The Impact of Fluency and Hesitation Phenomena on the Perception of Non-Native Speakers by Native Listeners of German

Sandra Reitbrecht, Ursula Hirschfeld

Background and Objectives

**Speech effect research**
Investigates the effect of verbal content and para-lalexial linguistic utterance features on listeners. In intercultural settings, studies focus on the impact of foreign accent on communication and on the perception of L2 speakers (cf. [4, 5]).

**Research on perceived fluency in L2**
Investigates the relation between the variables of utterance fluency in L2 speech samples and the listeners’ ratings, analysing the verbal comments and investigating individually divergent concepts of fluency and hesitation phenomena.

The here presented study
Links these two research fields and investigates the impact of utterance fluency and hesitation phenomena on the perception of non-native speakers, their personality, and their emotional state by native listeners of German.

Method

**Participants**
13 non-native speakers
- studying German in a Bachelor’s or a Master’s programme
- learning German for at least 6 years
- L1 Czech or French
171 native listeners
- studying at a university in a German speaking country
- rating and commenting on one or two L2 speech samples

**L2 speech material**

**Speech elicitation task**
- telling a picture story
- 5 minutes of preparation time

**Characteristics of the speech samples**

<table>
<thead>
<tr>
<th>Attribute</th>
<th>S1 (n=29)</th>
<th>S2 (n=29)</th>
<th>S3 (n=21)</th>
<th>S4 (n=21)</th>
<th>S5 (n=29)</th>
<th>S6 (n=29)</th>
<th>S7 (n=29)</th>
<th>S8 (n=29)</th>
<th>S9 (n=19)</th>
<th>S10 (n=22)</th>
<th>S11 (n=14)</th>
<th>S12 (n=29)</th>
<th>S13 (n=29)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Length</td>
<td>0.59</td>
<td>0.65</td>
<td>0.65</td>
<td>0.65</td>
<td>0.65</td>
<td>0.65</td>
<td>0.65</td>
<td>0.65</td>
<td>0.65</td>
<td>0.65</td>
<td>0.65</td>
<td>0.65</td>
<td>0.65</td>
</tr>
<tr>
<td>Rate</td>
<td>1.06</td>
<td>1.06</td>
<td>1.06</td>
<td>1.06</td>
<td>1.06</td>
<td>1.06</td>
<td>1.06</td>
<td>1.06</td>
<td>1.06</td>
<td>1.06</td>
<td>1.06</td>
<td>1.06</td>
<td>1.06</td>
</tr>
<tr>
<td>Pause ratio</td>
<td>0.03</td>
<td>0.03</td>
<td>0.03</td>
<td>0.03</td>
<td>0.03</td>
<td>0.03</td>
<td>0.03</td>
<td>0.03</td>
<td>0.03</td>
<td>0.03</td>
<td>0.03</td>
<td>0.03</td>
<td>0.03</td>
</tr>
<tr>
<td>Mean length</td>
<td>3.2</td>
<td>3.2</td>
<td>3.2</td>
<td>3.2</td>
<td>3.2</td>
<td>3.2</td>
<td>3.2</td>
<td>3.2</td>
<td>3.2</td>
<td>3.2</td>
<td>3.2</td>
<td>3.2</td>
<td>3.2</td>
</tr>
</tbody>
</table>

**Procedure**

**Questionnaire survey**
The native listeners completed a questionnaire while listening several times to the L2 speakers’ performances.

**STEP 1 (open-ended question)**
The native listeners answered the open-ended question how they perceived the non-native speakers and explained their perceptions (only listener groups 1 to 5).

**STEP 2 (closed-ended question)**
The native listeners rated fluency as well as the following speaker-related categories in a six-point Likert scale from fully appropriate to definitely not appropriate (all listeners groups 1 to 5).

