E9:7)
Misinterpretation: the characteristics of the inhabitants 5.5%

- *Että he ovat ainutlaatuisia Euroopassa. Omalaatuisia, vähän niin kuin Espanjalaiset ja Itialaiset* ’That they are unique in Europe. Original, a bit like the Spaniards or Italians’ (J6:4)
- *He erottuvat muista eurooppalaisista nuorekkuudellaan* ’They differ from other Europeans by their youthfulness’ (J8:6)
- *Under 25 åringar är sällsynta i andra länder det finns gott om dem i Frankrike* ’The under 25-year-olds are rare in other countries, there are plenty of them in France’ (H5:6)
- **Résumé:** *Ranskan väestö on nuorta. He puhuvat myös englantia, saksaa ja espanjaa.*’The French inhabitants are young. They also speak English, German and Spanish’ (E1:2)
Misinterpretations:
Europe & others 2.5 + 2%

- **Résumé**: *Ranska ja Espanja kuuluvat Eurooppaan samoin Italia.*’France and Spain belong to Europe and so does Italy’ (B2:2)
- **Résumé**: *Euroopan väestö vanhenee, koska lapsia syntyy niin paljon vähemmän ’The European population is growing older, because there are so much less children born’* (B8:8)
- *He ovat muuttaneet ulkomaille ’They have moved abroad’* (V4:4)
Proportions of different responses across 3 ability levels

- **Key**: 87
- **Size of population**: 53
- **Different nationalities**: 61.5
- **Age of nation**: 6
- **Characteristics of inhabitants**: 7
- **Europe**: 14
- **Other**: 7
- **Empty resp**: 10

Legend:
- Low ability
- Intermediate ability
- High ability
New MC-item based on the two most frequent misinterpretations

- size of population
- different nationalities

→ What is said about the population in France?
  - A It is a mixture of different nationalities.
  - B Its size is larger than the size of the population in most other EU-countries.
  - C It is growing less old than its neighbours.
Conclusions

• The options impose a listening purpose, influence the interpretation of the spoken text, ”structure the situation”

• What is meaningful to ask about a text?
  – Explicit detail \(\rightarrow\) implicit contents...
  – Depends on the construct

• An open format could be used in a pre-test to find possible and plausible interpretations to use as options!

Thank you for listening!
Bibliography:


