Applied Historical Linguistics. Does Historical Linguistics have a place in the Language Classroom?

James M. Stratton

Contact

Purdue University: jstratt@purdue.edu

University of British Columbia: james.stratton@ubc.ca

Explicit/Implicit Learning

Explicit: “with metalinguistic awareness”

Implicit: “without metalinguistic awareness”

(Ellis, 2009: 7)

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

(Norris & Ortega, 2000; Spada & Tomita, 2010; Goo et al., 2015; Kang et al., 2019)

Research Gaps

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

2. **Unclear** how **applicable** they are to the **L2 classroom**

L2 Vocabulary Research

Incidental Vocabulary Acquisition: “by-product”

(Schmitt, 2010: 29)

Through:

Reading: Free Voluntary Reading (e.g., Krashen, 2011), Extensive Reading (Nation, 2015)

Gaming: (Ranalli, 2008)

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

Explicit Vocabulary Instruction

Intentional Vocabulary Learning:

Various advantages of learning vocabulary intentionally

(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)

  > a mechanism through which serial transfer can take place

  > metacognitive strategy which encodes additional features to a memory trace

Human Memory and Learning

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

- **Association** building
  - create a link between a **novel stimulus** and **information** already **stored** in **long-term memory**
  - create a link L2 item and L1 item

Creating an Association between English L1 and German L2

- **English and German both Germanic languages**

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

  <u>Recognizable:</u>

  - *Hand* ‘hand’, *Finger* ‘finger’

  <u>Less recognizable:</u>

  - *Zimmer* ‘room’ [cognate. ‘timber’]
  - *sterben* ‘to die’ [cognate. ‘starve’]
  - *Zaun* ‘fence’ [cognate. ‘town’]

Sound Changes

Ingvaeonic Palatalization

k > tʃ͡ /____[high front vowels]

Second Germanic Sound Shift

p > pf͡/____[initial position]

p > pf͡/[V___V]

Meaning Prediction:

kauen

Pfanne

Semantic Changes

- **Broadening/Narrowing**:

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

- **Pejoration/Amelioration**:

  Knecht ‘farmhand/stableboy’ [cognate. ‘knight’], amelioration in English

- **Change by association**

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

*OE = Old English

Historical Linguistics in the L2 Classroom

- **Scholars** have **called** for **explicit historical instruction** in the German L2 **classroom**

  (Smith, 1968; Horsford, 1987; Wolff, 1993; Lightfoot, 2007)

- To date, **no empirical studies**

- **Coffman** (2018) examined effects of HL on L2 motivation

  Surveys and oral interviews suggested HL did have an effect

Historical Linguistics in the L2 Classroom

- With the **exception** of some work on **French**

  (Arteaga & Herschensohn, 1995)

Applied Historical Linguistics

The term *applied historical linguistics* has been used in different ways (Horsford, 1987: 278; Campbell, 2013: 405; Crystal, 2016: 223)

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

Campbell (2013: 402): linguistic palaeontology

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**

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

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. v*ersehren* '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 > tʃ/ ____[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 > pf/#_____	
Encountered Cognates	Non-Encountered Cognates
pipe > *Pfeife* pan > *Pfanne* pound > *Pfund*	penny > *Pfennig* pole > *Pfahl* pepper > *Pfeffer*
p > pf/ V___V	
to tap > z*apfen* copper > *Kupfer* drop (as in eye drops) > *Tropfen*	to hop > *hüpfen* to stamp > *stampfen* apple > *Apfel*
p > f / $\left(\underline{\quad}\ \begin{matrix}\text{nasal}\\ \text{liquid}\end{matrix}\right)$	
open > *offen* weapon > *Waffe* ripe > *reif*	grip > *Griff* sharp > *scharf* to slurp > *schlürfen*
t > ts/ #___	
tongue > *Zunge* tin > *Zinn* toe > *Zeh*	to fart > *furzen* wart > *Warze* twig > *Zweig*

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

Training

Explicit

	Content	Description
Session 1	Historical Linguistics	• History of English and German as Germanic languages
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

	Content	Description
Session 1	Communicative activity	• Two-way interaction task containing cognates and definitions
Session 2	Reading	• Read short German text (250 words) containing some of the target words • Follow-up comprehension questions
Session 3	Roleplay	• Roleplay based on target cognates containing L2 definitions
Session 4	Heads-up	• Heads-up game
Session 5	Speed Dating	• Learners given target words and had a two-minute conversation (with ten different people) containing different words (e.g., target word = *Tier*, response: *Was ist dein Lieblingstier* 'what's your favorite animal?').
Session 6	Reading	• Reading (250 words) and follow-up comprehension task and 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.

