Intentional and Incidental Vocabulary Learning: The Role of Historical Linguistics in the Second Language Classroom

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Explicit/Implicit Learning

Explicit: "with metalinguistic awareness"

Implicit: "without metalinguistic awareness"

(Ellis, 2009, p. 7)

L1 = first language, **L2** = second language

Effectiveness of Implicit and Explicit Learning

L2 grammar rules are more amenable to **explicit learning conditions**

(Norris & Ortega, 2000; Spada & Tomita, 2010;
Goo et al., 2015)

Research Gap

Unclear how **generalizable** previous findings are to **other linguistic domains** (e.g., L2 vocabulary)

L2 Vocabulary Research

Incidental Vocabulary Acquisition: "by-product"

(Schmitt, 2010, p. 29)

Through:

Reading: Free Voluntary Reading (e.g., Krashen, 2004, 2011)

Extensive Reading (e.g., Nation, 2015)

Gaming: (e.g., Ranalli, 2008; Sundqvist, 2019)

Television: (e.g., Peters & Webb, 2018; Feng & Webb, 2020; Rodgers & Webb, 2020)

L2 Vocabulary Research

Intentional/Explicit Vocabulary Learning:

Various advantages of learning vocabulary intentionally

(Laufer, 2005; Schmitt, 2008; Elgort & Nation, 2010; Nakata, 2016)

Theoretically grounded in work on **human memory** and **learning**

(Atkinson & Shiffrin, 1968; Craik & Watkins, 1973; Craik & Tulving, 1975)

Human Memory and Learning

For **learning** to take place, **transfer** from

    short-term memory → **long-term** memory (Atkinson & Shiffrin, 1968)

Elaborative rehearsal (Craik & Watkins, 1973)

   o Mechanism through which serial transfer can take place

   o Metacognitive strategy which encodes additional features to a memory trace in attempt to make it more memorable

Human Memory and Learning

The **more information** or **cues** you have, the **easier** it is to **retain** and **retrieve** information

Involvement Load Hypothesis (Laufer & Hulstijn, 2001)

The more involved learners are, the easier it is to acquire and retain information

Human Memory and Learning

The **more information** or **cues** you have, the **easier** it is to **retain** and **retrieve** information

Association building

- o create a link between a **novel stimulus** and **information** already **stored** in **long-term memory**

- o create a link L2 item and L1 item

Human Memory and Learning

Association building is the **foundation** for **widely used memory techniques**

- o **Method of Loci** (Yates, 1966)

- o **Mnemonics** (Worthen & Hunt, 2011)

- o **Keyword Method** (Atkinson, 1975)

Creating Link between English L1 and German L2

- **English and German both Germanic languages**

- **Cognates:** traced back to the same ancestral form/etymon

  Recognizable:

  - *Hand* 'hand', *Finger* 'finger'

  Less recognizable:

  - *Zimmer* 'room' [cognate. 'timber']

  - *sterben* 'to die' [cognate. 'starve']

  - *Zaun* 'fence'   [cognate. 'town']

Sound Changes

Ingvaeonic Palatalization

k > t͡ʃ/ /_____[front vowels]

Second Germanic Sound Shift

p > p͡f/#_____   [initial position]

p > p͡f/[V___V] [between vowels]

t > t͡s /#_____   [initial position]

Meaning Prediction:

Kinn, kauen, Pfanne, Zinn, zu, zwölf

Figure 2. Formal Notation of Second Germanic Sound Shift (adapted from Wells, 2003)[42]

Figure 3. Formal Notation of Second Germanic Sound Shift (adapted from Wells, 2003, p. 425)

Upper German, or pre-Old High German voiceless stops /p, t, k/, became affricated in initial position, before a consonant, or when geminated

Apfel used to be *appel* in Old Englsih (cf. Dutch *appel*), Proto Germanic *aplaz. Therefore, *p* occurred intervocalically.

Sound Changes

Second Germanic Sound Shift

Interdental fricative → voiced alveolar stop (Stedje, 2001, p. 61)

θ > d /#____ [initial position]

θ > d /V__V [between vowels]

Examples:

thirst – Durst, thistle - *Distel*

Meaning prediction: *Dorn? Ding?*

Semantic Changes

- **Broadening/Narrowing**:

  sterben 'to die' [OE* *steorfan*], narrowed in English ['starve']

  Tier 'animal' [OE *deor*], narrowed to refer to specific type [*deer*]

- **Pejoration/Amelioration**:

  Weib 'woman' (underwent pejoration < PGmc **wīb* 'woman'),

  narrowing in English (OE *wif*). Former meaning retention *midwife*

- **Change by association**

  Gebet 'prayer' [cognate. 'bead'], association of rosary beads and praying

14

Methodology

Learning Conditions	Training Sessions		Assessments
	Explicit	Non-explicit	
Explicit Condition* (*n* = 18) Non-explicit Condition* (*n* = 17)	**Sound Changes:** 2nd Ger. Sound Shift Ingvæonic Palatalization **Semantic Changes:** Broadening Narrowing Pejoration Amelioration Change by Association	Task-based and communicative-based activities	**<u>Vocabulary</u>** **Pre-/Post-/Delayed-Post Test** 126 words (63 cognates, 63 non-cognates) Of the 63 cognates (42 cognates with sound changes, 21 with semantic changes) Of the 42 sound change cognates (21 encountered, 21 not encountered) **Exit Survey**

* In the paper the "explicit group" is called "intentional" and the "non-explicit" group is called "incidental"

Translation Task (126 words)

Word Type	N	
Distractors	63	
Cognates	63	
	Encountered	Unencountered
	42	21

*Of the *Encountered Words*, 21 affected by semantic changes, 21 by sound changes

