

Spelling of non-words by students at primary school, at university and in courses for adult illiterates



TASK "SPELLING OF 14 NON-WORDS"

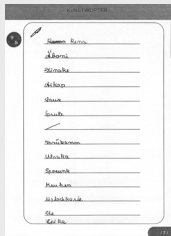
- **German research project** focussing the development and evaluation of concepts, methods and materials for dialogue-based diagnostics of reading and orthographic development of adult illiterates
- ⇒ **workbook "LESEN&SCHREIBEN" [READING&WRITING]** containing 17 every-day tasks in reading and writing with increasing complexity to assess the level of reading and writing skills and competences and to observe their development
- ⇒ **task: "Kunstwörter" ⇒ spelling of 14 non-words**
 - to estimate the stage of development of spelling competencies of illiterates who are afraid of writing real words due to fear of failure
 - no orthographical correct way of spelling the non-words
 - ⇒ each phoneme of a non-word should be represented by a grapheme
 - ⇒ on basis of the spellings it can be estimated whether the learner is able to translate phonemes into corresponding graphemes and to use the alphabetical strategy (Frith 1985) which is fundamental to German orthographic
 - each non-word is made of phonemes which can be spelled in several ways by using different orthographic patterns and observing several spelling rules
 - ⇒ the complexity of the spelling provides an insight into which orthographic patterns and spelling rules the learner already knows and actively uses

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the 14 non-words

RE:NA:	[re:nɔ]	VO:RLÜ:KAMM	[fo:rlɪ:kam]
Ä:BO:MI:	[e:bo:mi:]	UDSACKA	[ˈutzakɔ]
STINNA:K	[ˈʃtɪnɔk]	SPRÖNK	[ˈʃprɔŋk]
AIKAPP	[aɪkap]	KEU(H)EN	[ˈkɔyən]
LAUTZ	[laʊts]	MA:LOCHKA:SI:	[ma:lɔxka:zɪ:]
IPPSU:T	[ˈɪpsu:t]	STE:LFEMPF	[ʃte:lfe:mpf]
KU:SCHAKS	[ˈku:ʃaks]	QUI:KA:	[ˈkvi:ka:]



RESULTS

1) Difference between the adult illiterates and the other groups in spelling the non-words?

- The results show for almost all non-words in all groups
- ⇒ the same/ similar legal, illegal and "other spellings" (⇒ table 3),
 - ⇒ the same/ similar mis-spellings due to mis-interpretation of the heard stream of phonemes as well as association with lexical words (⇒ table 3),
 - ⇒ even in the group of students at university the same illegal spellings occur as in the group of illiterates and students at primary school (⇒ table 3 & 4).

table 3: example /RE:NA:/ ⇒ 10 most frequently spellings for each group

ILLITERATES	1st GRADE	2nd GRADE	3rd GRADE	4th GRADE	STUD UNI
RENA 34	RINA 139	RINA 96	RENA 109	RENA 118	RENA 112
RINA 5	RENA 72	RENA 82	RINA 74	RINA 41	DRENA 18
REHNA 4	PRINA 18	BRINA 17	BRENA 15	REHNA 18	REHNA 18
RENNA 3	BRINA 16	RENNA 14	LENA 13	RIENA 12	DREHNER 8
EIAM 1	LENA 5	REHNA 12	BRINA 9	PRENA 10	PRENA 7
ENA 1	TRINA 4	PRINA 8	REHNA 7	BRENA 8	DREHNA 5
RE 1	R 3	LENA 5	PRENA 6	RENNA 6	RHENA 5
REAN 1	RINGA 3	DRINA 4	PRINA 6	BRINA 5	TRAINER 5
REHAON 1	RINGER 3	BRIENA 3	RENAR 5	PRINA 5	REENA 4
REMA 1	BENA 2	RIENA 3	RENNA 4	RENAH 4	DREENA 2

legal illegal lexical word others mis-spellings in (almost) all groups

table 4: example /SPRÖNK/ ⇒ similar illegal spellings in all groups

ILLITERATES	1st GRADE	2nd GRADE	3rd GRADE	4th GRADE	STUD UNI
	SCHPRÖNK	SCHPRÖNK	SCHPRÖNK	SCHPRÖNK	SCHPRÖNK
SCHPRÖNG					
SCHBRÖNG					

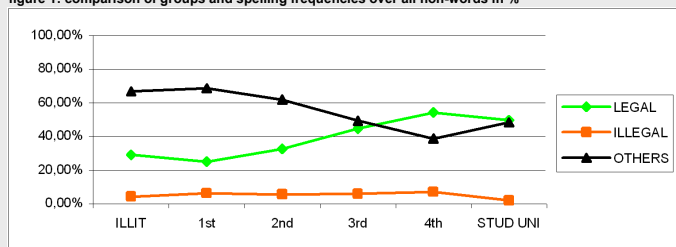
2) Progression of spelling accuracy?

