Maie & Godfroid (Chapter 8) in Y. Suzuki (Ed.), *Practice and automatization in second language research: Theory, methods, and pedagogical implications*. **London, UK: Routledge**.

Studies included in the synthesis
Those that are included in the cluster analysis are marked with an asterisk.

Ahmadian, M. J. (2011). The effect of 'massed' task repetitions on complexity, accuracy, and fluency: Does it transfer to a new task? *The Language Learning Journal*, *39*, 269–280. https://doi.org/10.1080/09571736.2010.545239

Ahmadian, M. J., & Tavakoli, M. (2010). The effects of simultaneous use of careful online planning and task repetition on accuracy, complexity, and fluency in EFL learners' oral production. *Language Teaching Research*, *15*, 35–59. https://doi.org/10.1177%2F1362168810383329

Akamatsu, N. (2008). The effect of training on automatization of word recognition in English as a foreign language. *Applied Psycholinguistics*, *29*, 175–193. https://doi.org/10.1017/S0142716408080089

Ammar, A. (2008). Prompts and recasts: Differential effects on second language morphosyntax. *Language Teaching Research*, *12*, 183–210. https://doi.org/10.1177%2F1362168807086287

Arevart, S., & Nation, P. (1991). Fluency improvement in a second language. *RELC Journal*, *22*, 84–94. https://doi.org/10.1177%2F003368829102200106

Bird, S. (2010). Effects of distributed practice on the acquisition of second language English syntax. *Applied Psycholinguistics*, *31*, 635–650. https://doi.org/10.1017/S0142716410000172

Bui, G., Ahmadian, M. J., & Hunter, A.-M. (2019). Spacing effects on repeated L2 task performance. *System*, *81*, 1–13. https://doi.org/10.1016/J.SYSTEM.2018.12.006

Cornillie, F., Van Den Noortgate, W., Van den Branden, K., & Desmet, P. (2017). Examining

    focused L2 practice: From in vitro to in vivo. *Language Learning & Technology*, *21*,

    121−145. https://dx.doi.org/10125/44598

De Jong, N. (2005). Can second language grammar be learned through listening? An

    experimental study. *Studies in Second Language Acquisition*, *27*, 205–234.

    https://doi.org/10.1017/S0272263105050114

De Jong, N., & Perfetti, C. A. (2011). Fluency training in the ESL classroom: An experimental

    study of fluency development and proceduralization. *Language Learning*, *61*, 533−568.

    https://doi.org/10.1111/j.1467-9922.2010.00620.x

DeKeyser, R. M. (1996). Exploring automatization processes. *TESOL Quarterly*, *30*, 349−357.

    https://doi.org/10.2307/3588151

DeKeyser, R. M. (1997). Beyond explicit rule learning: Automatizing second language

    morphosyntax. *Studies in Second Language Acquisition*, *19*, 195−221.

    https://doi.org/10.1017/S0272263197002040

DeKeyser, R. M., & Sokalski, K. J. (1996). The differential role of comprehension and

    production practice. *Language Learning*, *46*, 613−642.

    https://doi.org/10.1111/j.1467-1770.1996.tb01354.x

Elgort, I. (2011). Deliberate learning and vocabulary acquisition in a second language. *Language*

    Learning, *61*, 367−413. https://doi.org/10.1111/j.1467-9922.2010.00613.x

Elgort, I., & Piasecki, A. (2014). The effect of a bilingual learning mode on the establishment of

    lexical semantic representations in the L2. *Bilingualism: Language and Cognition*, *17*,

    572−588. https://doi.org/10.1017/S1366728913000588

Elgort, I., Brysbaert, M., Stevens, M., & Assche, E. V. (2018). Contextual word learning during reading in a second language: An eye-movement study. *Studies in Second Language Acquisition*, *40*, 341−366. https://doi.org/10.1017/S0272263117000109

Fukkink, R., Hulstijn, J., & Simis, A. (2005). Does training in second-language word recognition skills affect reading comprehension? An experimental study. *The Modern Language Journal*, *89*, 54−75. https://psycnet.apa.org/doi/10.1111/j.0026-7902.2005.00265.x

Fukuta, J. (2016). Effects of task repetition on learners' attention orientation in L2 oral production. *Language Teaching Research*, *20*, 321−340. https://doi.org/10.1177%2F1362168815570142

House, J. (1996). Developing pragmatic fluency in English as a foreign language: Routines and metapragmatic awareness. *Studies in Second Language Acquisition*, *18*, 225−252. https://doi.org/10.1017/S0272263100014893