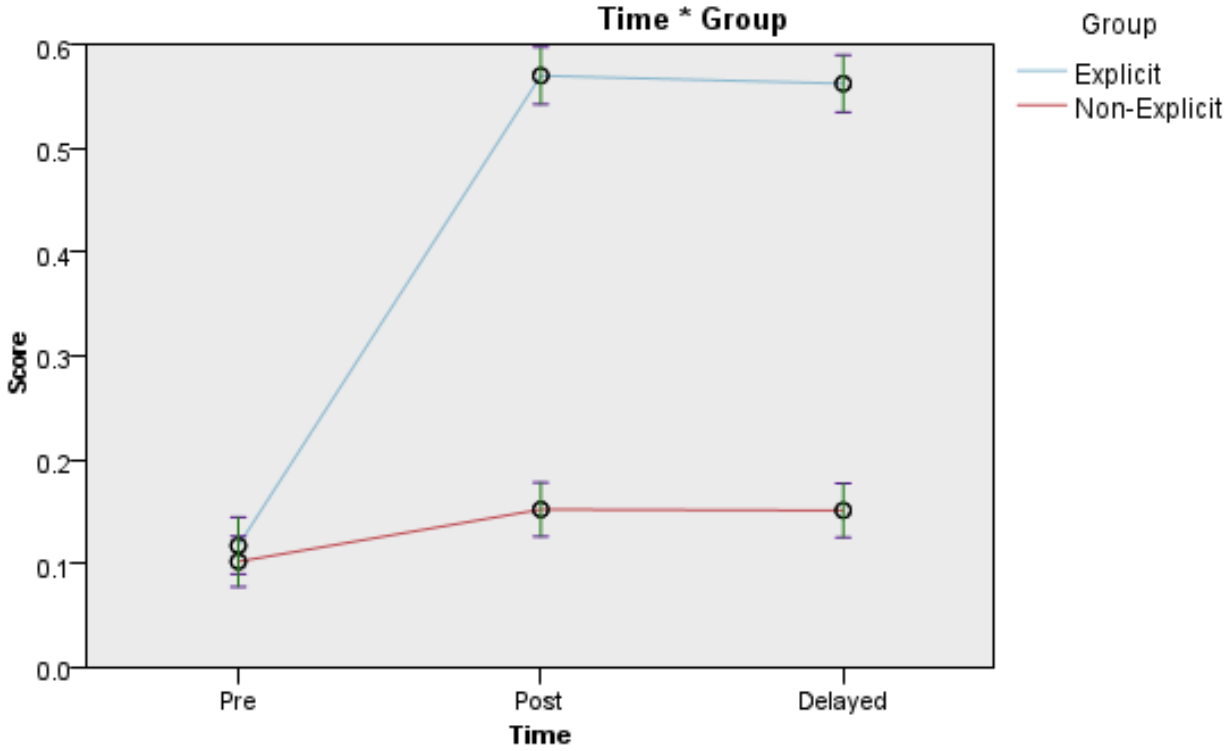
Results

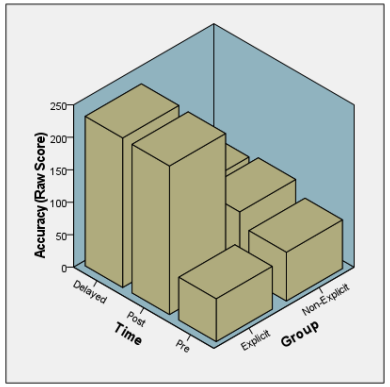
RQI: Encountered Cognates

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 outperformed non-explicit group

