



Universiteit
Leiden
The Netherlands

CBM progress monitoring in reading and foreign-language learning for secondary-school students

Chung, S.

Citation

Chung, S. (2018, June 26). *CBM progress monitoring in reading and foreign-language learning for secondary-school students*. Retrieved from <https://hdl.handle.net/1887/63990>

Version: Not Applicable (or Unknown)

License: [Licence agreement concerning inclusion of doctoral thesis in the Institutional Repository of the University of Leiden](#)

Downloaded from: <https://hdl.handle.net/1887/63990>

Note: To cite this publication please use the final published version (if applicable).

Cover Page



Universiteit Leiden



The handle <http://hdl.handle.net/1887/63990> holds various files of this Leiden University dissertation.

Author: Chung, S.

Title: CBM progress monitoring in reading and foreign-language learning for secondary-school students

Issue Date: 2018-06-26

References

References

- Albano, A. D., & Rodriguez, M. C. (2012). Statistical equating with measures of oral reading fluency. *Journal of School Psychology, 50*(1), 43-59. doi:10.1016/j.jsp.2011.07.002
- Alderson, J. C., & Banerjee, J. (2002). State of the art review: Language testing and assessment (part two). *Language Teaching, 35*(2), 79-113.
- Allinder, R. M. (1995). An examination of the relationship between teacher efficacy and curriculum-based measurement and student achievement. *Remedial and Special Education, 16*(4), 247-254. doi:10.1177/074193259501600408
- Antonacci, P. A., O'Callaghan, C. M., & Berkowitz, E. (2015). *Developing content area literacy: 40 strategies for middle and secondary classrooms* (2nd ed). Thousand Oaks, CA: Sage.
- Armbruster, B. B., & Anderson, T. H. (1988). On selecting "considerate" content area textbooks. *Remedial and Special Education, 9*, 47-52.
doi:10.1177/074193258800900109
- Baker, D. L, Biancarosa, G., Park, B. J., Bousselot, T., Smith, J., Baker, S. K., Kame'enui, E. J., Alonzo, J., & Tindal, G. (2015). Validity of CBM measures of oral reading fluency and reading comprehension on high-stakes reading assessments in grades 7 and 8. *Reading and Writing: An Interdisciplinary Journal, 28*(1), pp 57-104. doi:10.1007/s11145-014-9513-4
- Barth, A. E., Stuebing, K. K., Fletcher, J. M., Cirino, P. T., Romain, M., Francis, D., & Vaughn, S. (2012). Reliability and validity of oral reading fluency median and mean scores among middle grade readers when using equated texts. *Reading Psychology, 33*, 133-161. doi:10.1080/02702711.2012.631863
- Barth, A. E., Stuebing, K. K., Fletcher, J. M., Denton, C. A., Vaughn, S., & Francis, D. (2014). The effect of reading duration on the reliability and validity of middle school students' ORF performance. *Assessment for Effective Intervention, 40*, 53-64.
doi:10.1177/1534508414545643
- Bates, D., & Maechler, M. (2010). *lme4: Linear Mixed-Effects models using S4 Classes*. [Computer program and manual]. Retrieved from: <http://r-forge.r-project.org/projects/lme4/>
- Betts, J., Pickart, M., & Heistad, D. (2009). An investigation of the psychometric evidence of CBM-R passage equivalence: Utility of readability statistics and equating for alternate forms. *Journal of School Psychology, 47*, 1-17. doi:10.1016/j.jsp.2008.09.001
- Beyers, S. J., Lembke, E. S., & Curs, B. (2013). Social studies progress monitoring and intervention for middle school students. *Assessment for Effective Intervention, 38*, 224-235. doi:10.1177/1534508413489162

