Handout: The Final Devoicing of Consonants by German ESL Learners

Definition of final devoicing: "Voiced obstruents are devoiced when occurring in a syllable-final position"
 König & Gast (2012:15)

1. Data

- 8 recordings from learners from year 12, seventh year of learning
  - 5 interviews
  - 3 classroom conversations
- 2093 words
- Date of recording: May 2014 at a Gymnasium in Freiburg

2. Research Questions

- Which are the most frequently mispronounced final consonants?
- Which consonants seem to be easier to pronounce - which ones more difficult?
- Are some sounds more important to master than others?
- To what extent does final devoicing effect intelligibility?

3. Background

- **Negative Transfer from L1**
  - German does not have voiced consonants at the end of words → makes it difficult for German ESL learners to pronounce certain English words

e. g. *bunt* → /bʊnt/   *Bund* → /bʊnt/

- word-final voiced stops are more marked in languages worldwide
- makes it more difficult for German L1 speakers to acquire

4. Results

- alveolar fricatives: /s - z/
- labiodental fricatives: /f - v/
- alveolar stops: /t - d/
- bilabial stops: /p - b/
- velar stops: /k - g/
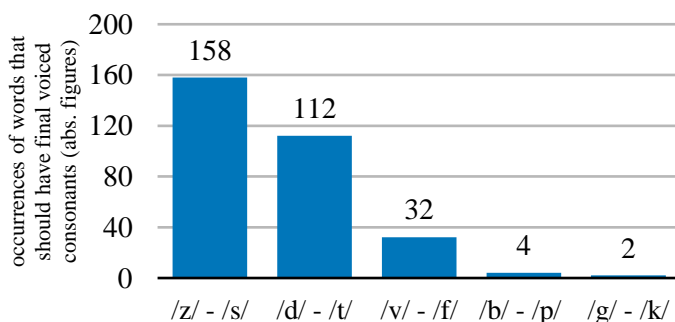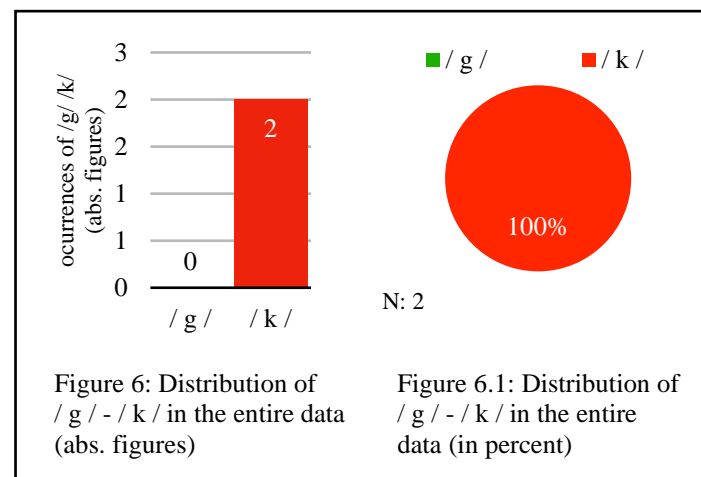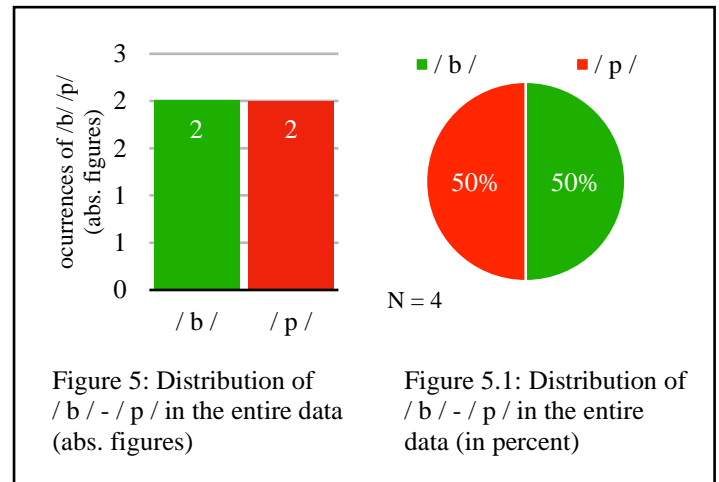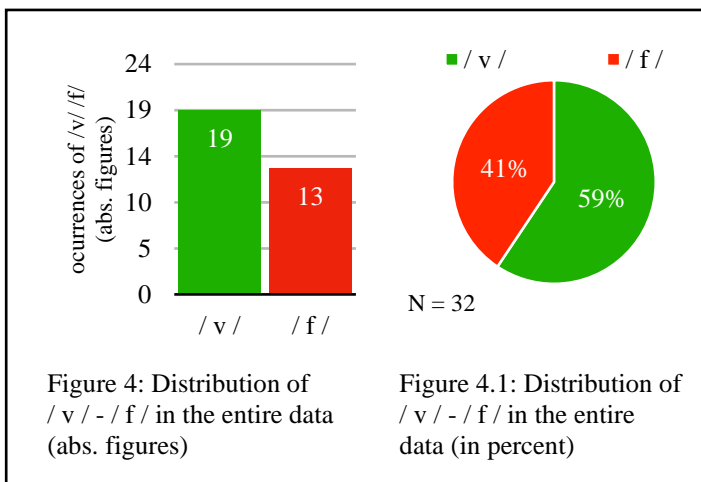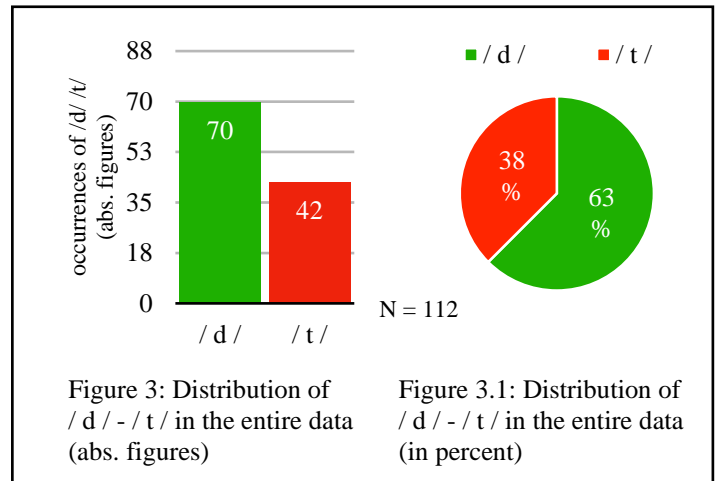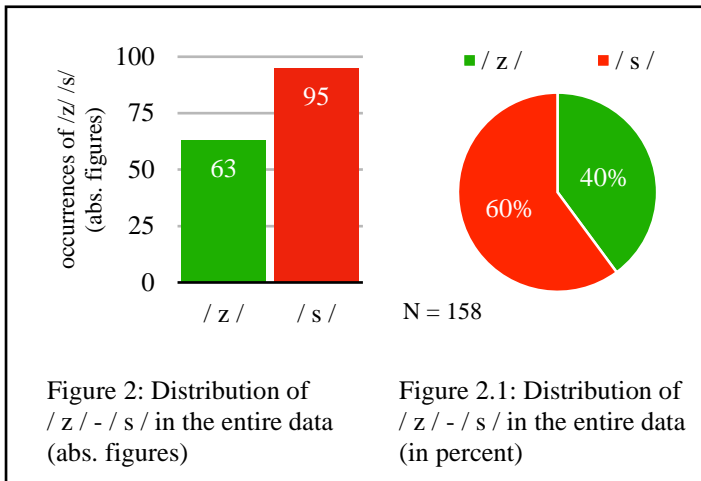- 2093 words, 318 words that should have final voiced consonants

Figure 1: Distribution of words that should have final voiced consonants in the entire data (abs. figures)

Green: correct pronunciation
Red: pronunciation error

Figure 2: Distribution of / z / - / s / in the entire data (abs. figures)

Figure 2.1: Distribution of / z / - / s / in the entire data (in percent)

Figure 3: Distribution of / d / - / t / in the entire data (abs. figures)

Figure 3.1: Distribution of / d / - / t / in the entire data (in percent)

