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Journal Article / Zeitschriftartikel (Peer-Review)

in preparation

2021 B. Spieler and C. Girvan, in prep. The PECC Framework: Promoting Gender-Sensitivity and Gender Equality in Computer Science Education. *Journal Computer & Education*.

published

2020 Spieler, B.; Oates-Induchovà, L.; and Slany, W. (2020) *Female Teenagers in Computer Science Education: Understanding Stereotypes, Negative Impacts, and Positive Motivation*. *Journal of Women and Minorities in Science and Engineering*. 26 (5). p. 473-510. doi: [10.1615/JWomenMinorScienEng.2020028567](https://doi.org/10.1615/JWomenMinorScienEng.2020028567)

2019

Spieler, B.; Grandl, M.; Ebner, M.; and Slany, W. (2020) *Bridging the Gap: A Computer Science Preparatory Online Course for First Semester Students*. *Electronic Journal of e-Learning (EJEL)*. vol. 18, no. 3. pp. 248-260. doi: [10.34190/EJEL.20.18.3.004](https://doi.org/10.34190/EJEL.20.18.3.004)

Gaeta, E.; Beltrán-Jaunsaras, M.E.; Cea, G.; Spieler, B.; Burton, A.; García-Betances, R.I.; Brown, D.; Boulton, H.; and Arrendondo, M.T. (2019) *Evaluation of the Create@School Game-Based Learning-Teaching Approach*. *Sensors – Open Access Journal* 19(15):3251, doi: [10.3390/s19153251](https://doi.org/10.3390/s19153251).

Lodi, M.; Malchiodi, D.; Monga, M.; Morpurgo, A.; and Spieler, B. (2019) *Constructionist Attempts at Supporting the Learning of Computer Programming: A Survey*. *Olympiads in Informatics*, 2019, vol. 13, 99–121. doi: [10.15388/oi.2019.07](https://doi.org/10.15388/oi.2019.07)

Anthologies / Sammelbände (Peer-Review)

2021

in review

B. Spieler (2021): Online-Lehre zu Zeiten von Corona: Kein Problem für die Informatik-Didaktik? In: T. Knaus und T. Junge (Hrsg.). *Lehre in Zeiten von Corona – eine Reflexion, Evaluation und Dokumentation*. 21. Ausgabe der Ludwigsburger Beiträge zur Medienpädagogik.

B. Spieler (2021): „Lehren und Lernen mit digitalen Medien“ - Nicht ob, sondern wie diese eingesetzt werden. In: A. Siegmund, J. Weselek und F. Kohler (Hrsg.) *Bildung für nachhaltige Entwicklung und Digitalisierung als Beitrag für eine zukunftsorientierte Hochschulbildung*. Pädagogischen Hochschule Heidelberg und Heidelberger Zentrum Bildung

accepted / in press

Spieler, B. (2021): Gendersensible Gestaltung eines Computational-Thinking-Kurses mit Hilfe des PECC-Modells, In: R. Knackstedt, J. Sander, J. Kolomitchouk (Hrsg.) *Kompetenzmodelle für den Digitalen Wandel: Orientierungshilfen und Anwendungsbeispiele*, Springer-Verlag GmbH, Berlin, Germany

published

Spieler, B.; und Both, G. (2021): *Gender & Diversitäts-Aspekte in der Informatik: Beispiele aus der Hochschullehre*, In: F. Apelt, J. Grabow, L.Suhrcke (Hrsg.) *Buzzword Digitalisierung: Relevanz von Geschlecht und Vielfalt in digitalen Gesellschaften*, Verlag Barbara Budrich, S. 69 – 90, ISBN: 978-3-8474-2513-7.