-
- Borsuk, E. R. (2010). Examination of an administrator-read vocabulary-matching measure as an indicator of science achievement. *Assessment for Effective Intervention*, 35, 168-177. doi:10.1177/1534508410372081
- Busch, T. W. & Espin, C. A. (2003). Using curriculum-based measurement to prevent failure and assess learning in the content areas. *Assessment for Effective Intervention*, 28, 49-58. doi:10.1177/073724770302800306
- Catts, H. W., Adlof, S. M., & Weismier, S. E. (2006). Language deficits in poor comprehenders: A case for the simple view of reading. *Journal of Speech and Hearing Research*, 49, 278-293. doi:10.1044/1092-4388(2006/023)
- CBS StatLine. (2015). VO leerlingen, onderwijssoort in detail, leerjaar [Secondary-school students, school level in detail, grade level] [data file]. Retrieved from <http://www.cbs.nl/>
- CED-groep. (2012). Nieuwsbegrip [Understanding the news]. Rotterdam, The Netherlands: CED-groep.
- Christ, T. J. (2006). Short-term estimates of growth using curriculum-based measurement of oral reading fluency: Estimating of standard error of the slope to construct confidence intervals. *School Psychology Review*, 35(1), 128-133.
- Christ, T. J., & Ardoine, S. P. (2009). Curriculum-based measurement of oral reading: Passage equivalence and probe-set development. *Journal of School Psychology*, 47(1), 55-75. doi:10.1016/j.jsp.2008.09.004
- Christ, T. J., Monaghan, B. D., Zopluoglu, C., & van Norman, E. R. (2012). Curriculum-based measurement of oral reading: Evaluation of growth estimates derived with pre-post assessment methods. *Assessment for Effective Intervention*, 38(3), 139-153.
- Christ, T. J., Silbergliitt, B., Yeo, S., & Cormier, D. (2010). Curriculum-based measurement of oral reading: An evaluation of growth rates and seasonal effects among students served in general and special education. *School Psychology Review*, 39(3), 447-462.
- Christ, T. J., Zopluoglu, C., Long, J. D., & Monaghan, B. D. (2012). Curriculum-based measurement of oral reading: Quality of progress monitoring outcomes. *Exceptional Children*, 78(3), 356-373. doi:10.1177/001440291207800306
- Christ, T. J., Zopluoglu, C., Monaghan, B. D., & van Norman, E. R. (2013). Curriculum-based measurement of oral reading: Multi-study evaluation of schedule, duration, and dataset quality on progress monitoring outcomes. *Journal of School Psychology*, 51, 19-57. doi:10.1016/j.jsp.2012.11.001
- Chung, S., Espin, C. A., & Stevenson, C. E. (2018). CBM maze-scores as indicators of reading level and growth for seventh-grade students. *Reading and Writing: An Interdisciplinary Journal*, 3, 627-648. doi:10.1007/s11145-017-9803-8
- Cito. (2010). *Cito volgsysteem voortgezet onderwijs* [Cito monitoring system for secondary education]. Arnhem, The Netherlands: Centraal Instituut voor Toetsontwikkeling.

- Codding, R. S., Petscher, Y., & Truckenmiller, A. (2015). CBM reading, mathematics, and written expression at the secondary level: Examining latent composite relations among indices and unique predictions with a state achievement test. *Journal of Educational Psychology, 107*(2), 437-450. doi:10.1037/a0037520
- Conoyer, S. J., Lembke, E. S., Hosp, J., Espin, C. A., Hosp, M. &, Poch, A. (2017). Getting more from your maze: Examining differences in distractors. *Reading & Writing Quarterly: Overcoming Learning Difficulties, 33*(2), 141-154. doi:10.1080/10573569.2016.1142913
- Cranney, A. G. (1972-73). The construction of two types of cloze reading tests for college students. *Journal of Reading Behavior, 5*(1), 60-64.
- Cronbach, L. J., & Meehl, P. E. (1955). Construct validity in psychological tests. *Psychological bulletin, 52*(4), 281-302.
- Cutting, L. E., & Scarborough, H. S. (2006). Prediction of reading comprehension: Relative contributions of word recognition, language proficiency, and other cognitive skills can depend on how comprehension is measured. *Scientific Studies of Reading, 10*, 277–299. doi:10.1207/s1532799xssr1003_5
- Decker, D. M., Hixson, M. D., Shaw, A., & Johnson, G. (2014). Classification accuracy of oral reading fluency and maze in predicting performance on large-scale reading assessments. *Psychology in the Schools, 51*, 625-635. doi:10.1002/pits.21773
- Deno, S. L. (1985). Curriculum-based measurement: The emerging alternative. *Exceptional Children, 52*, 219-232. doi:10.1177/001440298505200303
- Deno, S. L. (1990). Individual differences and individual difference: The essential difference of special education. *The Journal of Special Education, 24*(2), 160-173. doi:10.1177/002246699002400205
- Deno, S. L. (2003). Developments in curriculum-based measurement. *The Journal of Special Education, 37*(3), 184-192. doi:10.1177/00224669030370030801
- Deno, S. L. (2013). Problem-solving assessment. In R. Brown-Chidsey and K. J. Andren (Eds.), *Assessment for Intervention: A problem-solving approach* (pp. 10-38). New York, NY: Guilford Press.
- Deno, S. L. & Fuchs, L. S. (1987). Developing curriculum-based measurement systems for data-based special education problem solving. *Focus on Exceptional Children, 19*(8), 1-16.
- Deno, S. L., Fuchs, L. S., Marston, D., & Shin, J. (2001). Using curriculum-based measurement to establish growth standards for students with learning disabilities. *School Psychology Review, 30*(4), 507-524.
- Deno, S. L., & Mirkin, P. K. (1977). *Data-based Program Modification: A Manual*. Reston, VA: Council for Exceptional Children.
- Denton, C. A., Barth, A. E., Fletcher, J. M., Wexler, J., Vaughn, S., Cirino, P. T., Romain, M., & Francis, D. J. (2011). The relations among oral and silent reading fluency and

