

Journal Article / Zeitschriftartikel (Peer-Review)

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

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

2019: 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.

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

Anthologies (Peer-Reviewed)

2022: Spieler, B. (2022): 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.

Spieler, B. (2022): „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*. PH Heidelberg und Heidelberger Zentrum Bildung

Spieler, B. (2022): 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

2021: 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.

Conference-Proceedings (Peer-Reviewed)

2022: Spieler, B.; Schifferle, T.M. and Berner, T. (2022) Bernadette Spieler, Tobias M. Schifferle, and Tobias Berner. 2022. Beliefs and Expectations of Primary Student Teachers in Informatics. In *Proceedings of the 17th Workshop in Primary and Secondary Computing Education (WiPSCE '22)*, October 31-November 2, 2022, Morschach, Switzerland. ACM, New York, NY, USA, 4 pages. <https://doi.org/10.1145/3556787.3556868>

B. Spieler and A. Degonda (2022): Digital Games in Schools: A Qualitative Study on Teacher's Beliefs. *Proceedings of the 16th European Conference on Games Based Learning*. p. 543 - 551, ISBN: 978-1-914587-52-8

Spieler, B.; Schifferle, T.M. and Dahinden, M. (2022) Exploring Making in Schools: A Maker-Framework for Teachers in K12. In *6th FabLearn Europe / MakeEd Conference 2022 (FabLearn Europe / MakeEd 2022)*. Association for Computing Machinery, New York, NY, USA, Article 7, 1–6. <https://doi.org/10.1145/3535227.3535234>

Spieler, B.; Schifferle, T.M. and Dahinden, M. (2022) The "Making at School" Project: Planning Interdisciplinary Activities. In *Proceedings of the 27th ACM Conference on on Innovation and Technology in Computer Science Education Vol. 2 (ITiCSE '22)*. Association for Computing Machinery, New York, NY, USA, 624. <https://doi.org/10.1145/3502717.3532150>

Spieler B. and Schifferle T.M. (2022). Maker-Education: Interdisciplinary Computer Science Activities. *Informatics in Schools. A step beyond digital education*. 15th International Conference on Informatics in Schools: Situation, Evolution, and Perspectives, ISSEP 2022, Vienna, Austria, September 26–28, 2022. p. 122-123.

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, p. 691-981. doi: 10.34190/GBL.21.152

Spieler, B. and Krnjic, V. (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. doi: 10.1145/3466725.3466745

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*. p. 64-75. ISSN: 16130073.

- 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)*. pp. 1-9, doi: 10.1109/FIE44824.2020.9274120.
- 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)*, Association for Computing Machinery, New York, NY, USA, Article 19, 1–4. doi:10.1145/3421590.3421607
- 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. - Kompletband. 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.
- 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
- 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. HCI 2020. Lecture Notes in Computer Science*, vol 12205. Springer, Cham. pp. 547-567. doi: 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.
- 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.
- 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. pp. 667-674. doi: 10.34190/GBL.19.058.
- Spieler B.;** Krnjic, V.; and Slany, W. (2019) Girls Create Games: Lessons Learned. 13th European Conference on Games Based Learning. pp. 675-684. doi: 10.34190/GBL.19.057.
- Spieler B.** and Slany, W. (2019) A Customised App to Attract Female Teenagers to Coding. *Conference on Gender Research (ICGR 2019)*, pp. 583-591. ISBN: 978-1-912764-15-0.
- 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. ISBN:9781510873742.
- 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.
- 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.
- 2017:* **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>
- 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://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://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

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 20-23. 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)

Selected Oral Contributions to International Conferences

11/2022: Lecture "Breaking Down Stereotypes: Role Images in Games and Computer Science", Harz University of Applied Sciences

10/2022: Organisation Conference "Making & more" together with Plant Science Center, PH Zurich

08/2022: Invite Talk: Maker-Education- as an interdisciplinary method of free experimenting, exploring or (digital) tinkering, Symposium "School of tomorrow - digital, sustainable & creative", RuhrFutur / Essen

06/2022: Workshop: Artificial Intelligence (AI) makes school - Understanding, grasping and applying AI , 11th Swiss Day for Computer Science Education, ETH Zurich.

06/2022: Workshop: Designing, Programming, Embroidering - Creative Design of Digital Patterns , 11th Swiss Day for Computer Science Education, ETH Zurich

06/2022: Invited Talk: Maker Education and Gender: Exploring Creative Learning Situations in a Gender Sensitive Context , Workshop on Everyday Creativity in (Post)socialism, Universität Graz / Department of Sociology

05/2022: Workshop participation as expert , AI as an opportunity for more gender equality - approaches for policy and administration, UNESCO Commission Germany

03/2022: Workshop: Making in the classroom: a (digital) do-it-yourself, experiment and invent , SWiSE Innovation Day 2022, PH Zurich.

03/2022: Invited Talk: „Algorithmic Bias: Didactic approaches for gender-responsible AI & IT systems” at DIGITAL GENDER: Ethics, power and (gender) knowledge in artificial intelligence (AI/AI) systems.

03/2022: Workshop "Gendersensitive Computer Science Teaching", till 2022 (Day of Computer Science Teachers) , Uni Hannover

01/2022: Lecture series University of Hildesheim: Competences in Computer Science and gender

09/2021: Key-Talk: "Game design: from storyboard to one's own games" – MNU Niedersachsen DIGITAL 2021
03/2021: Building Data Literacy with the Teaching Profession at Global Scale, Helmut Schmidt-University Hamburg
03/2021 Expert talk NLQ event: "Algorithmic Bias".
11/2020 Entrepreneur Talk: Competence Workshop for Entrepreneurship and Transfer
03/2020 Online Expert Workshop "Strengthening Machine Learning Competencies in Germany", acatech - German Academy of Science and Engineering, Munich, Germany
06/2020 Online Conference "Information Literacy and Democracy (IDE)" in the event "Statements and Discussion"
08/2019 Scratch Europe 2019, Cambridge, UK: Invited workshop: "Creative engaging and playful activities with smartphones for interdisciplinary school projects".
09/2019 Panel discussion of the GenderMINT 4.0 project, Technical University of Munich, Berlin
09/2018 Technical University of Vienna, Invited talk: Gender-sensitive computer science didactics for the empowerment of women in technology, Vienna/Austria

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

Apps and Platforms

2021: Making projects: <https://explore-making.ch>
2020: OER-Plattform: <https://digiducation.de>
2018: Luna&Cat on Google Play: <https://catrob.at/luna>, GitHub: <https://github.com/Catrobat/Catroid>
GitHub Repository for the Tutorial Game: <https://github.com/Catrobat/LunaAndCatTutorialGame>
Code'n'Stitch" project (2018-2020): funded by the Austrian Research Promotion Agency, new App flavor: Embroidery Designer: <https://catrob.at/ED>
Since 2015: Pocket Code (Catrobat-Association): <https://catrob.at/pc>