Target Words Affected by Semantic Changes

*OE = Old English

Cognate		Semantic Relationship
1. **weh**	'pain'	cognate 'woe'
2. **sterben**	'to die'	cognate 'to starve' – semantic narrowing in English
3. **Weib**	'woman (pej)'	cognate 'wife'– (OE* *wīf*) used to mean 'woman'
4. **versehren**	'to injure'	cognate 'sore' – related to German *sehr* 'very', used to mean 'pain'
5. **Zimmer**	'room'	cognate 'timber' – semantic narrowing in English and German
6. **Vogel**	'bird'	cognate 'fowl' (OE *fugol*) – semantic narrowing in English
7. **Gebet**	'prayer'	cognate 'bead' – change by association
8. **beten**	'to pray'	cognate 'bead' (same as *Gebet*)
9. **Zwilling**	'twin'	cognate 'two' – German *zw*- is English *tw* – e.g., *zwischen* 'between'
10. **Knecht**	'servant'	cognate 'knight' (OE *cniht*) – amelioration in English
11. **Tier**	'animal'	cognate 'deer' (OE *deor*) – semantic narrowing in English
12. **satt**	'full'	cognate 'sad', originally meant *full*, as in *satisfy*
13. **selig**	'holy'	cognate 'silly' – pejoration in English
14. **Waren**	'goods'	cognate -*ware*, as in *silverware, hardware* and *warehouse*
15. **Burg**	'fortress'	cognate -*burg*(*h*) as in Edinburgh (people used to live in a *Burg*)
16. **Bürger**	'citizen'	cognate -*burg*(*h*) – people who lived in a *Burg* were *Bürger* (lit. 'of the *Burg*').
17. **Zaun**	'fence'	cognate 'town' (OE *tūn*). Original meaning was enclosed space
18. **Bein**	'leg'	cognate 'bone'
19. **reißen**	'to rip'	cognate 'to write' (OE *wrītan*). People used to rip/carve into wood to 'write' something
20. **Urlaub**	'holiday'	cognate 'to allow'. It was necessary to ask permission to take 'leave'
21. **wissen**	'to know'	cognate 'wit' – (OE *witan* 'to know') – relict 'to have your wits about you'

Target Words Affected by Sound Changes

Ingvæonic Palatalization k > t͡ʃ / ____[high front vowels]	
Encountered Cognates	**Non-Encountered Cognates**
Kinn > chin *Käfer* > chafer (type of beetle) *Kerl* > cherl (archaic word for man)	*Krücke* > crutch *strecken* > to stretch *kauen* > chew

Second Germanic Sound Shift p > p͡f /#_____	
Encountered Cognates	**Non-Encountered Cognates**
pipe > *Pfeife* pan > *Pfanne* pound > *Pfund*	penny > *Pfennig* pole > *Pfahl* pepper > *Pfeffer*
p > p͡f/ V___V	
to tap > *zapfen* copper > *Kupfer* drop (as in eye drops) > *Tropfen*	to hop > *hüpfen* to stamp > *stampfen* apple > *Apfel*
p > f / (____ nasal / liquid)	
open > *offen* weapon > *Waffe* ripe > *reif*	grip > *Griff* sharp > *scharf* to slurp > *schlürfen*
t > t͡s / #___	
tongue > *Zunge* tin > *Zinn* toe > *Zeh*	to fart > *furzen* wart > *Warze* twig > *Zweig*

t > s /V__V	
Encountered Cognates	**Non-Encountered Cognates**
to let > *lassen* hate > *Hass* better > *besser*	kettle > *Kessel* to sweat > *schweißen* nut > *Nuss*
$[\theta/\eth] > d \left(\begin{smallmatrix} \#\_\_ \\ V\_V \end{smallmatrix}\right)$	
thing > *Ding* thirst > *Durst* these > *diese*	thorn > *Dorn* feather > *Feder* thistle > *Dissel*

Training

Explicit

Session _n_	Content	Description
Session 1	Historical linguistics	• History of English and German as Germanic languages • Ingvæonic Palatalization
Session 2	Sound change	• Second Germanic Sound Shift
Session 3	Sound change	• Second Germanic Sound Shift
Session 4	Semantic change	• Semantic changes
Session 5	Review	• Practice and Review
Session 6	Review	• Practice and Review

Non-Explicit

Session _n_	Content	Description
Session 1	Communicative activity	• Two-way interaction task with cognates and definitions
Session 2	Reading	• Read short German text (250 words) containing some target words
Session 3	Roleplay	• Roleplay based on cognates containing L2 definitions
Session 4	"Heads-up"	• Heads-up activity
Session 5	Speed Dating	• 2-minute conversation containing target cognates (with 10 different people). E.g., _Tier_ - response: _Was ist dein Lieblingstier_
Session 6	Reading	• Reading (250 words) with follow-up Cloze test

Research Question I

Is there a **statistically significant difference** between the number of **cognates** acquired by L2 learners who received historical instruction (**explicit** condition) and L2 learners who did not (**non-explicit** condition)?