-
- comprehension in middle school: Implications for identification and instruction of students with reading difficulties. *Scientific Studies of Reading*, 15, 109-135.
doi:10.1080/10888431003623546
- Dutch Inspectorate of Education. (2015). *Opbrengstgericht werken aan taal en rekenen in het voortgezet onderwijs [data-based decisions in language arts and mathematics at the secondary-school level]*. Utrecht: Dutch Inspectorate of Education. Retrieved from: <https://www.rijksoverheid.nl/binaries/rijksoverheid/documenten/rapporten/2015/02/01/opbrengstgericht-werken-aan-taal-en-rekenen-in-het-voortgezet-onderwijs/opbrengstgericht-werken-aan-taal-en-rekenen-in-het-voortgezet-onderwijs.pdf>
- Dutch Ministry of Education, Culture and Science. (2005). *The Education System in the Netherlands 2005*. The Hague, The Netherlands: Dutch Eurydice Unit. Retrieved from: <https://www.rijksoverheid.nl/binaries/rijksoverheid/documenten/rapporten/2005/12/23/education-system-in-the-netherlands/eurydice-en.pdf>
- Dutch Ministry of Education, Culture and Science. (2009). *Referentiekader taal en rekenen. [Reference framework language and mathematics]*. Enschede, The Netherlands: Doorlopende leerlijnen Taal en Rekenen. Retrieved from: <http://www.talenrekenen.nl/downloads/referentiekader-taal-en-rekenen-referentieniveaus.pdf>
- Dutch Ministry of Education, Culture and Science. (2011). *Actieplan VO beter presteren: Opbrengstgericht en ambitieus. [Action plan to improve performance at secondary-school level: data-based decision-making and ambitious goals]*. The Hague: Dutch Ministry of Education, Culture and Science. Retrieved from: <https://www.rijksoverheid.nl/binaries/rijksoverheid/documenten/kamerstukken/2011/05/23/actieplan-vo-beter-presteren/actieplan-vo-beter-presteren.pdf>
- Edmonds, M. S., Vaughn, S., Wexler, J., Reutebuch, C., Cable, A., Tackett, K. K., & Schnakenberg, J. W. (2009). A synthesis of reading interventions and effects on reading comprehension outcomes for older struggling readers. *Review of Educational Research*, 79(1), 262-300. doi:10.3102/0034654308325998
- Eggerink, I. J. L., Janssen, N. A. M., & Vermeulen, C. S. M. (2015a). COTAN beoordeling 2015, Cito LOVS toets 0 [COTAN review 2015, Cito student educational progress monitoring system test 0]. Retrieved from www.cotandocumentatie.nl
- Eggerink, I. J. L., Janssen, N. A. M., & Vermeulen, C. S. M. (2015b). COTAN beoordeling 2015, Cito LOVS toets 1 [COTAN review 2015, Cito student educational progress monitoring system test 1]. Retrieved from www.cotandocumentatie.nl
- Espin, C. A., Busch, T. W., Lembke, E. S., Hampton, D. D., Seo, K., & Zukowski, B. (2013). Curriculum-based measurement in science learning: Vocabulary-matching as an indicator of performance and progress. *Assessment for Effective Intervention*, 38, 203-213. doi:10.1177/1534508413489724
- Espin, C. A., Busch, T. W., Shin, J., & Kruschwitz, R. (2001). Curriculum-based measurement in the content areas: Validity of vocabulary-matching as an indicator of performance in

- social studies. *Learning Disabilities Research and Practice*, 16, 142-151.
doi:10.1111/0938-8982.00015
- Espin, C. A., & Campbell, H. (2012). They're getting older . . . but are they getting better? The influence of CBM on programming for secondary-school students with learning disabilities. In C. Espin, K. McMaster, S. Rose, & M. Wayman (Eds.) *A Measure of Success: The Influence of Curriculum-Based Measurement on Education* (pp. 149-164). Minneapolis, MN: University of Minnesota Press.
- Espin, C. A., Chung, S., Foegen, A. & Campbell, H. (in press). Curriculum-based measurement for secondary-school students. In P. C. Pullen, & M. J. Kennedy (Eds.), *Handbook of Response to Intervention and Multi-Tiered Systems of Support*. London: Taylor & Francis/Routledge.
- Espin, C. A., & Deno, S. L. (1993a). Content-specific and general reading disabilities of secondary-level students: Identification and educational relevance. *Journal of Special Education*, 27, 321-337.
- Espin, C. A., & Deno, S. L. (1993b). Performance in reading from content-area text as an indicator of achievement. *Remedial and Special Education*, 14(6), 47-59.
doi:10.1177/074193259301400610
- Espin C. A., Deno S. L. (1994-95). Curriculum-based measures for secondary students: Utility and task specificity of text-based reading and vocabulary measures for predicting performance on content-area tasks. *Diagnostique*, 20, 121-142
- Espin, C. A., & Deno, S. L. (2016). Oral reading fluency or reading aloud from text: An analysis through a unified view of construct validity. In K. D. Cummings & Y. Petscher (Eds.), *The Fluency Construct: Curriculum-Based Measurement Concepts and Applications* (pp. 365-384). New York, NY: Springer.
- Espin, C. A., Deno, S. L., Maruyama, G., & Cohen, C. (1989). *The Basic Academic Skills Samples (BASS): An instrument for the screening and identification of children at risk for failure in regular education classrooms*. Paper presented at the National Convention of the American Educational Research Association, March, 1989.
- Espin, C. A., & Foegen, A. (1996). Validity of three general outcome measures for predicting secondary students' performance on content-area tasks. *Exceptional Children*, 62, 497-514.
- Espin, C. A., Shin, J., & Busch, T. W. (2005). Curriculum-Based Measurement in the content areas: Vocabulary matching as an indicator of progress in social studies learning. *Journal of Learning Disabilities*, 38, 353-363. doi: 10.1177/00222194050380041301
- Espin, C. A., & Tindal, G. (1998). Curriculum-based measurement for secondary students. In M. R. Shinn (Ed.), *Advanced applications of curriculum-based measurement* (pp. 214-253). New York, NY: Guilford Press.
- Espin, C. A., Wallace, T., Lembke, E., Campbell, H., & Long, J. D. (2010). Creating a progress-monitoring system in reading for middle-school students: Tracking progress

