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Spacing techniques in second language vocabulary acquisition: Short-term gains vs. long-term memory

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... d ... e c e ... he ... ha ... e ... a ... e ... ha ... e ... a ... e he ... d -
 g ... ca ... a ... he ... d e ca ... ed ... c g ... e ... ch ... g ... ha ... de ... ed
 he ... e ... ec ... e ... ga ed ... ac ... g ... ech ... e' ... h ... e ... ea ... g ... e ... ,
 ... a ... a ... g ... e ... a ... 30 ... e ... ec ... d a ... g ... age ac ... , h ... e ...
 he ... edag ... g ... e ... a ... ed ... ec ... c ... g ... a ... e ... a ... e ... g ... e ... d ... e ... h ... e ...

2011), h ed ha he e e e a ca g ca d e e ce a g de g
 he e a ded e a h e ga (e ca ed da a e
 a e e a e he a ac ce).H e e a g- e e ca ed e e a
 h a e he a ac ce de g he e a d d a g ca
 h ghe c e ha de g he e a ded e a. he d h ed ha a c e a
 d c e e h e ga a d g- e e h d e a e acc
 (a a, D che , & ga , 2007 ed g e & R a c e, 2010) he e g ac g
 ca a ac e e e e e d a g age e a e a e a
 d a a he e e e hed, a (2009) e e d he d , a e

A ge eā d, c ca e ade e ee c e a d - c . h, d, c-
 , a. he e da ea g a, ec d a g age. e a d - c
 d e he e c he cc ce ch, ,2003 ,2009), h
 c e e g ee g ed e a he ca ec ed a e
 e . c , hec a, a ed e h e , c
 cc e a g e e e e ca e he d c e.
 a ea g e e ce. ga d ce, g, he a d e ce, ha
 he e e a c e (, e, ad ec e, ead e) e e a ch
 c ce a d he ha d e he e . c , he h e
 ha d, cha e , c c , e, a c e a d ead e, ha ea -

ca ed' eg g Gē□ a ' ,

...ac ce (e. 3). a e e, he g h ... a g e a d, a c, a, had. ... e d ... heGe a ...

5 Limitations

a ca ... d ... c ... c ... a ac ... ha gh ... e ce h ... de ... A h gh g ea ca e a a e ... he e ec ... d ... h ... d a e a ... he ... ced ... cha c ec g he ... had ... e d a e each e, ... he e a he ... ha ... e ... d e e ... ed ... e he e ... d he ... d ga h e ... e, e e ce, ha g ca ed ... a ... de ... he a, ... he e ec ... a a ced, ha, ... he e a e ... e ... de ... e ha each g ... ce he ... d c ... a ed g ... h ... e ec ... e a e ... e ... he ... d ac ... ed h ... d ha e had a a ... ac ... he ... e ... A ... he ... a ... a ha he ... e ... a ... d e ... ched - g ... e a ... ed a ... e. H ... e ... he e gh ... he ... d, ... a c a he, ec d e, e ... he ... de ... had ... e e c ... e ... 5 da, ... h ... d ha e ... ed h, ... e ...

IV Results

A ... a a ea a ... a a ce a ca ed ... he 39 ... d ... ac ced c ... a g he ... ca eg ... (c ... d ... c ...) ... e a ... he ... a (... e, a ded). h ... a d e ... each e ...

1 Experiment one

e. 1 a ca ed ... e da a e he a e e ... he a e age, c ... a c, a ... g he e a ded ... a a h gh e ha h e, a c, a ... g he ... e e a, a h gh d e e ce e e ... a ... ca ... g ca (F(1,74)=1.784, p .05). e. 2, he a e age, c ... de ... h g ... e e, a d ca g ha e e ... c ... he e, a ded g ... d ... ed ... c ... a ed. he ... g ... (F(1,74)=1.221, p .05). e. 3, h g ... c ... ed. d ... he a e age, c ... he e, a ded g ... a ... e ha he ... g ... he de g he ga e e e he ... aga d e e ce e e ... a ... ca ... g ca (F(1,74)=1.000, p .05). h g ... he ... a da d de a ... e e a ge, a c a e 3, ... e a ... he a e age, c ... d ca g ha ... e ... d d ... e e a ... e e ... d (a e 1). a h e e ... he ... g ... d e e ce e e e c ... e a d ... c ... d e e a ... ca ... g ca (e. 1. F(1,37)=3.573, p .05) / e. 2. F(1,37)=3.058, p .05) / e. 3. F(1,37)=2.965, p .05). ... de ... ca ed c ... e ... d ... g ca ... e ha ... c ... d. he de ce a e ... he g ... c ... e 1 ... e 2, a e a ... e 2 ... e 3, e e ... a ac ... c ... e a d ... c ... d (a e 2). a h e e ... he e, a ded g ... d e e ce e e e c ... e a d ... c ... d e e a ... a ... ca ... g ca (e. 1. F(1,37)=2.870, p .05) / e. 2. F(1,37)=2.676 p .05) / e. 3. F(1,37)=2.068, p .05). ... a ... e e g ... e ha de ce a e

O

... he g... c... e... e... a... h gh... c... g ca ,
he dec... e a... e... h... ga , (e. 1) he e... a ded
g... a ed h gh... ea c... ha he... g... H e... he g-... e.
(e. 3) c... c... a d... c... e... h... a... ed... he...
... g... he... de... g he... e... a had... c... h... ga ,
eg... h... he d d... e a... a... he g-... a h... de...
g he e... a ded... a (a e3).