Research Question II

Is there a statistically **significant difference** between the two learning conditions (**explicit** and **non-explicit**) in the number of German cognates L2 learners were able to correctly predict the meaning of? Unlike in RQ1, these are cognates which learners will have **not encountered** in their pedagogical interventions.
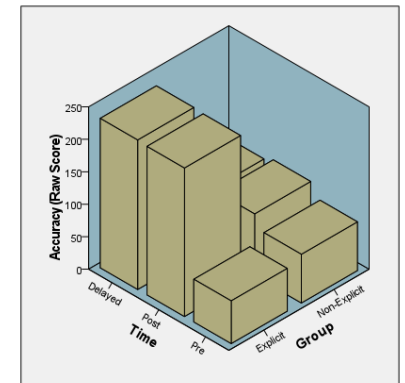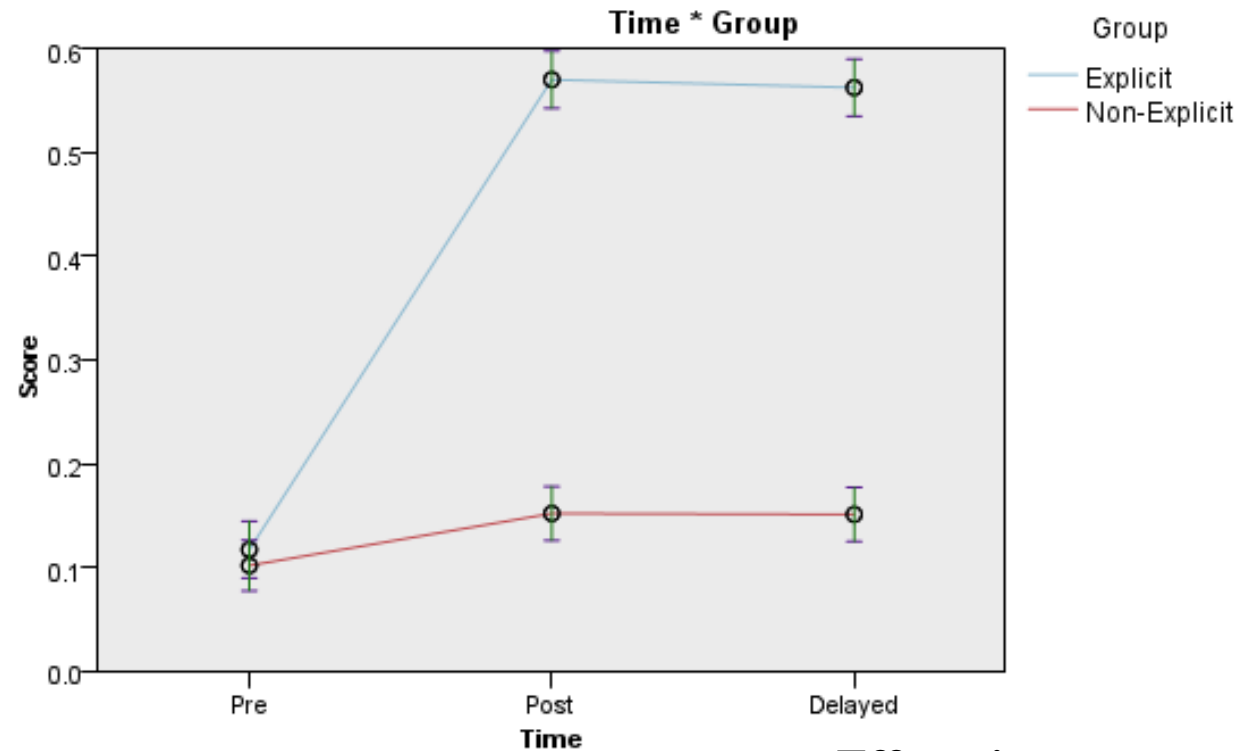
Results

RQI: Encountered Cognates

Is there a **statistically significant difference** between the number of **cognates** acquired by L2 learners who received historical instruction (**explicit** condition) and L2 learners who did not (**non-explicit** condition)?

Result: **Explicit significantly outperformed non-explicit group**

Knowledge of Encountered Cognates

Significant effect of:

- **GROUP** F (1, 4,398) = 27,656, p = .001, d = .59 [CI = .12, 1.1]
- **TIME** F (2, 4,398) = 138,307, p = .001,
- **GROUP × TIME** F (2, 4,398) = 88,756, p = .001

Effect size:
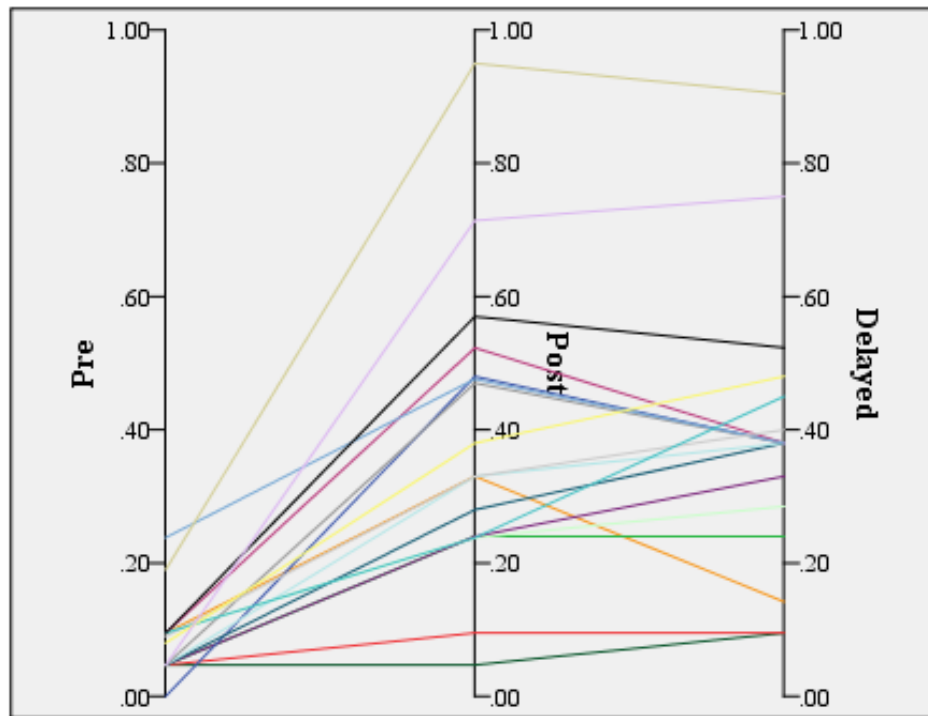
- **GROUP** d = .59 [CI = .12, 1.1]
- **EXPLICIT** d = 1.0 [CI = .38, 1.8]
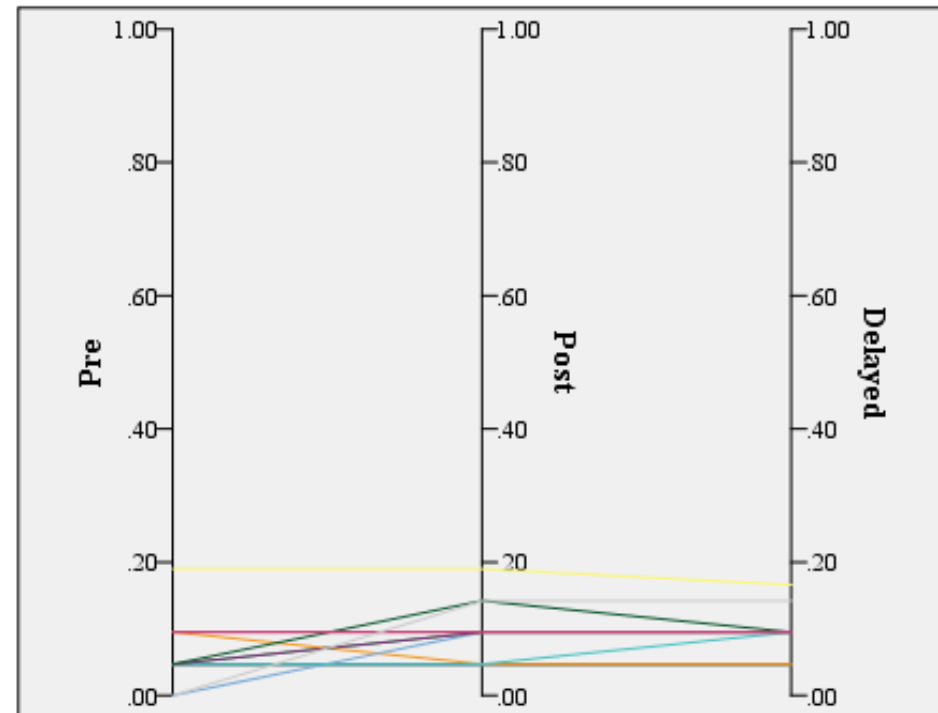
Explicit condition learned **19** additional cognates