-
- toward meeting high-stakes standards. *Learning Disabilities Research and Practice*, 25(2), 60-75. doi:10.1111/j.1540-5826.2010.00304.x
- Eurydice (2001). *Foreign language teaching in schools in Europe*. Brussels: European Commission.
- Fewster, S., & MacMillan, P. (2002). School-based evidence for the validity of Curriculum-Based Measurement of reading and writing. *Remedial and Special Education*, 23, 149-156. doi:10.1177/07419325020230030301
- Foegen, A., Jiban, C., & Deno, S. L. (2007). Progress monitoring measures in mathematics: A review of the literature. *Journal of Special Education*, 41(2), 1-139. doi:10.1177%2F00224669070410020101
- Fuchs, D., Fuchs, L. S., Mathes, P. G., & Lipsey, M. W. (2000). Reading differences between low-achieving students with and without learning disabilities: A meta-analysis. In R. Gersten, E. Schiller, & S. Vaughn (Eds.), *Research synthesis in special education* (pp. 81-104). Mahwah, NJ: Erlbaum.
- Fuchs, L. S. (1989). Effects of systematic observation and feedback on teachers' implementation of curriculum-based measurement. *Teacher Education and Special Education*, 16(2), 178-187. doi:10.1177/088840649301600210
- Fuchs, L. S. (2004). The past, present, and future of curriculum-based measurement research. *School Psychology Review*, 33(2), 188-192.
- Fuchs, L. S., & Deno, S. L. (1994). Must instructionally useful performance assessment be based in the curriculum? *Exceptional Children*, 61(1), 15-24. doi:10.1177/001440299406100103
- Fuchs, L. S., & Fuchs, D. (1992). Identifying a measure for monitoring student reading progress. *School Psychology Review*, 21(1), 45-58.
- Fuchs, L. S., Fuchs, D., & Hamlett, C. L. (2007). Using curriculum-based measurement to inform reading instruction. *Reading and Writing: An Interdisciplinary Journal*, 20(6), 553-567. doi:10.1007/s11145-007-9051-4
- Good, R. H., & Shinn, M. R. (1990). Forecasting accuracy of slope estimates for reading curriculum-based measurement: Empirical evidence. *Behavioral Assessment*, 12, 179-193.
- Groves, F. H. (1995). Science vocabulary load of selected secondary science textbooks. *School Sciences & Mathematics*, 95, 231-235. doi:10.1111/j.1949-8594.1995.tb15772.x
- Haladyna, T. M., & Downing, S. M. (2004). Construct-irrelevant variance: A threat in highstakes testing. *Educational Measurement: Issues and Practice*, 23(1), 17-27.
- Hale, A. D., Henning, J. B., Hawkins, R. O., Sheeley, W., Shoemaker, L., Reynolds, J. R., & Moch, C. (2011). Reading assessment methods for middle-school students: An investigation of reading comprehension rate and maze accurate response rate. *Psychology in the Schools*, 48, 28-36. doi:10.1002/pits.20544