Knowledge of Encountered Cognates





Significant effect of:

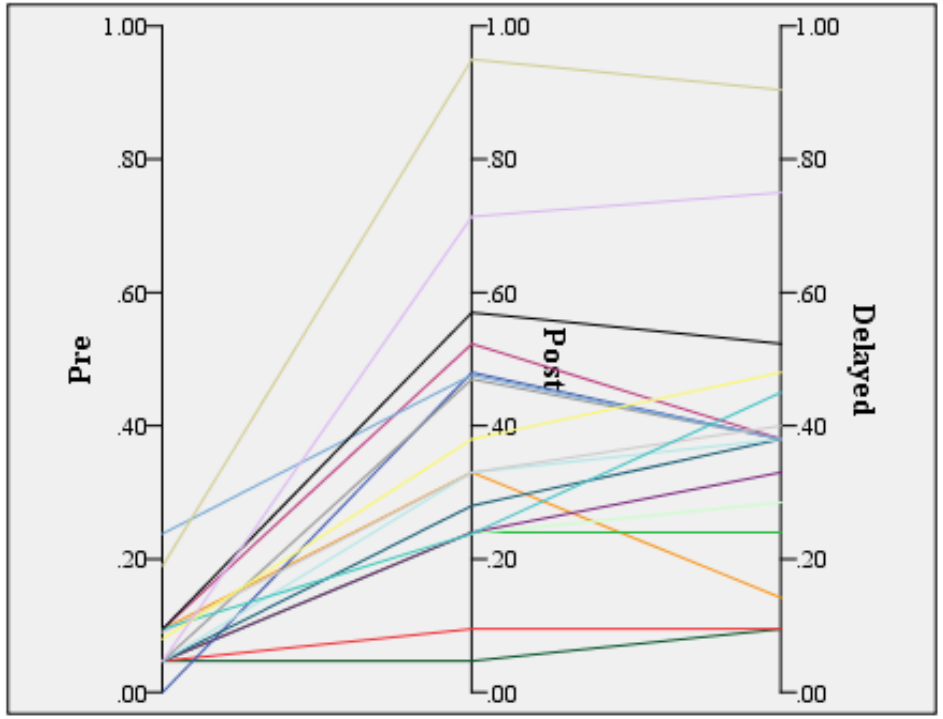
- **GROUP** F (1, 4,398) = 27,656, p = .001, d = .59 [CI = .12, 1.1]
- **TIME** F (2, 4,398) = 138,307, p = .001,
- **GROUP × TIME** F (2, 4,398) = 88,756, p = .001

Effect size:

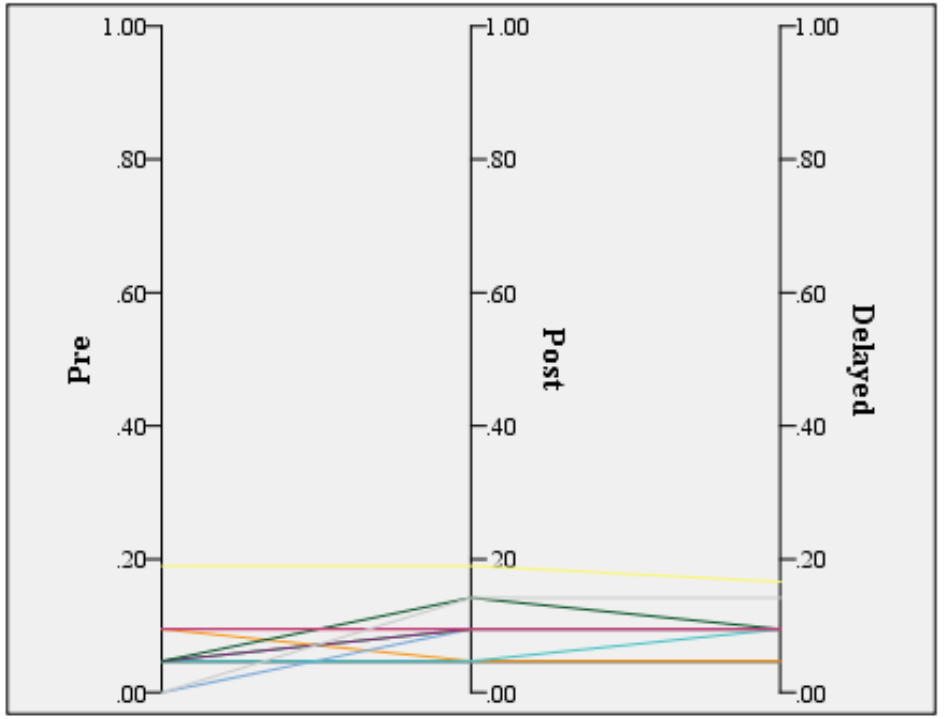
- **GROUP** d = .59 [CI = .12, 1.1]
- **EXPLICIT** d = 1.0 [CI = .38, 1.8]