Figure 4: Distribution of / v / - / f / in the entire data (abs. figures)

Figure 4.1: Distribution of / v / - / f / in the entire data (in percent)

Figure 5: Distribution of / b / - / p / in the entire data (abs. figures)

Figure 5.1: Distribution of / b / - / p / in the entire data (in percent)

Figure 6: Distribution of / g / - / k / in the entire data (abs. figures)

Figure 6.1: Distribution of / g / - / k / in the entire data (in percent)

5. Conclusions

→ According to the results of the analyses, the voiced phoneme / z / seems to be most difficult to produce in word-final position

→ surprisingly, fewer problems producing a voiced / d / at the end of words

<u>Frequency</u>:
- striking that the phonemes /z/ and /d/ make up 87% of the occurring final voiced consonants
➞ perception and production need practice
(recommended to start at an early stage of learning)
➞ data also show that time abroad improves pronunciation (perception and production)

Are some sounds more important to master than others?

• according to the results /z/ appears to be the most frequently occurring final voiced phoneme
➞ could be seen as the most important

To what extent does final devoicing effect intelligibility?

• error gravity depends on functional load
    • functional load refers to the importance of certain features in making distinctions in a language
       • <u>vowels</u> ➞ very high functional load
          • innumerable sets of words distinguished just by their vowels, such as *pin, pen, pan, pun, pain*
       • <u>voicing of final consonants</u> ➞ high functional load
          • e.g. *cab - cap* ➞ meaning is changed

• frequency of occurrence of a phenomenon
   ➞ how often do final voiced consonants occur?
   • according to the data 15% of all words are words with final voiced consonants

• number of minimal pairs
   • e.g. /ɪz/ ➞ /ɪs/ does not cause much of a misunderstanding
   • e.g. /hæd/ ➞ /hæt/ seems to be more problematic

• frequency of the words in the minimal pair
   ➞ how often do the words in the minimal pair occur in everyday speech?

• whether or not the words in the pair belong to the same lexical class
   • e.g. *I broke my <u>back</u>* — *I broke my <u>bag</u>* ➞ both words are nouns, misunderstanding more likely to occur

- although final devoicing can lead to misunderstanding it often does not appear to be a grave error
   - common words like *is, because* and *was* do not have any minimal pairs they could be confused with
   - in cases like *had - hat* and *sad - sat* context can help to clarify the intended meaning since the words do not belong to the same lexical class
   - only with words like *bag - back, cab - cap* or *bus - buzz*, which all belong to the same lexical class, minor problems could arise

6. Remedial Strategies for Teachers and German EFL Learners

- <u>awareness raising exercises (perception exercises)</u>
- minimal pair bingo
- <u>lengthening of the preceding vowel</u>

BINGO			1	BINGO			4
bad	boot	pet	beat	pet	beat	boot	part
part	bed	fat	paid	paid	boat	fat	bad
food	feet	boat	bird	put	bed	feet	bit
bit	but	fit	put	bird	but	fit	food

Mark Hancock (1995): Pronunciation Games

Directions: Practice reading the following pairs of words, concentrating on the difference in vowel length between the words in Column 1 (which have a shorter vowel) and the words in Column 2 (which have a longer vowel).

Column 1		Column 2	
Voiceless final consonant (shorter vowel)		**Voiced final consonant** (longer vowel)	
/p/	cap	/b/	cab
/t/	hit	/d/	hid
/k/	back	/g/	bag
/f/	fife	/v/	five
/s/	bus	/z/	buzz
/ʃ/	rush	/ʒ/	rouge[23]
/θ/	teeth	/ð/	teethe
/tʃ/	batch	/dʒ/	badge

Celce-Murcia et al. (2010): Teaching Pronunciation

7. References

Celce-Murcia, Marianne and Donna Brinton, Janet M. Goodwin (eds.). 2010. *Teaching Pronunciation*, Cambridge: CUP.

Hancock, Mark. 1995. *Pronunciation Games*, Cambridge: CUP.

Kortmann, Bernd. 2005. *English Linguistics. Essentials,* Berlin: Cornelsen.

König, Ekkehard & Volker Gast. 2012. *Understanding English-German Contrasts*. Third and revised edition, Berlin: Erich Schmidt.