- Hale, G. A., Stansfield, C. W., Rock, D. A., Hicks, M. M., Butler, F. A., & Oller, J. W. (1989). The relation of multiple-choice cloze items to the test of English as a foreign language. *Language Testing, 6*(1), 47-76.
- Hallahan, D. P., Lloyd, J. W., Kauffman, J. M., Weiss, M. P., & Martinez, E. A. (2005). *Learning disabilities: foundations, characteristics, and effective teaching* (3rd edition). Boston: Pearson/Allyn and Bacon.
- Hintze, J. M., & Christ, T. J. (2004). An examination of variability as a function of passage variance in CBM progress monitoring. *School Psychology Review, 33*(2), 204-217.
- Hox, J. (2010). *Multilevel analysis. Techniques and applications* (2nd edition). New York, NY: Routledge. (see <http://joophox.net/mlbook2/MLbook.htm>)
- Jenkins, J. R. & Fuchs, L. S. (2012). Curriculum-Based Measurement: The paradigm, history, and legacy. In C. Espin, K. McMaster, S. Rose, & M. Wayman (Eds.) *A Measure of success: The influence of Curriculum-based Measurement on education* (pp. 7-26). Minneapolis, MN: University of Minnesota Press.
- Jenkins, J. R., Graff, J. J., & Miglioretti, D. L. (2009). Estimating reading growth using intermittent CBM progress monitoring. *Exceptional Children, 75*, 151-163. doi:10.1177/00144
- Jenkins, J. R., & Pany, D. (1978). Curriculum biases in reading achievement tests. *Journal of Reading Behavior, 10*, 345-357. doi:10.1080/10862967809547288 0290907500202
- Johnson, E. S., Semmelroth, C., Allison, J., & Fritsch, T. (2013). The technical properties of science content maze passages for middle school students. *Assessment for Effective Intervention, 38*, 214-233. doi:10.1177/ 1534508413489337
- Keller-Margulis, M. A., Mercer, S. H., Payan, A., & McGee, W. (2015). Measuring annual growth using written expression curriculum-based measurement: An examination of seasonal and gender differences. *School Psychology Quarterly, 30*(2), 276-288. doi:10.1037/spq0000086
- Ketterlin-Geller, L. R., McCoy, J. D., Twyman, T., & Tindal, G. (2006). Using a concept maze to assess student understanding of secondary-level content. *Assessment for Effective Intervention, 31*, 39-50. doi:10.1177/ 073724770603100204
- Kieffer, M. J. (2011). Converging trajectories: Reading growth in language minority learners and their classmates, kindergarten to grade 8. *American Educational Research Journal, 48*, 1187-1225. doi:10.3102/0002831211419490
- Kim, Y., Petscher, Y., & Foorman, B. (2015). The unique relation of silent reading fluency to end-of-year reading comprehension: Understanding individual differences at the student, classroom, school, and district levels. *Reading and Writing: An Interdisciplinary Journal, 28*, 131-150. doi:10.1007/s11145-013-9455-2
- Mandinach, E. B. (2012). A perfect time for data use: Using data-driven decision making to inform practice. *Educational Psychologist, 47*, 71-85.
- Mazesonline. (2013). Available from <http://www.mazesonline.nl/>

-
- McArdle, J. J., Grimm, K. J., Hamagami, F., Bowles, R. P., & Meredith, W. (2009). Modeling life-span growth curves of cognition using longitudinal data with multiple samples and changing scales of measurement. *Psychological Methods*, 14(2), 126-149.
doi:10.1037/a00015857
- McCane-Bowling, S. J., Strait, A. D., Guess, P. E., Wiedo, J. R., & Muncie, E. (2014). The utility of maze accurate response rate in assessing reading comprehension in upper elementary and middle school students. *Psychology in the Schools*, 51, 789-800.
doi:10.1002/pits.21789
- McMaster, K., L. & Espin, C. (2007). Technical features of curriculum-based measurement in writing: A literature review. *Journal of Special Education*, 41(2), 68-84.
doi:10.1177/00224669070410020301
- McMaster, K. L., Wayman, M. M., & Cao, M. (2006). Monitoring the reading progress of secondary-level English learners: Technical features of oral reading and maze tasks. *Assessment for Effective Intervention*, 31(4), 17-31. doi:10.1177/073724770603100402
- Messick, S. (1989). Validity. In R. L. Linn (Ed), *Educational measurement* (3rd edition), (pp. 13-103). New York, NY: MacMillan.
- Mooney, P., McCarter, K. S., Russo, R. J., & Blackwood, D. L. (2013). Examining an online content general outcome measure: Technical features of the static score. *Assessment for Effective Intervention*, 38, 249-260. doi:10.1177/1534508413488794
- Mooney, P., McCarter, K. S., Schraven, J., & Callicoatte, S. (2013). Additional performance and progress validity findings targeting the content-focused vocabulary matching. *Exceptional Children*, 80, 85-100. doi:10.1177/001440291308000104
- Mooney, P., McCarter, K. S., Schraven, J., & Haydel, B. (2010). The relationship between content area general outcome measurement and statewide testing in sixth-grade world history. *Assessment for Effective Intervention*, 35(3), 148-158.
doi:10.1177/1534508409346052
- Muijselaar, M. M. L., Kendeou, P., de Jong, P. F., & van den Broek, P. W. (2017). What does the CBM-maze test measure? *Scientific Studies of Reading*, 21(2), 120-132.
doi:10.1080/10888438.2016.1263994
- Nation, I. S. P. (1982). Beginning to learn foreign vocabulary: A review of the research. *RELC Journal*, 13(1), 14-36.
- Nederlands Instituut van Psychologen (2011). *Documentatie van tests en testresearch in Nederland: Researchbeschrijving Volg- en Adviesysteem (VAS)* [Documentation of assessments and research on assessments in the Netherlands: Description of research on Progress Monitoring and Advice system]. Amsterdam: Boom test uitgevers.
- Nese, J. F. T., Biancarosa, G., Anderson, D., Lai, C., Alonso, J., & Tindal, G. (2012). Within-year oral reading fluency with CBM: A comparison of models. *Reading and Writing: An Interdisciplinary Journal*, 25(4), 887-915. doi:10.1007/s11145-011-9304-0