Explicit condition learned **19** additional cognates

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



Explicit



Non-Explicit

Meaning Generalization in Non-Explicit Group

- Non-explicit group more susceptible to meaning generalization

Semantic Field

Zunge ‘tongue’ (trans. as ‘tooth’)

Bein ‘leg’ (trans. as ‘knee’ or ‘arm’)

Compounds

Zimmer ‘room’ (trans. as ‘classroom’ – because *Klassenzimmer*)

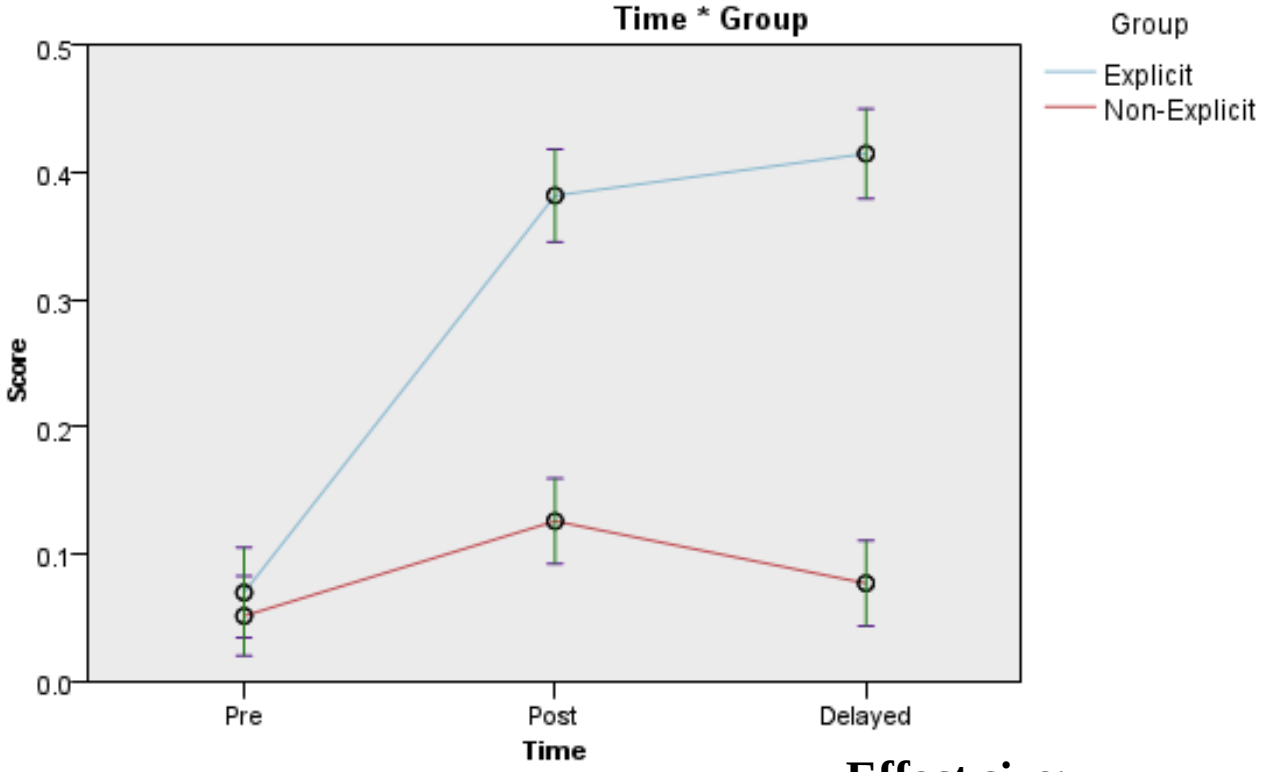
Tier ‘animal’ (trans. as ‘pet’ – because of *Haustier*)

