STACK publications

This document contains a list of publications relating to the STACK computer aided assessment system. This document is a catalogue of all entries in the BiBTeX file currently available from

`https://github.com/maths/moodle-qtype_stack/tree/master/doc/content/stack.bib`

For more information about STACK please see `https://stack.maths.ed.ac.uk/demo`

References

[1] M. Badger. *Problem-solving in undergraduate mathematics and computer aided assessment*. Phd, University of Birmingham, 2013.

[2] M. Badger and C.J. Sangwin. My equations are the same as yours!: computer aided assessment using a Gröbner basis approach. In A. A. Juan, M. A. Huertas, and C. Steegmann, editors, *Teaching Mathematics Online: Emergent Technologies and Methodologies*, pages 259–273. IGI Global, 2011.

[3] H. Barbas and T. Schramm. The Hamburg online math test MINTFIT for prospective students of STEM degree programmes. In *Proceedings of SEFI, Tampere, Finland*, 2016.

[4] R. Bradford, J. H. Davenport, and C. J. Sangwin. A comparison of equality in computer algebra and correctness in mathematical pedagogy. In *Proceedings of Calculemus*, number 5625 in Lecture Notes in Artificial Intelligence, pages 75–89, 2009.

[5] R. Bradford, J. H. Davenport, and C. J. Sangwin. A comparison of equality in computer algebra and correctness in mathematical pedagogy (ii). *The International Journal for Technology in Mathematics Education*, 17(2):93–98, 2010.

[6] P. Butcher, C. . Sangwin, and T. Hunt. Embedding and enhancing eassessment in the leading open source VLE. In *Proceedings of the Higher Education Academy Conference, Birmingham*, 2013.

[7] E. R. Cerval-Peña. Automated computer-aided formative assessment with ordinary differential equations. Master's thesis, University of Birmingham, 2008.

[8] M. Harjula. Mathematics exercise system with automatic assessment. Master's thesis, Helsinki University of Technology, 2008.

[9] G. Keady, G. Fitz-Gerald, G. Gamble, and C. Sangwin. Computer-aided assessment in mathematical sciences. In *UniServe Science Symposium, University of Sydney*, pages 69–73, 2006.

[10] T. Lowe. e-Assessment using Symbolic Manipulation Tools. Technical report, Centre for Open Learning of Mathematics, Science, Computing and Technology, The Open University, 2010.

[11] H. Majander. Tietokoneavusteinen arviointi kurssilla diskreetin matematiikan perusteet. Master's thesis, University of Helsinki, 2010.

[12] H. Majander and A. Rasila. *Tutkimus suuntaamassa 2010-luvun matemaattisten aineiden opetusta*, chapter Experiences of continuous formative assessment in engineering mathematics, pages 197–214. Tampereen yliopistopaino Oy - Juvenes Print, 2011.

[13] Y. Nakamura. *The STACK e-Learning and Assessment System for mathematics, science and engineering education through Moodle*. Tokyo Denki University Press, 2010. (In Japanese).

[14] Y. Nakamura, K. Fukazawa, and T. Takahara. Development of portable stack: Packaged math e-learning system. In *Proceedings of World Conference on E-Learning*, 2013.

[15] Y. Nakamura, T. Nakahara, and M. Akiyama. Teaching of differential equations using mathematics e-learning system stack. In *Proceedings of the IADIS International Conference e-Learning*, 2010.

[16] Y. Nakamura and T. Takahara. Development of a math input interface with flick operation for mobile devices. In *12th International Conference on Mobile Learning, 9–11 April, Vilamoura, Algarve, Portugal*, 2016.

[17] Y. Nakamura, T. Taniguchi, and T. Takahara. Item bank system for the mathematics e-learning system stack. *Research Journal of Mathematics and Technology*, 3(2):77–85, December 2014.

[18] Y. Nakamura, T. Taniguchi, K. Yoshitomi, S. Shirai, Fukui T., and T. Nakahara. Stack project in japan; item bank system, math input interface and question specification. In *Proceedings of the 13th International Congress on Mathematical Education*, 2016. TSG-44.

[19] R. C. Paiva, M. S. Ferreira, A. G. Mendes, and A. M. J. Eusébio. Interactive and multimedia contents associated with a system for computer-aided assessment. *Journal of Educational Computing Research*, 52(2):224–256, 2015.

[20] T. Pelkola, A. Rasila, and C. J. Sangwin. Investigating Bloom's learning for mastery in mathematics with online assessment. *Informatics in Education*, 2018.

[21] A. Rasila. E-assessment material bank abacus. In *Proceedings of EDILEARN16, 8th Annual International Conference on Education and New Learning Technologies*, July 2016.

[22] A. Rasila, M. Harjula, and K. Zenger. Automatic assessment of mathematics exercises: Experiences and future prospects. In *ReflekTori 2007: Symposium of Engineering Education*, pages 70–80. Helsinki University of Technology, Finland, Teaching and Learning Development Unit, `http://www.dipoli.tkk.fi/ok`, 2007.

[23] A. Rasila, L. Havola, H. Majander, and J. Malinen. Automatic assessment in engineering mathematics: evaluation of the impact. In *ReflekTori 2010: Symposium of Engineering Education*. Aalto University, Finland, Teaching and Learning Development Unit, `http://www.dipoli.tkk.fi/ok`, 2010.