<table>
<thead>
<tr>
<th>Attribute</th>
<th>S1 (n=29)</th>
<th>S2 (n=29)</th>
<th>S3 (n=21)</th>
<th>S4 (n=21)</th>
<th>S5 (n=29)</th>
<th>S6 (n=29)</th>
<th>S7 (n=29)</th>
<th>S8 (n=29)</th>
<th>S9 (n=19)</th>
<th>S10 (n=22)</th>
<th>S11 (n=14)</th>
<th>S12 (n=29)</th>
<th>S13 (n=29)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Assured (eichen)</td>
<td>5.1</td>
<td>5.1</td>
<td>5.1</td>
<td>5.1</td>
<td>5.1</td>
<td>5.1</td>
<td>5.1</td>
<td>5.1</td>
<td>5.1</td>
<td>5.1</td>
<td>5.1</td>
<td>5.1</td>
<td>5.1</td>
</tr>
<tr>
<td>Nervous (nervös)</td>
<td>1.5</td>
<td>1.5</td>
<td>1.5</td>
<td>1.5</td>
<td>1.5</td>
<td>1.5</td>
<td>1.5</td>
<td>1.5</td>
<td>1.5</td>
<td>1.5</td>
<td>1.5</td>
<td>1.5</td>
<td>1.5</td>
</tr>
<tr>
<td>Well prepared (gut vorbereitet)</td>
<td>5.1</td>
<td>5.1</td>
<td>5.1</td>
<td>5.1</td>
<td>5.1</td>
<td>5.1</td>
<td>5.1</td>
<td>5.1</td>
<td>5.1</td>
<td>5.1</td>
<td>5.1</td>
<td>5.1</td>
<td>5.1</td>
</tr>
</tbody>
</table>

**Results**

The listeners’ comments

**Salience of L2 utterance fluency and hesitation phenomena**
78.1% of the native listeners mentioned hesitation phenomena (silent and filled pauses, filler words, sound lengthening, repetitions, self-repairs), fluency or speed of speech delivery in their verbal comments on one or both speech samples.

**Three frequent types of listeners’ comments**
- Listeners refer to hesitation phenomena and the rate of speech delivery to explain or support their impressions of the speaker’s personality and his or her emotional state:
  - quite self-confident: speaks fast (ziemlich selbstsicher: spricht schnell),
  - a little impatient: speaks fast and filler particles eh... (etwas ungeduldig: spricht schnell und Füllpartikel eh…),
- Listeners relate hesitation phenomena to processes and strategies of speech planning (e.g. non-native speakers’ issues in lexical retrieval, their over-/use of monitoring):
  - Fluency gets lost because he does not want to make any grammar mistakes (Redeflüssigkeit geht verloren, da er keine Grammatikfehler machen möchte).
- Listeners use explicitly the attribute fluent or non-fluent and relate it to speaker-focused categories.

The listeners’ ratings

** Spearman’s rank correlation coefficients for fluency**
The listeners’ comments

<table>
<thead>
<tr>
<th>Group</th>
<th>Listeners</th>
<th>Speakers</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>S1, S2</td>
<td>S1, S2</td>
</tr>
<tr>
<td>2</td>
<td>S3, S4</td>
<td>S3, S4</td>
</tr>
<tr>
<td>3</td>
<td>S5, S6</td>
<td>S5, S6</td>
</tr>
<tr>
<td>4</td>
<td>S7, S8</td>
<td>S7, S8</td>
</tr>
<tr>
<td>5</td>
<td>S9, S10</td>
<td>S9, S10</td>
</tr>
<tr>
<td>6</td>
<td>S11, S12</td>
<td>S11, S12</td>
</tr>
<tr>
<td>7</td>
<td>S13, S14</td>
<td>S13, S14</td>
</tr>
</tbody>
</table>

The here presented study
Links these two research fields and investigates the impact of utterance fluency and hesitation phenomena on the perception of non-native speakers, their personality, and their emotional state by native listeners of German.

Discussion

**The listeners’ comments**
Prove the salience of hesitation phenomena and fluency features and indicate different types of connotations and interpretations.

**The correlation coefficients**
Show that the investigated attributes are correlated to perceived fluency to different extents and vary between speakers and listener groups.

**Consequences and further work**
- Investigating correlations between the variables of utterance fluency in the speech samples and the listeners’ ratings, analysing the verbal comments and investigating individually divergent concepts of fluency and hesitation phenomena.

References