*Measured by benchmarks of Plonsky & Oswald (2014) [small d = .40. medium d = .70, large d = 1.0]

Parallel Coordinate Plot of Individual Differences for Translation Accuracy of Encountered Cognates from Pre-Test to Delayed-Post-Test

RQII: Unencountered Cognates

Is there a statistically **significant difference** between the two learning conditions (**explicit** and **non-explicit**) in the number of German cognates L2 learners were able to correctly predict the meaning of? Unlike in RQ1, these are cognates which learners will have **not encountered** in their pedagogical interventions.

Result: **Yes** (explicit condition outperforms non-explicit condition)

Knowledge of Unencountered Cognates
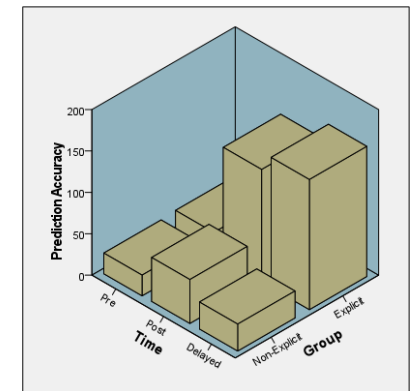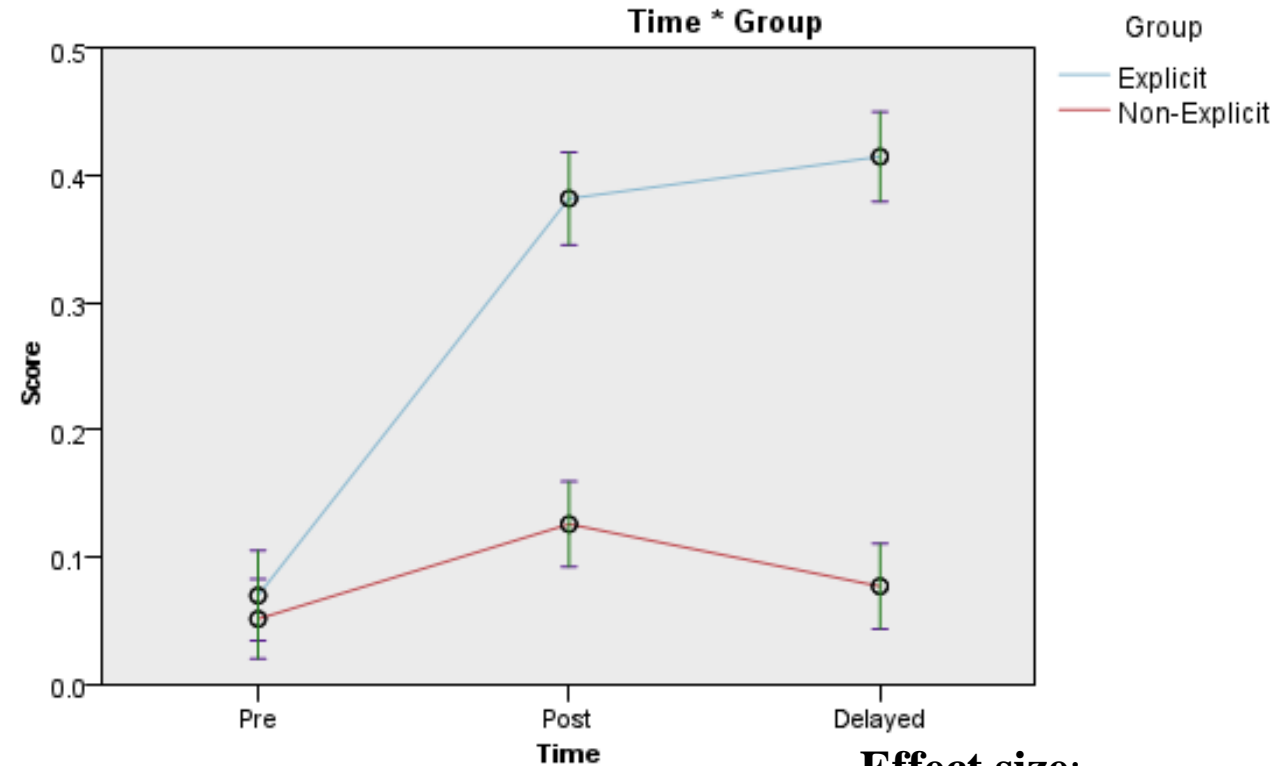
Significant effect of:

- **GROUP** F (2, 2,193) = 41,890, p = .001
- **TIME** F (2, 2,193) = 15,372, p = .001
- **GROUP × TIME** F (2, 2,193) = 18,513, p = .001

Effect size:

- **GROUP** d = .46 [CI = .21, 1.2]
- **EXPLICIT** d = .89 [CI = .21, 1.6]

Explicit condition predicted **6** additional cognates

*Measured by benchmarks of Plonsky & Oswald (2014) [small d = .40. medium d = .70, large d = 1.0]

Errors in Non-Explicit Group

- **Explicit** group used **historical knowledge** to identify the meaning of unencountered cognates

- **Non-explicit** group often **guessed**

Bürger 'citizen' (translated as 'burger')

Kinn 'chin' (translated as 'kin')

Krücke 'crutch' (translated as 'crook')

Summary

- **Explicit** group significantly **outperformed non-explicit group**

Discussion

Why? Possible Explanations

- Skill Acquisition Theory

  (DeKeyser, 2015)