Konferenz-Proceedings / Konferenzbeiträge (Peer-Review)

accepted / in press

2021

Spieler, B. (2021): The Science Behind the Art of Engaging: Online Tutoring in Games and Coding. 15th European Conference on Games Based Learning. Conference date: 23 - 24 September 2021, Brighton, UK

Spieler, B. and Krnjic, V. (2021): Bernadette Spieler and Vesna Krnjic. 2021. Creative, Engaging, and Playful Making-Activities with Smartphones and Embroidery Machines. In *FabLearn Europe / MakeEd 2021 - An International Conference on Computing, Design and Making in Education (FabLearn Europe / MakeEd 2021)*, June 2–3, 2021, St. Gallen, Switzerland. ACM, New York, NY, USA, 6 pages. <https://doi.org/10.1145/3466725.3466745>

published

2020

Spieler B.; Grandl, M.; and Krnjic, V. (2020). *The hAPPy-Lab: A Gender-Conscious Way To Learn Coding Basics in an Open Makerspace Setting*. International Conference on Informatics in School: Situation, Evaluation, Problems, November 16-18, 2020, Tallinn, Estonia.

Spieler, B.; Krnjic, V.; Slany, W.; Horneck K.; and Neudorfer, U. (2020) *Design, Code, Stitch, Wear, and Show It! Mobile Visual Pattern Design in School Contexts*, Frontiers in Education (FIE). October, 21-24, 2020, Uppsala, Sweden.

Spieler, B.; Kemeny, F.; Landerl, K.; Binder, B.; and Slany, W. (2020) *The learning value of game design activities: Association between computational thinking and cognitive skills*. In Proceedings of the 15th Workshop in Primary and Secondary Computing Education (WiPSCE), October, 28 - 30, 2020, Essen, Germany (Online)

Spieler B. und Girvan, C. (2020) *Das PECC-Framework: Gender-Sensibilität und spielerische Programmierung in der informatischen Grundbildung*. DELFI 2020 – Die 18. Fachtagung Bildungstechnologien der Gesellschaft für Informatik e.V. - Komplettband. In: Zender, R., Ifenthaler, D., Leonhardt, T. & Schumacher, C. (Hrsg.), DELFI 2020 – Die 18. Fachtagung Bildungstechnologien der Gesellschaft für Informatik e.V.. Bonn: Gesellschaft für Informatik e.V. S. 247-258. ISBN: 978-3-88579-702-9. [Link](#)

Spieler B and Kemeny, F. (2020) *Design, Complexity, and Coding: A Framework to Evaluate Mobile Coding Projects*. 14th European Conference on Games Based Learning. Sep 24 - 25, 2020. Brighton, UK. Virtual Conference, p. 558-566. doi: [10.34190/GBL.20.156](https://doi.org/10.34190/GBL.20.156)

Spieler B., Mikats J., Valentin S., Oates-Indruchová L., Slany W. (2020) “RemoteMentor” Evaluation of Interactions Between Teenage Girls, Remote Tutors, and Coding Activities in School Lessons. In: Zaphiris P., Ioannou A. (eds) Learning and Collaboration Technologies. Designing, Developing and Deploying Learning Experiences. HCII 2020. Lecture Notes in Computer Science, vol 12205. Springer, Cham. pp. 547-567. doi: [10.1007/978-3-030-50513-4_40](https://doi.org/10.1007/978-3-030-50513-4_40)

Spieler, B.; Pfaff, N. and Slany, W. (2020) *Reducing cognitive load through the worked example effect within a serious game environment*. Immersive Learning Research Network. Proceedings of 6th International Conference, iLRN 2020, Online, June 21-25, 2020. p. 1-8. doi: [10.23919/iLRN47897.2020.9155187](https://doi.org/10.23919/iLRN47897.2020.9155187).

Spieler, B.; Pfaff, N.; Mak, S.; and Slany, W. (2020) *The Magic Word: A Coding Tutorial-Game to Engage Female Teenagers in App Design*, In Proceedings of Constructionism 2020. May 26-29, 2020, Dublin, Ireland, pp. 556-564. <http://arxiv.org/abs/2003.01380>

2019

Spieler B.; Grandl, M.; Ebner, M.; and Slany, W. (2019) “Computer Science for all”: *Concepts to engage teenagers and non-CS students in technology*. 13th European Conference on Games Based Learning. October 2-3, 2019, Odense, Denmark, pp. 667-674. doi: [10.34190/GBL.19.058](https://doi.org/10.34190/GBL.19.058), <https://arxiv.org/submit/2809888>

Spieler B.; Krnjic, V.; and Slany, W. (2019) *Girls Create Games: Lessons Learned*. 13th European Conference on Games Based Learning. October, 2-3 2019, Odense, Denmark, pp. 675-684. doi: [10.34190/GBL.19.057](https://doi.org/10.34190/GBL.19.057), <https://arxiv.org/submit/2765566>