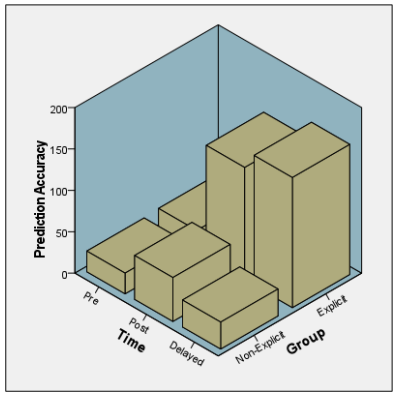
RQII: Unencountered Cognates

RQ7: 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 RQ6, 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

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)
- Role of Attention and Awareness

  (Schmidt, 1990, 1995)
- Elaboration

  (Craik & Watkins, 1973; Craik & Tulving, 1975)
- Involvement Load Hypothesis

  (Laufer & Hulstijn, 2001)

Historical instruction helped:

- 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)

L2 Vocabulary

- "the somewhat **novel contribution** of the findings from the present study is that **historical narratives**, such as being cognizant of the etymological association between L1-L2 cognates (specifically English-German cognates), **may significantly aid** in the **vocabulary acquisition** process in the L2 classroom"

L2 Vocabulary

- Historical instruction helped:
  - Provided a **toolkit** to predict meaning of novel words (sound changes)

Conclusion

- Knowledge and instruction on **language history** can be beneficial when learning historically related languages
- May provide a new meaning to "**applied historical linguistics**"

Thank you for listening

James M. Stratton

Contact

Purdue University: jstratt@purdue.edu

University of British Columbia: james.stratton@ubc.ca

Full Paper

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Appendix

SAMPLE WORKSHEET: APPLIED HISTORICAL LINGUISTICS

[This worksheet can be used to practice and review some of the sound and meaning changes]

Meaning Change:

What do these words mean and can you give a historical explanation?

1. Zwilling/Drilling/Vierling
2. weh (es tut mir weh)
3. das Weib (weiblich)
4. versehren (ich habe mich versehrt)
5. der Vogel
6. der Knecht
7. das Gebet (beten – man betet in der Kirche)
8. das Tier
9. satt (ich bin satt)
10. selig
11. die Burg und die Bürger
12. der Zaun
13. reißen

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

Ingveonic Palatalization *k* became *ch* before *i*, *ä*, and *e*	
Encountered Cognates	Non-Encountered Cognates
*Kinn** > chin *Käfer* > chafer (type of beetle) *Kerl* > cherl (archaic word for man)	*Krücke* > crutch *strecken* > stretch *kauen* > chew
Second Germanic Sound Shift *p* became *pf* at the beginning of a word	
Encountered Cognates	Non-Encountered Cognates
pipe > *Pfeife* pan > *Pfanne* pound > *Pfund*	penny > *Pfennig* pole > *Pfahl* pepper > *Pfeffer*
p became *pf* between two vowels	
to tap > *zapfen* copper > *Kupfer* drop (as in eye drops) > *Tropfen*	to hop > *hüpfen* to stamp > *stampfen* apple > *Apfel*
p became *f* before *n*, *m* and *l*	
open > *offen* weapon > *Waffe* ripe > *reif*	grip > *Griff* sharp > *scharf* to slurp > *schlürfen*
t became German *z*, pronounced [t͡s], at the beginning of a word, and sometimes before a consonant	
tongue > *Zunge* tin > *Zinn* toe > *Zeh*	twig > *Zweig* wart > *Warze* to fart > *furzen*