- Elaboration

  (Craik & Watkins, 1973; Craik & Tulving, 1975)

- Involvement Load Hypothesis

  (Laufer & Hulstijn, 2001)

- Role of Attention and Awareness

  (Schmidt, 1990, 1995)

The historical instruction helped

Cognates affected by semantic changes

- Effective because of **degree of elaboration** (L1-L2 connection)

  (e.g., Craik & Watkins, 1973; Craik & Tulving, 1975)

- **Narratives** have been shown to aid memory

  (e.g., Bower & Clark, 1969; Craik & Lockhart, 1972)

Predictability

Declarative knowledge of the **sound changes** provided learners in the explicit condition a **toolkit** to predict meaning of novel words

Conclusion

- Knowledge and instruction on **language history** can be beneficial when learning historically related languages

- The findings from this study may provide a new meaning to "**applied historical linguistics**"

- Applications to other **historically related languages**

Applications to other Germanic languages

Scandinavian speaking L2 learner of German

Norwegian did **not undergo** the **Second Germanic Sound Shift**

<t> – <z> correspondence

Norwegian *ti*	–	German *zehn* 'ten'
Norwegian *tall*	–	German *Zahl* 'number'
Norwegian *å betale*	–	German *bezahlen* 'to pay'
Norwegian *tann*	–	German *Zahn* 'tooth'
Norwegian *tinn*	–	German *Zinn* 'tin'

Many thanks!

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Appendix

Second Germanic Sound Shift (p. 1 of 2)

voiceless stops /**p, t, k**/, became **affricated** in initial position, before a consonant, or when geminated (Salmons, 2012, p. 112)

The **affrication of /k/** did **NOT** take place in the varieties which ultimately became **Modern Standard German**

English *drin**k*** – Standard German [tʁɪŋ**k**n]

Swiss German   [tʁɪŋ**k͡x**n]

The change is assumed to have finished by the 6th and 7th century

As part of the chain shift, **affricates** conditionally became **spirants** intervocalically or after vowels in final position

*[p] → [p͡f] → [f]   weapon – Waffe   hope – hoffen

*[t] → [t͡s] → [s]   water – Wasser   hate – Hass

Appendix – Explicit group (session 5-6)

Sound Change:

Write the English translation for the words below, work out the rule (that is, the sound change), and can you think of any other words which follow the pattern?

Ex. 1: Rule: _____
1. das Ding
2. dies
3. der Dorn
4. das Bad
5. denken
6. durch
7. Süd-/Nord-
8. der/die/das

Ex. 2: Rule: _____
1. Pfeife
2. Pfanne
3. Pfennig
4. Kupfer
5. hüpfen
6. Tropfen
7. zapfen

7. English and German are Germanic Languages. The Germanic languages family belongs to a bigger language family called "Indo-European". There are sound changes which took place in Germanic languages that did not take place in the other Indo-European languages. See if you can work out which sound changes took place by filling in the missing words!

Sanskrit	pitar					trayas	
Latin	pater	pe-	piscis	decem	dentes	tres	cord (cordis)
French	per	pie (pe)	poisson	dis	dent	troi	
Spanish	padre	pie	pez	diez	diente	tres	corazón
Greek	pater	podi		deka	deka	treis	kardia
Hindi	pita:	paira		dasa	dante		
English	father	foot	Fish	ten	ten	three	heart
Icelandic	faðir	fotar		tiu	toen		
Gothic	fadir	fotus		texun	tunþus	þrija	hairto
German	Vater	Fuß	Fisch	zehn	zehn		
Old English	fæder		fisc			þreo	heorte

Appendix – Role Play (session 3)

APPENDIX I. IMPLICIT VOCABULARY ACTIVITY

Familienprobleme
In diesem Kapitel lernen wir über das Familienleben. Macht ein Rollenspiel zu dritt über zwei Brüder, die eine(n) Therapeut(in) besuchen muss, um über ihre Probleme aus ihrer Kindheit zu reden. Sie haben keine gute Beziehung. Bruder A arbeitet auf dem Land als Knecht und denkt, dass seine Arbeit am schwierigsten. Er hat keinen Respekt vor ihrem Bruder, der in einer Kirche arbeitet.Versucht diese Wörter in eurem Rollenspiel zu benutzen. Je mehr Wörter man benutzt, desto besser!

English translation:
In this chapter we're learning about family life. Put together a roleplay in groups of three about two brothers who have to see a family therapist to discuss their problems from their childhood. They do not have a good relationship with each other. Brother A works on a farm and thinks that his work is the hardest. He has no respect for his brother who works in a church. Try to integrate these words (below) into the roleplay. The more words you use, the better!

Familienmitglieder und Haustiere:
Zwilling
Bruder
Schwester
Haustier
Vogel

Appendix: Coding

- Answers were coded on a linear scale between 0-1

  o Correct answers [1]

  o Incorrect answers [0]

  o Correct cognate, incorrect current meaning [.5]

  o Incorrect part of speech [.75]

TABLE 4. Knowledge of Encountered Cognates (Descriptive Statistics)[13]

Condition	Pre-Test			Post-Test			Delayed-Post-Test		
	n	*M*	*SD*	*n*	*M*	*SD*	*n*	*M*	*SD*
Intentional	89/756	.12	.33	431/756	.57	.49	425/756	.56	.48
Incidental	79/714	.11	.31	108/714	.15	.35	108/714	.15	.36

TABLE 5. Knowledge of Encountered Cognates Affected by Semantic Changes from Pre-Test to Delayed-Post-Test