Spieler B. and Slany, W. (2019) *A Customised App to Attract Female Teenagers to Coding*. Conference on Gender Research (ICGR 2019). April 11-12, 2019, Rom, Italy, pp. 583-591. <https://arxiv.org/abs/1905.10065>

2018

Spieler B. and Slany, W. (2018) *Game Development-Based Learning Experience: Gender Differences in Game Design*, 12th European Conference on Games Based Learning. October 4-5, 2018, Sophia Antipolis, France, pp. 616-625. <https://arxiv.org/abs/1805.04457>

Slany, W.; Luhana, K.; Müller, M.; Schindler, C.; and Spieler B. (2018) *Rock Bottom, the World, the Sky: Catrobat, an Extremely Large-scale and Long-term Visual Coding Project Relying Purely on Smartphones*, In Proceedings of Constructionism (2018) August 20-25, 2018, Vilnius, Lithuania, pp. 103. <https://arxiv.org/abs/1808.06292>

- Lodi, M.; Malchiodi, D.; Monga, M.; Morpurgo, A.; and Spieler B. (2018) *Learning to program in a constructionist way*, In Proceedings of Constructionism (2018) 20 – 25 August, 2018, Vilnius, Lithuania, pp. 888-911.
- Spieler B. and Slany, W. (2018) *Female Teenagers and Coding: Create Gender Sensitive and Creative Learning Environments*, In Proceedings of Constructionism (2018) August, 20-25, 2018, Vilnius, Lithuania, pp. 625-636.
<https://arxiv.org/abs/1805.04366>
- Spieler B. (2018) *Reinforcing Gender Equality by Analysing Female Teenagers' Performances in Coding Activities: A Lesson Learned*. In Proceedings of Conference on Gender IT 2018 /GEWINN-Konferenz (2018) May, 24-35, 2018, Heilbronn, Germany, 8 pages. <https://doi.org/10.1145/3196839.3196871>
- 2017**
- Spieler B.; Schindler, C.; Slany, W.; Mashinska, O.; Beltràn, M.E.; Boulton, H.; and Brown, D. (2017) *Evaluation of Game Templates to support Programming Activities in Schools*. In Proceedings of the 11th European Conference on Games Based Learning. October 5-6, 2017, Graz, Austria. p. 600-609.
<https://arxiv.org/abs/1805.04517>
- Spieler B.; Schindler, C.; Slany, W.; and Mashinska, O. (2017) *App Creation in Schools for different Curricula Subjects - Lessons Learned*. In Proceedings of the 9th International Conference on Education and New Learning Technologies. July 3-5, 2017, Barcelona, Spain, p. 5814-5824. doi: [10.21125/edulearn.2017](https://doi.org/10.21125/edulearn.2017).
<https://arxiv.org/abs/1805.04465>
- Ayyal Awwad, A.M.; Schindler, C.; Kumar Luhana., K.; Ali, Z.; and Spieler B. (2017) *Improving Pocket Paint's Usability via Material Design Compliance and Internationalization & Localization Support on Application Level*. In Proceedings of the 19th International Conference on Human-Computer Interaction with Mobile Devices and Services. ACM, New York, NY, USA, Article 99, 8 pages.
<https://doi.org/10.1145/3098279.3122142>
- 2016**
- Boulton, H.; Spieler B.; Schindler, C.; Slany, W.; and Beltràn, M.E. (2016) *The role of game jams in developing informal learning of computational thinking: a cross-European case study*. In Proceedings of the 8th International Conference on Education and New Learning Technologies. Barcelona, Spain. July 4-6, 2016, p. 7034-7044. doi: [10.21125/edulearn](https://doi.org/10.21125/edulearn). <https://arxiv.org/abs/1805.04458>
- Spieler B.; Petri, A.; Schindler, C.; Slany, W.; Beltràn, M.E.; and Boulton, H. (2016) *Pocket Code: A Mobile App for Game Jams to facilitate Classroom Learning through Game Creation*. In Proceedings of the 6th Irish Conference on game-Based Learning. September 1-2, 2016, Dublin, Ireland, p. 61-79. <https://arxiv.org/abs/1805.04461>
- Petri, A.; Schindler, C.; Slany, W.; and Spieler B. (2016) *Game Design with Pocket Code: Providing a Constructionist Environment for Girls in the School Context*. In Proceedings: Constructionism in Action (2016) February 1-5, 2016, Bangkok, Thailand, p. 109-116. <https://arxiv.org/abs/1805.04462>
- 2015**
- Petri, A.; Schindler, C.; Slany, W.; and Spieler B. (2015) *Pocket Code Game Jams: a Constructionist Approach at Schools*. In Proceedings of the 17th International Conference on Human-Computer Interaction with Mobile Devices and Services Adjunct. August 24-25, (2015) Copenhagen, Denmark, p. 1207-1211.
<http://dx.doi.org/10.1145/2786567.2801610>
- Beltràn, M.E.; Ursa, Y.; Petri, A.; Schindler, C.; Slany, W.; Spieler B.; Cabera-Umpierrez, M.F ; Arredondo, M.T.; and De Los Rios, S. (2015) *Inclusive gaming creation by design in formal learning environments: 'girly-girls' user group in No One Left Behind*. In Design, User Experience, and Usability: Users and Interactions. Los Angeles, USA, Vol. 9187, p. 153-161. https://doi.org/10.1007/978-3-319-20898-5_15.
- Spieler B.; Burgsteiner, H.; Messer-Mischak, K.; Gödl-Purrer, B.; and Salchinger, B. (2015) *Development and Evaluation of a web-based Application for Digital Findings and Documentation in Physiotherapy Education*. In Health Informatics meets eHealth. IOS Press. Vienna, Austria, p. 182-189. doi: [10.3233/978-1-61499-524-1-182](https://doi.org/10.3233/978-1-61499-524-1-182)