Hui, B. (2020). Processing variability in intentional and incidental word learning: An extension of Solovyeva and DeKeyser (2018). *Studies in Second Language Acquisition*, *42*, 327−357. https://doi.org/10.1017/S0272263119000603

Jafarpur, A., & Yamini, M. (1993). Does practice with dictation improve language skills? *System*, *21*, 359−369. https://doi.org/10.1016/0346-251X(93)90026-D

Kachinske, I., & DeKeyser, R. (2019). The interaction between timing of explicit grammar explanation and individual differences in second language acquisition. *Journal of Second Language Studies*, *2*, 197−232. http://dx.doi.org/10.1075/jsls.19003.kac

Kasprowicz, R., & Marsden, E. (2018). Towards ecological validity in research into input-based practice: Form spotting can be as beneficial as form-meaning practice. *Applied Linguistics*, *39*, 886−911. https://doi.org/10.1093/applin/amw051

Kasprowicz, R. E., Marsden, E., & Sephton, N. (2019). Investigating distribution of practice

    effects for the learning of foreig language verb morphology in the young learner

    classroom. *The Modern Language Journal*, *103*, 580−606.

    https://doi.org/10.1111/modl.12586

Khatib, M., & Nikouee, M. (2012). Planned focus on form: Automatization of procedural

    knowledge. *RELC Journal*, *43*, 187−201. https://doi.org/10.1177%2F0033688212450497

Kim, K. M., & Godroid, A. (2019). Should we listen or read? Modality effects in implicit and

    explicit L2 knowledge of grammar. *The Modern Language Journal*, *103*, 648−664.

    https://doi.org/10.1111/modl.12583

Koval, N. G. (2019). Testing the deficient processing account of the spacing effect in second

    language vocabulary learning: Evidence from eye tracking. *Applied Psycholinguistics*,

    40, 1103−1139. https://doi.org/10.1017/S0142716419000158

Koval, N. G. (2021). Testing the remaining account of the lag effect in L2 vocabulary learning.

    Applied Psycholinguistics, 1−40. https://doi.org/10.1017/S0142716421000370

Li, M., & DeKeyser, R. (2019). Distribution of practice effects in the acquisition and retention of

    L2 Mandarin tonal word production. *The Modern Language Journal*, *103*, 607−628.

    https://doi.org/10.1111/modl.12580

Li, S., & Taguchi, N. (2014). The effects of practice modality on pragmatic development in L2

    Chinese. *The Modern Language Journal*, *98*, 794−812.

    https://doi.org/10.1111/modl.12123

Li, S. (2012). The effects of input-based practice on pragmatic development of requests in L2

    Chinese. *Language Learning*, *62*, 403−438.

    https://doi.org/10.1111/j.1467-9922.2011.00629.x

Martin, I. A., & Jackson, C. N. (2016). Pronunciation training facilitates the learning and

    retention of L2 grammatical structures. *Foreign Language Annals*, *49*, 658−676.

    https://doi.org/10.1111/flan.12224

McManus, K., & Marsden, E. (2017). L1 explicit instruction can improve L2 online and offline

    performance. *Studies in Second Language Acquisition*, *39,* 459−492.

    https://doi.org/10.1017/S027226311600022X

McManus, K., & McManus, E. (2018). Online and offline effects of L1 practice in L2 grammar

    learning: A partial replication. *Studies in Second Language Acquisition*, *40*, 459−475.

    https://doi.org/10.1017/S0272263117000171

McManus, K., & Marsden, E. (2019). Signatures of automaticity during practice: Explicit

    instruction about L1 processing routines can improve L2 grammatical processing.

    Applied Psycholinguistics, *40*, 205−234. https://doi.org/10.1017/S0142716418000553

Miles, S. W. (2014). Spaced vs. massed distribution instruction for L2 grammar learning. *System*,

    42, 412−428. https://doi.org/10.1016/j.system.2014.01.014

Morgan-Short, K., & Bowden, H. W. (2006). Processing instruction and meaningful output-based

    instruction: Effects of second language development. *Studies in Second Language*

    Acquisition, *28*, 31−65. https://doi.org/10.1017/S0272263106060025

Morgan-Short, K., Faretta-Stutenberg, M., Brill, K. A., Carpenter, H., & Wong, P. C. M. (2014).

