Partner orientation as a prerequisite of skilled text production: Developing a test battery of adult perspective taking

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Theoretical background I

• Tailoring a message to the needs of an audience (audience design) is a very important aspect of all writing processes
• From a functional viewpoint, some text genres explicitly call for audience design, e.g. instructional writing tasks
• Role of knowledge: The writer must estimate the knowledge of the addressee and compare it with the own knowledge to ensure common ground (see Clark, 1996)
Theoretical background II

- Even in adults, written texts can greatly vary with respect to audience design
- **Question:** What might help a person to guarantee audience design when writing a text?
- **Partner orientation:** A person appropriately represents the properties and needs of a potential addressee within a given situation
  → perspective-taking
- **Three facets of perspective-taking** (see Steins, 1998):
  - Conceptual (considering the whole situation of a partner)
  - Visual-spatial
  - Affective-emotional

Theoretical background III

- **Research on adult perspective-taking and writing:**
  - Only very little work in this area, e.g. Mambrino, 2003 (expository texts)
    → instructional writing tasks not focused yet
  - Most studies: Developmental and/or interventional background (e.g., Holliway, 2001)
- **Measurement problems in adult perspective-taking:**
  - Accuracy not useful (ceiling-effects)
  - Most often self-report measures used (IRI; Davis, 1983)
  - Questionnaires do not address the three facets of interest
  - Self-reports do not well account for performance aspects
  → **Alternative:** Response time measures
Research questions

- Do response time measures of adult perspective-taking provide sufficient reliability?
- What about the relationship between response time measures and self-report measures?
- How powerful is the predictive validity of response time measures with respect to audience design in text products?
- Methodological requirement:
  Development of a computer based test battery of adult perspective-taking

Item construction: The conceptual subscale

- Guiding idea:
  Knowledge difference between the participant and a virtual discourse partner
  → „breakfast“-scenes
- Total number of items = 18
- Example item
**Item construction:**
The visual-spatial subscale

- **Guiding idea:**
  Research on mental rotation tasks
  → „roulette“-scenes
- **Total number of items = 16**
- **Example item**

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**Item construction:**
The affective-emotional subscale

- **Guiding idea:**
  Assignment of emotional states
  → „emotional cartoons“
- **Total number of items = 16**
- **Example item**
Test construction study: sample

- N = 33 university students
- 27 female, 6 male participants
- Mean age = 23.8 years (sd = 5.57)
- 32 native German speakers, one native Romanian speaker

Test construction study: measures

- **Perspective-taking measures:**
  - The three self-constructed subscales:
    - Accuracy and response time measures, using *Psycscope* software on an Apple computer
  - Two German versions of the IRI questionnaire, Q1 and Q2, each containing the subscales perspective-taking and empathy
- **Other measures:**
  - Basic reaction speed
  - Working memory capacity (listening span)
  - Verbal ability
  - Visual-spatial ability
Test construction study: results I

- Accuracy - percentage of overall correct answers:
  - Conceptual = 99.16%
  - Visual-spatial = 87.50%
  - Emotional = 94.70%

- Mean response time in milliseconds (sd):
  - Conceptual = 2111.64 (280.53) each being
  - Visual-spatial = 5610.73 (1595.83) normally
  - Emotional = 2113.50 (358.85) distributed

- Reliability (Cronbach’s alpha):
  - Conceptual = 0.89
  - Visual-spatial = 0.86
  - Emotional = 0.87

Test construction study: results II

- Correlations between the three subscales (one-tailed test of significance)

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- The reported pattern remained stable when controlled for age, speed, verbal ability, visual-spatial ability or working memory capacity (partial correlations).
Test construction study: results III

• Factor analysis:
  – Response time measures of the three facets
  – Single factor solution
  – 57.39% variance explained

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• Highest correlation between one of the response time subscales and one of the questionnaire subscales = 0.29 (n.s.)

Implications for the main study

• The three newly developed subscales share substantial common variance, but there are also unique variance components.
• Best way to consider this result: Development of three different writing tasks, with special emphasis on the three perspective-taking facets of interest
  → symmetry between constructs and tasks
• Writing assessment should focus on instructional writing tasks
General discussion

- The developed test battery is reliable
- Normal distribution for each subscale achieved
- No ceiling-effects
- Predictive validity: All three facets of perspective-taking are considered → provides “other” information than self-report measures
- Reaction time measures also provide accuracy information → useful for testing children
- Computer based single testing → highly controlled data, but less economic than group testing