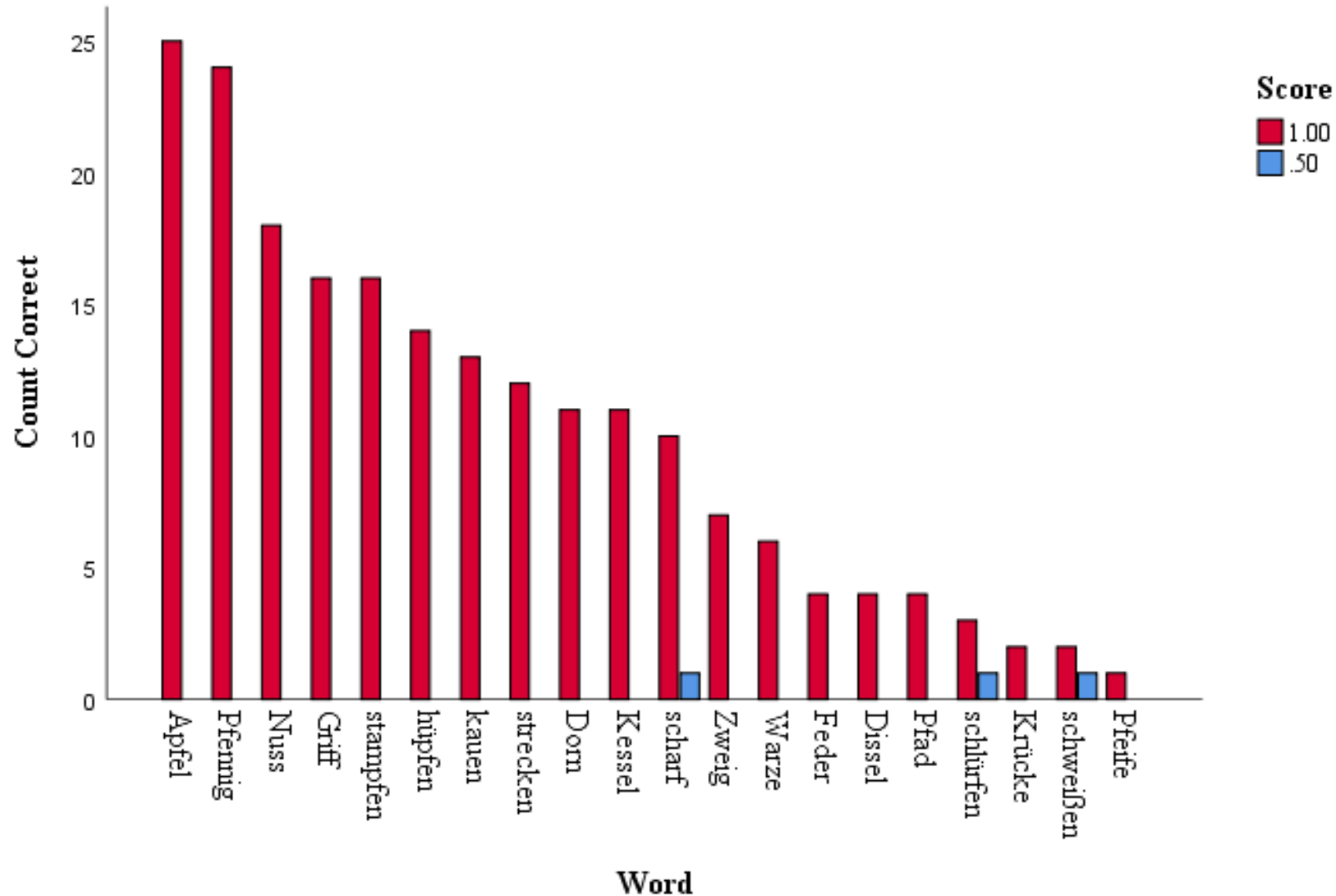| Condition	Pre-Test			Post-Test			Delayed-Post-Test		
	n	*M*	*SD*	*n*	*M*	*SD*	*n*	*M*	*SD*
Intentional	66/378	.17	.38	229/378	.60	.48	230/378	.61	.47
Incidental	60/357	.19	.37	82/357	.23	.41	77/357	.22	.41

TABLE 6. Knowledge of Encountered Cognates Affected by Sound Changes (Descriptive Statistics)

Condition	Pre-Test			Post-Test			Delayed-Post-Test		
	N	*M*	*SD*	*n*	*M*	*SD*	*n*	*M*	*SD*
Intentional	23/378	.06	.25	203/378	.54	.49	195/378	.52	.50
Incidental	18/357	.05	.22	26/357	.07	.26	32/357	.09	.28

Knowledge of Unencountered Cognates

Condition	Pre-Test			Post-Test			Delayed-Post-Test		
	n	*M*	*SD*	*n*	*M*	*SD*	*n*	*M*	*SD*
Intentional	27/378	.07	.26	136/378	.38	.49	157/378	.42	.49
Incidental	27/357	.07	.26	31/357	.09	.28	32/357	.09	.29

Cognates Predicted

Most frequently Predicted Meanings
Pfennig
Nuss
Griff
hüpfen

Predicted Meanings by pre-test
Apfel
stampfen

Most learners already knew *Apfel* and *stampfen* by pre-test

Applied Historical Linguistics

The term ***applied historical linguistics*** has been used in different ways

(Horsford, 1987: 278; Campbell, 2013: 405; Crystal, 2016: 223)
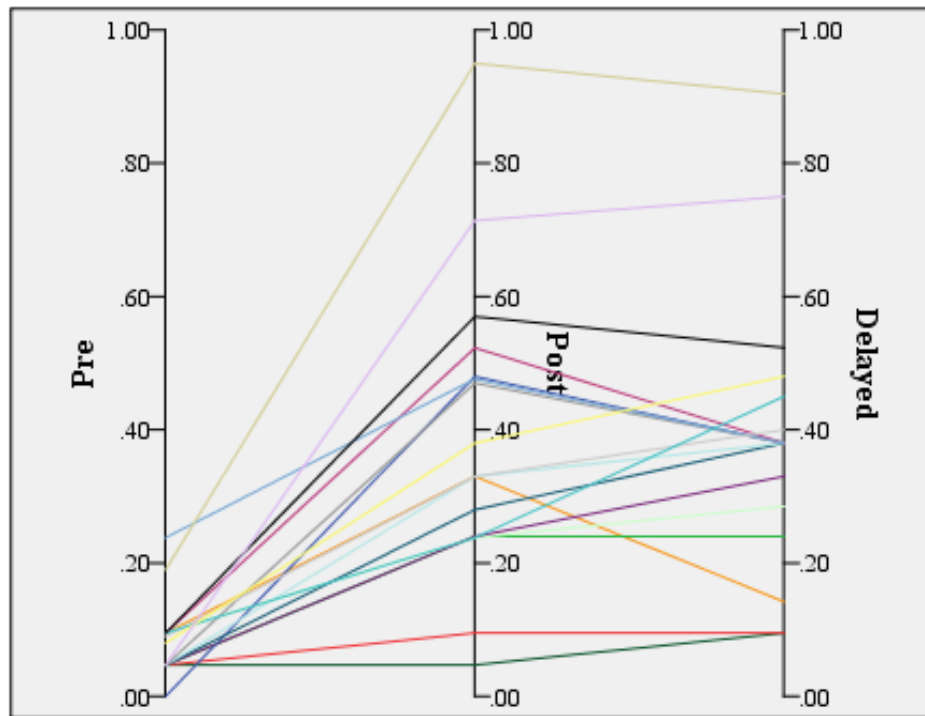
Campbell (2013: 402): linguistic palaeontology