- Nese, J. F. T., Biancarosa, G., Cummings, K., Kennedy, P., Alonzo, J., & Tindal, G. (2013). In search of average growth: Describing within-year oral reading fluency growth across Grades 1-8. *Journal of School Psychology*, 51, 625-642. doi:10.1016/j.jsp.2013.05.006
- NWEA. (2003). *Technical manual for the Northwest Evaluation Association (NWEA) Measures of Academic Progress and Achievement Level Tests*. Portland, OR: Northwest Evaluation Association.
- OECD. (2016). PISA 2015 results (Volume I): Excellence and equity in education, PISA, OECD Publishing, Paris. doi:10.1787/9789264266490-en
- Petscher, Y., Cummings, K. D., Biancarosa, G., & Fien, H. (2013). Advanced (measurement) applications of curriculum-based measurement in reading. *Assessment for Effective Intervention*, 38(2), 71-75. doi:10.1177/1534508412461434
- Sandberg, K. L., & Reschly, A. L. (2011). English learners: Challenges in assessment and the promise of curriculum-based measurement. *Remedial and Special Education*, 32(2), 144-154.
- Santi, K. L., Barr, C., Khalaf, S., & Francis, D. J. (2016). Different approaches to equating oral reading fluency passages. In: K. D. Cummings, & Y. Petscher (Eds), *The fluency construct: Curriculum-based measurement concepts and applications* (pp. 223-265). New York: Springer.
- Savage, R. (2006). Reading comprehension is not always the produce of nonsense word decoding and linguistic comprehension: Evidence from teenagers who are extremely poor readers. *Scientific Studies of Reading*, 10, 143-164. doi:10.1207/s1532799xssr1002_2
- Scamacca, N. K., Roberts, G. J., Cho, E., Williams, K. J., Roberts, G., Vaughn, S. R., & Carroll, M. (2016). A century of progress: Reading interventions for students in grades 4-12, 1914-2014. *Review of Educational Research*, 86(3), 756-800. doi:10.3102/0034654316652942
- Seifert, K., & Espin, C. A. (2012). Improving reading of science text for secondary students with learning disabilities: Effects of text reading, vocabulary learning, and combined approaches to instruction. *Learning Disability Quarterly*, 35, 236-247. doi:10.1177/0731948712444275
- Shin, J., Espin, C. A., Deno, S. L., & McConnell, S. (2004). Use of hierarchical linear modeling and curriculum-based measurement for assessing academic growth and instructional factors for students with learning difficulties. *Asia Pacific Education Review*, 5(2), 136-148. doi:10.1007/BF03024951
- Shinn, M. R., Good, R. H., & Stein, S. (1989). Summarizing trend in student-achievement: A comparison of methods. *School Psychology Review*, 18(3), 356-370.
- Silbergliitt, B., Burns, M. K., Madyun, N., & Lail, K. E. (2006). Relationship of reading fluency assessment data with state accountability test scores: A longitudinal comparison of grade levels. *Psychology in the Schools*, 43, 527-535. doi:10.1002/pits.20175

-
- Skiba, R. J., Deno, S. L., Marston, D., & Wesson, C. (1986). Characteristics of time-series data collected through curriculum-based reading measurement. *Diagnosticque*, 12, 3-15. doi:10.1177/073724778601200101
- Skinner, M. E., & Smith, A. T. (2011). Creating success for students with learning disabilities in postsecondary foreign language courses. *International Journal of Special Education*, 26(2), 42-57.
- Sparks, R. L. (2006). Is there a disability for learning a foreign language? *Journal of Learning Disabilities*, 39(6), 544-557.
- Sparks, R. L., Javorsky, J. & Philips, L. (2005). Comparison of the performance of college students classified as ADHD, LD, and LD/ADHD in foreign language courses. *Language Learning*, 55(1), 151-177.
- Solis, M., Miciak, J., Vaughn, S., & Fletcher, J. M. (2014). Why intensive interventions matter: Longitudinal studies of adolescents with reading disabilities and poor reading comprehension. *Learning Disability Quarterly*, 37(4), 218-229. doi:10.1177/0731948714528806
- Stecker, P. M., Fuchs, L. S., & Fuchs, D. (2005). Using curriculum-based measurement to improve student achievement: Review of research. *Psychology in the Schools*, 42, 795-819. doi:10.1002/pits.20113
- Stevenson, N. A. (2015). Predicting proficiency on statewide assessments: A comparison of Curriculum-Based Measures in middle school. *The Journal of Educational Research*, 108(6), 492-503. doi:10.1080/0022067.2014.910161
- Stichting Dyslexie Nederland (2008). *Dyslexie: Diagnose en behandeling van dyslexie [Dyslexia: Diagnoses and remediation of dyslexia]*. Retrieved from <http://www.stichtingdyslexienederland.nl/media/183/sdnbrochure2008.pdf>.
- Taylor, W. L. (1956). Recent developments in the use of 'cloze procedure'. *Journalism Quarterly*, 33, 42-48.
- Tichá, R., Espin, C. A., & Wayman, M. M. (2009). Reading progress monitoring for secondary-school students: Reliability, validity, and sensitivity to growth of reading-aloud and maze-selection measures. *Learning Disabilities Research & Practice*, 24(3), 132-142. doi:10.1111/j.1540-5826.2009.00287.x
- Tolar, T. D., Barth, A. E., Fletcher, J. M., Francis, D. J., & Vaughn, S. (2014). Predicting reading outcomes with progress monitoring slopes among middle grade students. *Learning and Individual Differences*, 30, 46-57. doi:10.1016/j.lindif.2013.11.001
- Tolar, T. D., Barth, A. E., Francis, D. J., Fletcher, J. M., Stuebing, K. K., & Vaughn, S. (2012). Psychometric properties of maze tasks in middle school students. *Assessment for Effective Intervention*, 37(3), 131-146. doi:10.1177/1534508411413913
- U. S. Department of Education. (2016a). *The nation's report card: 2011 Reading assessments: Classroom context: Time spent on language arts*. Retrieved from http://www.nationsreportcard.gov/reading_2011/context_1.aspx