    Declarative and procedural memory as individual differences in second language

    acquisition. *Bilingualism: Language and Cognition*. *17*, 56–72.

    https://doi.org/10.1017/S1366728912000715

Morgan-Short, K., Deng, Z., Brill-Schuetz, K. A., Faretta-Stutenberg, M., Wong, P. C. M., &

    Wong, F. C. K. (2015). A view of the neural representation of second language syntax

through artificial language learning under implicit contexts of exposure. *Studies in Second Language Acquisition*, *37*, 383–419. https://doi.org/10.1017/S0272263115000030

Nagata, N. (1998). Input vs. output practice in educational software for second language acquisition. *Language Learning & Technology*, *1*, 23–40.

Nakata, N. (2008). English vocabulary learning with word lists, word cards and computers: Implications from cognitive psychology research for optimal spaced learning. *ReCALL*, *20*, 3–20. https://doi.org/10.1017/S0958344008000219

Nakata, N. (2015). Effects of expanding and equal spacing on second language vocabulary learning: Does gradually increasing spacing increase vocabulary learning? *Studies in Second Language Acquisition*, *37*, 677–711. https://doi.org/10.1017/S0272263114000825

Nakata, N. (2016). Effects of retrieval formats on second language vocabulary learning. *International Review of Applied Linguistics in Language Teaching*, *54*, 257–289. https://doi.org/10.1515/iral-2015-0022

Nakata, N. (2017). Does repeated practice make perfect? The effects of within-session repeated retrieval on second language vocabulary learning. *Studies in Second Language Acquisition*, *39*, 653–679. https://doi.org/10.1017/S0272263116000280

Nakata, T., & Elgort, I. (2021). Effects of spacing on contextual vocabulary learning: Spacing facilitates the acquisition of explicit, but not tacit, vocabulary knowledge. *Second Language Research*, *37*, 233–260. https://doi.org/10.1177/0267658320927764

Nakata, T., & Suzuki, Y. (2019). Mixing grammar exercises facilitates long-term retention: Effects of blocking, interleaving, and increasing practice. *The Modern Language Journal*, *103*, 629–647. https://doi.org/10.1111/modl.12581

Nakata, T., & Suzuki, Y. (2019). Effects of massing and spacing on the learning of semantically related and unrelated words. *Studies in Second Language Acquisition*, *41*, 287–311. https://doi.org/10.1017/S0272263118000219

Obermeier, A., & Elgort, I. (2021). Deliberate and contextual learning of L2 idioms: The effect of learning conditions on online processing. *System*, *97*, 1–11. https://doi.org/10.1016/j.system.2020.102428

Penning de Vries, B. W. F., Cucchiarini, C., & Strik, H., van Hout, R. (2020). Spoken grammar practice in CALL: The effect of corrective feedback and educational level in adult learning. *Language Teaching Research*, *24*, 714–735. https://doi.org/10.1177/1362168818819027

Pili-Moss, D. (2021). Cognitive predictors of child second language comprehension and syntactic learning. *Language Learning*, *71*, 907–945. https://doi.org/10.1111/lang.12454

Pili-Moss, D., Brill-Schuetz, K. A., Faretta-Stutenberg, M., & Morgan-Short, K. (2020). Contributions of declarative and procedural memory to accuracy and automatization during second language practice. *Bilingualism: Language and Cognition*, *23*, 639–651. https://doi.org/10.1017/S1366728919000543

Qin, J. (2019). Effects of repeated practice in pre-task planning on the acquisition of English personal pronouns by Chinese EFL learners. *System*, *81*, 100–109. https://doi.org/10.1016/j.system.2019.01.010

Rogers, J. (2015). Learning second language syntax under massed and distributed conditions. *TESOL Quarterly*, *49*, 857−866. https://doi.org/10.1002/tesq.252

Rogers, J., & Cheung, A. (2020). Input spacing and the learning of L2 vocabulary in a classroom context. *Language Teaching Research*, *24*, 616−641. https://doi.org/10.1177/1362168818805251

Rogers, J., & Cheung, A. (2020). Does it matter when you review? Input spacing, ecological validity, and the learning of L2 vocabulary. *Studies in Second Language Acquisition*, 1−19. https://doi.org/10.1017/S0272263120000236

Sanz, C., Lin, H.-J., Lado, B., Stafford, C. A., & Bowden, H. W. (2016). One size fits all? Learning conditions and working memory capacity in ab initio language development. *Applied Linguistics*, *37*, 669–692. https://doi.org/10.1093/applin/amu058

Sato, M., & Lyster, R. (2012). Peer interaction and corrective feedback for accuracy and fluency development: Monitoring, practice, and proceduralization. *Studies in Second Language Acquisition*, *34*, 591−626. https://doi.org/10.1017/S0272263112000356