Crystal (2016: 211): teaching Shakespearean pronunciation to stage actors

L2 Vocabulary Research

- Most L1 vocabulary is acquired incidentally, but **L2 incidental vocabulary acquisition** is **generally less successful** (Carpenter et al., 2012)

- However, learners need to know approximately **95-98%** of words in a text to **successfully infer** the **meaning** of **unknown words** (Laufer, 1999; Hu & Nation, 2000)

- **Multiple exposures** and **rich contexts** are thus required for incidental vocabulary acquisition to take place (e.g., Rott, 1999)
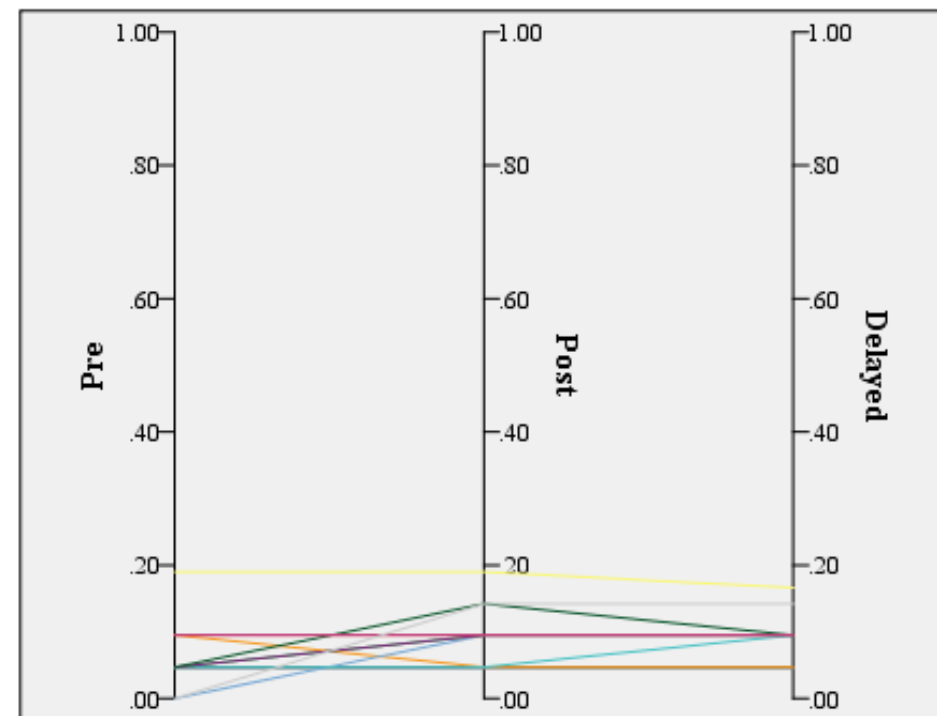
Parallel Coordinate Plot of Individual Differences for Translation Accuracy of Encountered Cognates from Pre-Test to Delayed-Post-Test

Appendix

Sound Change:

Write the English translation for the words below, work out the rule (that is, the sound change), and can you think of any other words which follow the pattern?

Ex. 1: Rule: _____
1. das Ding
2. dies
3. der Dorn
4. das Bad
5. denken
6. durch
7. Süd-/Nord-
8. der/die/das

Ex. 2: Rule: _____
1. Pfeife
2. Pfanne
3. Pfennig
4. Kupfer
5. hüpfen
6. Tropfen
7. zapfen

Appendix

7. English and German are Germanic Languages. The Germanic languages family belongs to a bigger language family called "Indo-European". There are sound changes which took place in Germanic languages that did not take place in the other Indo-European languages. See if you can work out which sound changes took place by filling in the missing words!

Sanskrit	pitar					trayas	
Latin	pater	pe-	piscis	decem	dentes	tres	cord (cordis)
French	per	pie (pe)	poisson	dis	dent	troi	
Spanish	padre	pie	pez	diez	diente	tres	corazón
Greek	pater	podi		deka	deka	treis	kardia
Hindi	pita:	paira		dasa	dante		
English	father	foot	Fish	ten	ten	three	heart
Icelandic	faðir	fotar		tiu	toen		
Gothic	fadir	fotus		texun	tunþus	þrija	hairto
German	Vater	Fuß	Fisch	zehn	zehn		
Old English	fæder		fisc			þreo	heorte

Appendix

APPENDIX I. IMPLICIT VOCABULARY ACTIVITY

Familienprobleme
In diesem Kapitel lernen wir über das Familienleben. Macht ein Rollenspiel zu dritt über zwei Brüder, die eine(n) Therapeut(in) besuchen muss, um über ihre Probleme aus ihrer Kindheit zu reden. Sie haben keine gute Beziehung. Bruder A arbeitet auf dem Land als Knecht und denkt, dass seine Arbeit am schwierigsten. Er hat keinen Respekt vor ihrem Bruder, der in einer Kirche arbeitet.Versucht diese Wörter in eurem Rollenspiel zu benutzen. Je mehr Wörter man benutzt, desto besser!

English translation:
In this chapter we're learning about family life. Put together a roleplay in groups of three about two brothers who have to see a family therapist to discuss their problems from their childhood. They do not have a good relationship with each other. Brother A works on a farm and thinks that his work is the hardest. He has no respect for his brother who works in a church. Try to integrate these words (below) into the roleplay. The more words you use, the better!