Other publications and Posters

- 2021** Spieler, B. (2021): Informatische Bildung Ländervergleich: Ein Blick auf Österreich, Deutschland und die Schweiz. Informatik und Digitale Kompetenz. In: OCG Journal. Ausgabe 01-02/2021, Seite 20-22. Link: <https://www.ocg.at/sites/ocg.at/files/medien/pdfs/OCGJournal2021-01-02.pdf>
- 2020** Spieler, B. (2021): Creativity, Computational Thinking, and Inclusion as Drivers for a Future Society that is Data (Digital) Literate. Building Data Literacy with the Teaching Profession at Global Scale” Helmut Schmidt-Universität (Hamburg/Germany)
- Spieler, B.; Krnjic, V. (2020). *Kreative Aktivitäten mit Smartphones für einen fächerintegrativen Einsatz*. In Hans-Stefan Siller, Wolfgang Weigel & Jan Franz Wörler (Hrsg.), Beiträge zum Mathematikunterricht 2020 (S. 889–892). Münster: WTM-Verlag..
- Spieler B. (2020) *Wie können digitale Konzepte in den Schullalltag integriert werden?*, CeLeB Tagung. 26.-27 Juni 2020, Hildesheim, Deutschland
- 2019** Spieler B. and Krnjic V. (2019)The Code’n’Stitch Project, Poster Presentation. Conference on Gender Research (ICGR 2019). April 11-12, 2019, Rom, Italy
- Spieler B. and Slany, W. (2019) *Intersectionality and Computer Science Education: Building sensitivity and awareness*.18th Annual STS Conference Graz (2019) In STS Conference Graz-BoA 2019 Research. May 6-7, 2019, Graz, Austria.
- 2015** Petri, A. and Spieler B. (2015): The «No One Left Behind” Project. Scratch Conference 2015. Amsterdam/Netherlands. (Poster Presentation)

Theses

- 05/2018 Dissertation: Development and Evaluation of Concepts and Tools to Reinforce Gender Equality by Engaging Female Teenagers in Coding
Link: <https://catrob.at/SpielerPhD>
- 10/2014 Master Thesis: Concept and Implementation of a Web Application for the Digital Assessment in Physiotherapy
- 02/2011 Bachelor Thesis 2: Computer games in therapy: Conception and evaluation of digital games for children and adolescents with ADHD
- 06/2010 Bachelor Thesis 1: Scratch in Action