Appendix: Coding

- Answers were coded on a linear scale between 0-1
- Correct answers [1]
- Incorrect answers [0]
- Correct cognate, incorrect current meaning [.5]
- 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

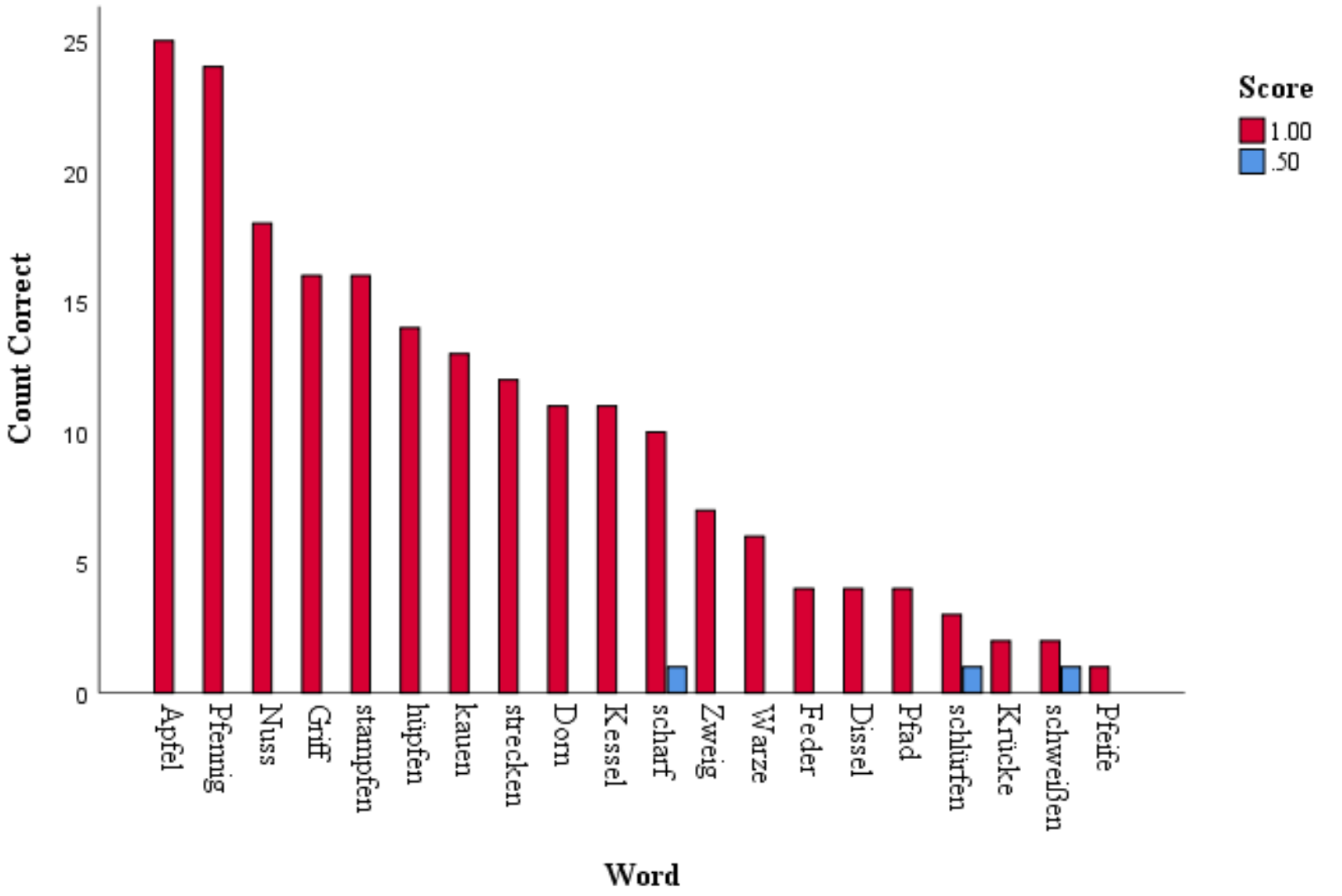
TABLE 6. Knowledge of Encountered Cognates Affected by Sound Changes (Descriptive Statistics)

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