Familienmitglieder und Haustiere:
Zwilling
Bruder
Schwester
Haustier
Vogel

Appendix: Coding

- Answers were coded on a linear scale between 0-1

  o Correct answers [1]

  o Incorrect answers [0]

  o Correct cognate, incorrect current meaning [.5]

  o Incorrect part of speech [.75]

TABLE 4. Knowledge of Encountered Cognates (Descriptive Statistics)[13]

Condition	Pre-Test			Post-Test			Delayed-Post-Test		
	n	*M*	*SD*	*n*	*M*	*SD*	*n*	*M*	*SD*
Intentional	89/756	.12	.33	431/756	.57	.49	425/756	.56	.48
Incidental	79/714	.11	.31	108/714	.15	.35	108/714	.15	.36

TABLE 5. Knowledge of Encountered Cognates Affected by Semantic Changes from Pre-Test to Delayed-Post-Test

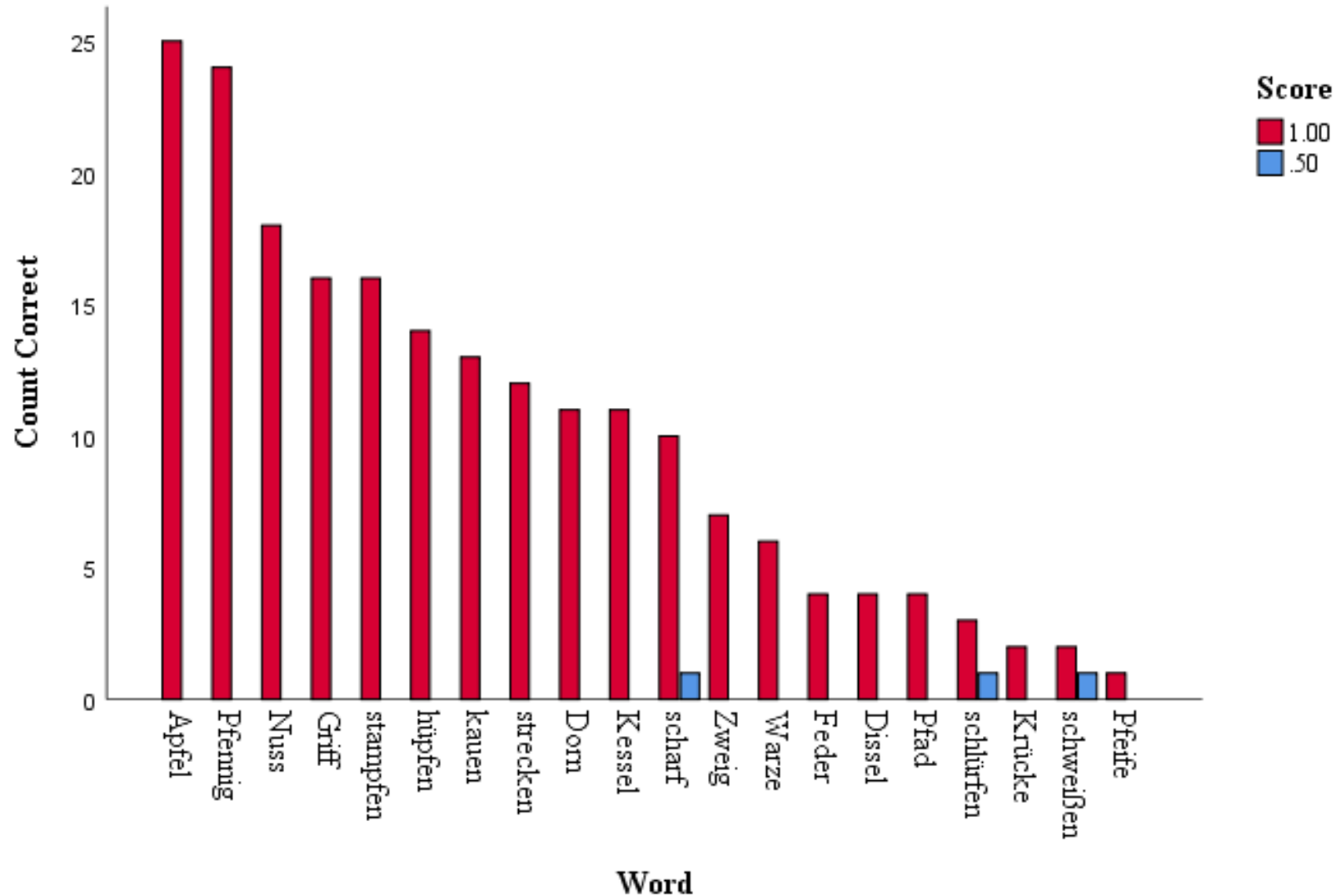| Condition	Pre-Test			Post-Test			Delayed-Post-Test		
	n	*M*	*SD*	*n*	*M*	*SD*	*n*	*M*	*SD*
Intentional	66/378	.17	.38	229/378	.60	.48	230/378	.61	.47
Incidental	60/357	.19	.37	82/357	.23	.41	77/357	.22	.41

TABLE 6. Knowledge of Encountered Cognates Affected by Sound Changes (Descriptive Statistics)

Condition	Pre-Test			Post-Test			Delayed-Post-Test		
	N	*M*	*SD*	*n*	*M*	*SD*	*n*	*M*	*SD*
Intentional	23/378	.06	.25	203/378	.54	.49	195/378	.52	.50
Incidental	18/357	.05	.22	26/357	.07	.26	32/357	.09	.28

Knowledge of Unencountered Cognates

Condition	Pre-Test			Post-Test			Delayed-Post-Test		
	n	*M*	*SD*	*n*	*M*	*SD*	*n*	*M*	*SD*
Intentional	27/378	.07	.26	136/378	.38	.49	157/378	.42	.49
Incidental	27/357	.07	.26	31/357	.09	.28	32/357	.09	.29

Cognates Predicted

Most frequently Predicted Meanings
Pfennig
Nuss
Griff
hüpfen

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Meaning Generalization in Non-Explicit Group

- Non-explicit group more susceptible to meaning generalization

  <u>Semantic Field</u>

  Zunge 'tongue' (trans. as 'tooth')
  Bein   'leg'   (trans. as 'knee' or 'arm')

  <u>Compounds</u>

  Tier 'animal'   (trans. as 'pet' – because of *Haustier*) $n = 4$

  Bürger 'citizen' (trans. as 'mayor' – because of *Bürgermeister*) $n = 3$

What it means to "know" a word?

- According to Nation (2001), knowing a word means:

  - **Form** (spoken and written)

  - **Use** (collocations, social context/pragmatics)

  - **Meaning**