- U. S. Department of Education. (2016b). *The nation's report card: 2015 Reading Assessment, Overall achievement levels 8th grade*. Retrieved from https://www.nationsreportcard.gov/reading_math_2015/#reading/acl?grade=8
- van den Berg, R., & te Lintelo, H. (1977). Analyse van Individualiseringsvormen (AVI)[Assessment of Dutch reading grade level]. Den Bosch: KPC-Groep.
- van den Bosch, R. M., Espin, C. A., Chung, S., & Saab, N. (2017). Data-based decision-making: Teachers' comprehension of curriculum-based measurement progress-monitoring graphs. *Learning Disabilities Research & Practice*, 32(1), 46-60. doi:10.1111/ldrp.12122
- van Norman, E. R., & Parker, D. C. (2016). An evaluation of the linearity of curriculum-based measurement of oral reading (CBM-R) progress-monitoring data: Idiographic considerations. *Learning Disabilities Research & Practice*, 31, 199-207. doi:10.1111/ldrp.12108
- Vannest, K. J., Parker, R., & Dyer, N. (2011). Progress monitoring in grade 5 science for low achievers. *Journal of Special Education*, 44(4), 221-233. doi:10.1177/0022466909343121
- Vaughn, S., Fletcher, J. M., Francis, D. J., Denton, C. A., Wanzek, J., Wexler, J., ...Romain, M. A. (2008). Response to intervention with older students with reading difficulties. *Learning and Individual Differences*, 18, 338-345. doi:10.1016/j.lindif.2008.05.001
- Vellutino, F. R., Tunmer, W. E., Jaccard, J. J., & Chen, R. (2007). Components of reading ability: Multivariate evidence for a convergent skills model of reading development. *Scientific Studies of Reading*, 11, 3-32. doi:10.1207/s1532799xssr1101_2
- Verspoor, M., de Bot, K., & van Rein, E. (2010). Binnen- en buitenschools taalcontact en het leren van Engels. *Levende Talen Tijdschrift*, 11(4), 14-33.
- Wang, M. (2011). Learning a second language. In: R. E. Mayer, & P. A. Alexander (Eds.), *Handbook of Research in Learning and Instruction* (pp. 127-147). New York: Routledge.
- Wallace, C. (2008). Vocabulary: The key to teaching English language learners to read. *Education Digest*, 73(9), 36-39.
- Wayman, M. M., Wallace, T., Wiley, H. I., Tichá, R., & Espin, C. A. (2007). Literature synthesis on curriculum-based measurement in reading. *Journal of Special Education*, 41(2), 85-120. doi:10.1177/00224669070410020401
- Wexler, J., Vaughn, S., Edmonds, M., & Reutebuch, C. K. (2008). A synthesis of fluency interventions for secondary struggling readers. *Reading and Writing: An Interdisciplinary Journal*, 21, 317-347. doi:10.1007/s11145-007-9085-7
- Wickham, H. (2011). The split-apply-combine strategy for data analysis. *Journal of Statistical Software*, 40(1), 1-29. doi:10.18637/jss.v040.i01
- Yager, R. E. (1983). The importance of terminology in teaching K-12 science. *Journal of Research in Science Teaching*, 20, 577-588. doi:10.1002/tea.3660200610

-
- Yeo, S., Fearrington, J. Y., & Christ, T. J. (2012). Relation between CBM-R and CBM-mR slopes: An application of latent growth modeling. *Assessment for Effective Intervention*, 37(3), 147-158. doi:10.1177/1534508411420129
- Yovanoff, P., Duesbery, L., Alonzo, J., & Tindal, G. (2005). Grade-level invariance of a theoretical causal structure predicting reading comprehension with vocabulary and oral reading fluency. *Educational Measurement: Issues and Practice*, 24, 4-12. doi:10.1111/j.1745-3992.2005.00014.x

Dankwoord (Acknowledgements in Dutch)

Dankwoord (Acknowledgements in Dutch)

Dit proefschrift zou niet tot stand zijn gekomen zonder de begeleiding, ondersteuning, samenwerking en medewerking van verschillende personen. Ik zou dan ook graag van deze gelegenheid gebruik willen maken om de personen te bedanken die een bijdrage hebben geleverd aan mijn promotieonderzoek.

Allereerst wil ik graag alle leerlingen, leerkrachten en contactpersonen van de scholen bedanken voor de inzet die ze leverden tijdens hun deelname aan het onderzoek of het in goede banen leiden van het onderzoek binnen hun school. Zonder jullie hulp hadden we de onderzoeken niet kunnen uitvoeren. Daarnaast waren ook alle studenten en Robin onmisbaar. Ik wil jullie bedanken voor het helpen ontwikkelen van het onderzoeksmaateriaal, het bezoeken van de scholen en/of het verwerken van de gegevens.