Sato, M., & McDonough, K. (2019). Practice is important but how about its quality? Contextualized practice in the classroom. *Studies in Second Language Acquisition*, *41*, 999–1026. https://doi.org/10.1017/S0272263119000159

Schuetze, U. (2015). Spacing techniques in second language vocabulary acquisition: Short-term gains vs. long-term memory. *Language Teaching Research*, *19*, 28–42. https://doi.org/10.1177/1362168814541726

Serrano, R. (2011). The time factor in EFL classroom practice. *Language Learning*, *61*, 117–145. https://doi.org/10.1111/j.1467-9922.2010.00591.x

Shegar, C., Zhang, L. J., & Low, E. L. (2013). Effects of an input-output mapping practice task on EFL learners' acquisition of two grammatical structures. *System*, *41*, 443–461. https://doi.org/10.1016/j.system.2013.03.008

Snellings, P., van Gelderen, A., & de Glopper, K. (2002). Lexical retrieval: An aspect of fluent second language production that can be enhanced. *Language Learning*, *52*, 723–754. https://doi.org/10.1111/1467-9922.00202

Solovyeva, K., & DeKeyser, R. (2018). Response time variability signatures of novel word learning. *Studies in Second Language Acquisition*, *40*, 225–239. https://doi.org/10.1017/S0272263117000043

Stafford, C. A, Bowden, H. W., & Sanz, C. (2012). Optimizing language instruction: Matters of explicitness, practice, and cue Learning. *Language Learning*, *62*, 741−768. https://doi.org/10.1111/j.1467-9922.2011.00648.x

Suzuki, Y. (2018). The role of procedural learning ability in automatization of L2 morphology under different learning schedules: An exploratory study. *Studies in Second Language Acquisition*, *40*, 923−937. https://doi.org/10.1017/S0272263117000249

Suzuki, Y. (2021). Optimizing fluency training for speaking skills transfer: Comparing the effects of blocked and interleaved task repetition. *Language Learning*, *71*, 285−325. https://doi.org/10.1111/lang.12433

Suzuki, Y., & DeKeyser, R. (2017). Effects of distributed practice on the proceduralization of morphology. *Language Teaching Research*, *21*, 166−188. https://doi.org/10.1177/1362168815617334

Suzuki, Y., & Hanzawa, K. (2021). Massed task repetition is a double-edged sword for fluency development: An EFL classroom study. *Studies in Second Language Acquisition*, 1−26. https://doi.org/10.1017/S0272263121000358

Suzuki, Y., & Sunada, M. (2020). Dynamic interplay between practice type and practice schedule in a second language: The potential and limits of skill transfer and practice schedule.

Studies in Second Language Acquisition, *42*, 169−197.

https://doi.org/10.1017/S0272263119000470

Suzuki, Y., Yokosawa, S., & Aline, D. (2020). The role of working memory in blocked and

interleaved grammar practice: Proceduralization of L2 syntax. *Language Teaching*

Research, 1−25. https://doi.org/10.1177%2F13621688209139

Tavakoli, P., Campbell, C., & McCormack, J. (2016). Development of speech fluency over a

short period of time: Effects of pedagogical intervention. *TESOL Quarterly*, *50*, 447−471.

https://doi.org/10.1002/tesq.244

Terai, M., Yamashita, J., & Pasich, K. E. (2021). Effects of learning direction in retrieval practice

on EFL vocabulary learning. *Studies in Second Language Acquisition*, 1−22.

https://doi.org/10.1017/S0272263121000346

Tran, M. N., & Saito, K. (2021). Effects of the 4/3/2 activity revisited: Extending Boers (2014)

and Thai & Boers (2016). *Language Teaching Research*, 1−20.

https://doi.org/10.1177%2F1362168821994136

Trofimovich, P., & Gatbonton, E. (2006). Repetition and focus on form in processing L2 Spanish

words: Implications for pronunciation instruction. *The Modern Language Journal*, *90*,

519−535. https://doi.org/10.1111/j.1540-4781.2006.00464.x

Trofimovich, P., Lightbown, P. M., Halter, R. H., & Song, H. (2009). Comprehension-based

practice: The development of L2 pronunciation in a listening and reading program.

Studies in Second Language Acquisition, *31*, 609−639.

https://doi.org/10.1017/S0272263109990040

Yekimaleki, M., & van Heuven, V. J. (2021). Effects of attention to segmental vs.

suprasegmental features on the speech intelligibility and comprehensibility of the EFL

learners targeting the perception or production-focused practice. *System*, *100*, 1−12.

https://doi.org/10.1016/j.system.2021.102557