... e... h... d... e... ed ha... e... a... e... g-... e... e... e...
h... (2009) ... a... ha... a... a... e... deed... e...
e... a... e... he... e... h... de g... ha... a... e... e... e... ha... ha had

$F(1,37) = 3.870, p = .05$ A c... a... c... d ca ed ha... de...
 g he e, a ded... ee ed... ge h, e, e... c (a e6).
 a... ea g... e (e...) ed h ghe... ca... e ha
 ea g he h... e... h e, e... de... g he e, a ded... a...
 ea... ea g... ce... h... ga... ha... de... g he
 ... a, ... g-... e... , he... g... a ed h ghe... ea

gh he ehe, de e, a hca d, e ha a e, e ha e, h -
 ca ed ha he a da d de g ha, a ed e, a d g e a, d g d, c e e
 e ca e, he e d ed, e a hca d, e da, h e a,
 de e d g he ea e g a a e a he e, e d e ac e d A, a
 he d, de a, e e e ce he e e ce, a. a a, e
 he a ea g a e d a e a e h, e d N e a eg g
 ec d a g age ca, he cha e ge, a a da a a ce e e e e
 d ac e d a d e, e d.

he e a e e e ea, e ed e e e ea ch. e he d
 e a he e e g e g, a a e e de he e a ded ha he
 g, A d c d ede g ed ha e de ea d a
 he ha e ee ac e d a d he ea e he e a a e e e.
 H e e h, e d e ha e e ca ed de he ca
 a e e cha e ge a each g ched e a a ha d
 d c d e e he eh d g e e ed he e h e d. Ha g.
 ac ce e, d gh c e a e he e ca a e h, e g a, a d e
 e h e a e a h gh, he e a ha g- e a e a h gh e
 a ea e ha ea a e d d a d ad c e e e e.

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he a h d ec a e ha he e c c e. O O

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 e e e.

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Appendix I

Word list

Part 1: Content words (nouns / verbs / adjectives): 24 total

Nouns:

de [da] , da Dach [he] , he
 de [da] aa, a geh [ge] , da [he] , ch [he] , a [he] , a [he] , he [he] , c [he]
 de [de] , de [de] , ede [age] [he] , e [he] , he [de] , ea [he]
 de [de] , g [de] , de [de] , g [he] , a [he] , he [de] , e [he]

Verbs:

a [a] , c [a] , e [a] , a [a] , d [a]
 ea [ch] , ge [ge] , e [ge] , d [ge] [] , e [d] , c [] , e [e]
 e [e] , e [e] [] , e [ha] [] , c []
 a [a] , che [] , a [a] , e [] , e [] , d []

Adjectives:

ch [e] , e [a] , de [de]
 e [] , e [ha] [] , e [dg] [] , e [] , e [ce] , a [a]
 e [e] , d [] , e [] , c [] [] , e [a] , e [c] , a []
 h [] , ch [c] [] , h [] , d []

Part 2: Function words (adverbs / conjunctions / prepositions): 15 total

Adverbs:

e [e] , ch [ch] , e [ge] , ch [ch] , ch [] , ch [] , e [] [] , e [ha] [] , ac [a] , a [] , ead [] , ea [] , []

Conjunctions:

de [de] , ach [de] , de [ha] , de [] , h [] [] , a [] , e [] , h [] , eca [] , e [] , a [] , h [] , gh []

Prepositions:

e [] , che [] , a [] , e [] , e [] [] , ce [] , e [] , ee [] , h [] , e [] , d []

Author biography

... a [] , ca [] , e [] , e [] , ec [] , da [] , ga [] , ge [] , a [] , c [] , . He [] , ce [] , a [] , e [] ,
 a [] , ea [] , ga [] , ge [] , e [] , a [] , a [] , g [] , a [] , ech [] , g [] , ec [] , da [] , ga [] , ge [] ,
 ea [] , ga [] , da [] , ea [] , ga [] , da [] , ge [] , ca [] , ce [] , g [] , a [] , ec [] , e [] , g [] , e [] , e [] ,
 he [] , ac [] , ga [] , da [] , ea [] , ga [] , h [] , ea [] , ga [] , ge [] .