Mijn dank gaat uit naar mijn begeleiders. Chris, dank voor het vertrouwen dat je in mij had (en nog steeds hebt). Je was niet alleen betekenisvol voor mijn promotietraject, maar ook op persoonlijk gebied. Vooral jouw (of Deno's) wijze levenslessen heb ik altijd zeer gewaardeerd. Heel veel dank hiervoor! Claire, ik heb altijd geroepen dat ik het jammer vond dat je niet vanaf het begin betrokken was bij mijn begeleiding. Je efficiënte aanpak, duidelijke uitleg, altijd snelle reactie, prettige manier van feedback geven, maar vooral ook je positieve aanmoedigingen waren zeer waardevol voor mij, bedankt!

Uiteraard wil ik ook mijn lieve (oud-) collega's van Pedagogische Wetenschappen in Leiden bedanken. Ik vind het erg fijn dat ik jullie heb mogen leren kennen, omdat jullie veel voor mij hebben betekend (en nog steeds betekenen). Jullie waren er altijd om even over het onderzoek te kunnen sparren, om een gezellige tijd mee te hebben, maar voornamelijk ook om lief en leed mee te delen. Dank voor het luisterend oor, de schouder om op te huilen, de lieve attenties, de gezellige lunches/etentjes, de dropjes en de gezellige gesprekjes op weg naar de wc/het kopieerapparaat.

Roxette en Merel, naast bovenstaande wil ik jullie ook nog extra bedanken voor het feit dat jullie mij bij willen staan als paranimfen tijdens de promotie, zoals jullie er ook voor mij waren als kamergenootjes (en in de periode erna).

Tot slot zou ik mijn familie en vrienden willen bedanken. Dank voor jullie vertrouwen in mij en de aanmoedigingen. In het bijzonder wil ik Hidde bedanken. Het promotietraject was een uitdagend proces en jij was er altijd om mij te stimuleren het beste uit mijzelf te halen. Dank je wel!

About the author

Curriculum Vitae

Siuman Chung was born on December 13th 1984 in Haarlem, the Netherlands. After completing her secondary education in 2003 at Kaj Munk College in Hoofddorp, she studied Educational Sciences (Pedagogische Wetenschappen) at VU University in Amsterdam. During her master, she completed a clinical internship as a school psychologist at an elementary school, where she worked with students with special educational needs. In 2009, she obtained her master's degree, and thereafter, in 2010, she started her PhD research at the department of Learning Problems and Impairments of Leiden University under supervision of prof. dr. Christine Espin and dr. Claire Stevenson. Her PhD project focused on Curriculum-based measurement in reading and foreign-language learning for secondary-school students. To broaden her knowledge in the area of Curriculum-based measurement research, she joined the research teams of the department of School Psychology and Special Education at the University of Minnesota for two months in 2014, and worked on one of her research papers with dr. Theodore Christ from the University of Minnesota.

In addition to her PhD project, Siuman was also involved in teaching and ancillary activities. At the department of Education and Child Studies at Leiden University, she supervised theses and internships of bachelor- and master students. Moreover, as a member of the NVO Students and Starters committee she organized workshops and meetings for students and recent graduates. Finally, as a member of the ISED PhD committee she organized conferences for PhD students.

Currently, Siuman is an instructor at the institute of Education and Child Studies at Leiden University. She is involved in the teacher preparation training (Academische Pabo), and supervises theses and internships of bachelor- and master students.

List of Publications

- Chung, S.**, Espin, C. A., & Stevenson, C. E. (2018). Stability of maze reading slopes: Implications for use of CBM maze scores for tracking the progress of secondary-school students. *Manuscript in preparation*.
- van den Bosch, R. M., Espin, C. A., Sikkema-de Jong, M. T., **Chung, S.**, Boender, P., & Saab, N. (2018). Teachers' inspection patterns of curriculum-based measurement progress-monitoring graphs: An eye-tracking study. *Manuscript submitted for publication*.
- Espin, C. A., **Chung, S.**, Foegen, A. & Campbell, H. (in press). Curriculum-based measurement for secondary-school students. In P. C. Pullen, & M. J. Kennedy (Eds.), *Handbook of Response to Intervention and Multi-Tiered Systems of Support*. London: Taylor & Francis/Routledge.
- Chung, S.**, Espin, C. A., & Stevenson, C. E. (2018). CBM maze-scores as indicators of reading level and growth for seventh-grade students. *Reading and Writing: An Interdisciplinary Journal*, 3, 627-648. doi:10.1007/s11145-017-9803-8
- van den Bosch, R. M., Espin, C. A., **Chung, S.**, & Saab, N. (2017). Data-based decision-making: Teachers' comprehension of curriculum-based measurement progress-monitoring graphs. *Learning Disabilities Research & Practice*, 32(1), 46-60. doi: 10.1111/ladr.12122
- Chung, S.**, & Espin, C. A. (2013). CBM progress monitoring in foreign-language learning for secondary school students: Technical adequacy of different measures and scoring procedures. *Assessment for Effective Intervention*, 38, 236-248. doi:10.1177/1534508413489723