- The results of the quantitative analysis over all non-words and groups show (⇒ table 5 & figure 1)
- ⇒ legal spellings increase and "other spellings" (⇒ cp. table 2) decrease in primary school,
 - ⇒ the quantitative achievement of the group of adult illiterates is higher than that of 1st graders and slightly lower than that of 2nd graders,
 - ⇒ the percentage of illegal spellings (⇒ cp. table 2) is the lowest in the group of students, second lowest in the group of illiterates(!), it is the highest in the group of 4th graders.

table 5: comparison of groups and spelling frequencies over all non-words in %

	ILLITERATES	1st GRD	2nd GRD	3rd GRD	4th GRD	STUD UNI
LEGAL	29,02	25,09	32,63	44,61	54,30	49,72
ILLEGAL	4,20	6,23	5,48	5,96	7,07	1,97
OTHERS	66,78	68,68	61,90	49,43	38,63	48,31

figure 1: comparison of groups and spelling frequencies over all non-words in %



COMPARATIVE STUDY

Questions

- 1) Do adult illiterates spell the non-words different from first, second, third and fourth graders at primary schools as well as from students at university?
- 2) Is there a progression of spelling accuracy regarding the use of legal orthographical and morphological patterns from first to fourth graders and to students?

sample

- each person must have tried to spell at least one non-word to be part of the sample

table 1: sample

adult illiterates	students at primary school	students at university
63 participants of courses	312 1 st graders	196 University of Siegen
	287 2 nd graders	
	326 3 rd graders	
	284 4 th graders	
63 total	1209 total	233 total

methods of conduct and data analysing

- the 14 non-words were mostly presented to each group at least three times from a CD, to make sure that all participants heard identical streams of sounds, to few adult illiterates only they were read aloud several times
- for each non-word the varieties of spelling were counted, case (in)sensitivity was not taken into account

table 2: varieties of spellings counted

legal spellings	illegal spellings	other spellings
<ul style="list-style-type: none"> • each phoneme of the non-word was translated into a corresponding grapheme • spelling can be read • to spell the non-word only legal combinations of graphemes, morphemes and orthographical patterns of German orthographic are used 	<ul style="list-style-type: none"> • each phoneme of the non-word was translated into a corresponding grapheme • spelling can be read • to spell the non-word also illegal combinations of graphemes, morphemes and orthographical patterns of German orthographic are used, i.e. after a long vowel a orthographical pattern to sign a short vowel was used 	<ul style="list-style-type: none"> • spellings, read aloud, that do not sound like the non-word • partly spelled legal • no relation between phonemes and graphemes • real words (lexemes) derived from or associated with the heard stream of sound

LITERATURE

- Frith, U. (1985): Beneath the surface of development dyslexia. In: Patterson, K. E., Marshall, J. C. & Coltheart, M. (Hrsg.) (1985): Surface Dyslexia. London, 301-330.
- Backhaus, A. (2011): LESEN&SCHREIBEN: Ein Aufgabenset für die dialogische Förderdiagnostik in der Alphabetisierung. In: ALFA-Forum 76, S. 48-50.
- Backhaus, A./Rackwitz, R.-Ph. (2011): LESEN&SCHREIBEN. Siegen: UniPrint Universität Siegen.

CONCLUSION

- Adult illiterates do not produce mistakes and mis-spellings different from that of other groups.
- Students at university show the same/ similar illegal spellings as the group of illiterate adults and students at primary school.
 - ⇒ To solve the task even experienced and competent users of German orthographic and spelling rules, operate on the level of alphabetical strategy only without observing German orthographic and spelling rules.
- Varieties of other spellings, especially spellings that sound different from the non-word when read aloud, occur in all groups.
 - ⇒ Auditive perception is a constructive process. We do not hear 1:1 what we listen to, we interpret the stream of sounds.