[24] A. Rasila and J. Malinen. Moocs in first year engineering: Mathematics experiences and future aims. In *Proceedings of 44th SEFI Conference, Tampere, Finland*, September 2016.

[25] A. Rasila, J. Malinen, and H. Tiitu. Automatic assement and conceptual understanding. *Teaching Mathematics and its Applications*, 34(3):149–159, 2015.

[26] J. Ruokokoski. Automatic assessment in university-level mathematics. Master's thesis, Helsinki University of Technology, 2009.

[27] C. Sangwin, C. Cazes, A. Lee, and K. L. Wong. Micro-level automatic assessment supported by digital technologies. In *Mathematics Education and Technology-Rethinking the Terrain*, volume 13 of *New ICMI Study Series*, pages 227–250. Springer, 2009.

[28] C. J. Sangwin. *Proof Technology in Mathematics Research and Teaching*, chapter Reasoning by equivalence as elementary formal proof: the potential contribution of an automatic proof checker, page ? Mathematics education in the digital era. Springer International, ?

[29] C. J. Sangwin. New opportunities for encouraging higher level mathematical learning by creative use of emerging computer aided assessment. *International Journal of Mathematical Education in Science and Technology*, 34(6):813–829, November 2003.

[30] C. J. Sangwin. Assessing mathematics automatically using computer algebra and the internet. *Teaching Mathematics and its Applications*, 23(1):1–14, 2004.

[31] C. J. Sangwin. Assessing elementary algebra with STACK. *International Journal of Mathematical Education in Science and Technology*, 38(8):987–1002, December 2008.

[32] C. J. Sangwin. Who uses STACK? a report on the use of the STACK CAA system. Technical report, The Maths, Stats and OR Network, School of Mathematics, The University of Birmingham, 2010.

[33] C. J. Sangwin. Computer aided assessment of mathematics using stack. In *Selected Regular Lectures from the 12th International Congress on Mathematical Education*, pages 695–715, 2012.

[34] C. J. Sangwin. *Computer Aided Assessment of Mathematics*. Oxford University Press, Oxford, UK, 2013.

[35] C. J. Sangwin. Inequalities, assessment and computer algebra. *International Journal of Mathematical Education in Science and Technology*, 46(1):76–93, 2015.

[36] C. J. Sangwin. Who uses STACK? a report on the use of the STACK CAA system. Technical report, Loughborough University, Loughborough, UK, 2015.

[37] C. J. Sangwin. Undergraduates' attempts at reasoning by equivalence in elementary algebra. In *Didactics of Mathematics in Higher Education as a Scientific Discipline: Conference Proceedings*, khdm-Report 16-05, pages 335–341, Universität Kassel, Leuphana Universität Lneburg, Universität Paderborn, 2016.

[38] C. J. Sangwin. High stakes automatic assessments: developing an online linear algebra examination. In *Proceedings of 11th Conference on Intelligent Computer Mathematics*, Hagenberg, Austria, 2018.

[39] C. J. Sangwin and M. J. Grove. STACK: addressing the needs of the "neglected learners". In *Proceedings of the First WebALT Conference and Exhibition January 5–6, Technical University of Eindhoven, Netherlands*, pages 81–95. Oy WebALT Inc, University of Helsinki, ISBN 952-99666-0-1, 2006.

[40] C. J. Sangwin and M. Harjula. Online assessment of dimensional numerical answers using STACK in science. *European Journal of Physics*, 2017.

[41] C. .J. Sangwin and D. F. M. Hermans. A report on the use of stack in mathematics at birmingham 2012–2013. *Community for Undergraduate Learning in the Mathematical Sciences*, 8:16–30, December 2013.

[42] C. J. Sangwin and I. Jones. Asymmetry in student achievement on multiple choice and constructed response items in reversible mathematics processes. *Educational Studies in Mathematics*, 94:205–222, 2017.

[43] C. J. Sangwin and N. Köcher. Automation of mathematics examinations. *Computers and Education*, 94:215–227, 2016.

[44] C. J. Sangwin and P. Ramsden. Linear syntax for communicating elementary mathematics. *Journal of Symbolic Computation*, 42(9):902–934, 2007.

[45] S. Shirai and T. Fukui. Improvement in the input of mathematical formulae into stack using an interactive methodology. *Computer and Education*, 37:85–90, December 2014. (In Japanese).

[46] S. Shirai and T. Fukui. Improving the math input method for matrices for use in linear algebra on stack. *IPSJ Transactions on Computers and Education*, 1(3):22–29, March 2015. (In Japanese).

[47] S. Shirai, Y. Nakamura, and T. Fukui. An interactive math input method for computer aided assessment systems in mathematics. *IPSJ Transactions on Computers and Education*, 1(3):11–21, March 2015. (In Japanese).

[48] K. Yoshitomi. Generation of abundant multi-choice or STACK type questions using cas for random assignments. In J.H. Davenport, M. Kauers, G. Labahn, and J. Urban, editors, *Proc. Mathematical Software — ICMS 2018*, number 10931 in Springer Lecture Notes in Computer Science, pages 492–497, 2018.