

Marjorie Cristina Da Cruz, Ph.D.

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Education

- 2021 – 2025 📖 **Ph.D. in Mathematics Education, São Paulo State University (UNESP), Brazil.**
Dissertation title: Beyond the Pages: cultural and linguistic aspects of Canadian textbooks
- 2018 – 2020 📖 **MA in Public Policy, University of Mogi das Cruzes, Brazil**
Thesis title: *Analysis of Public Education Policies: evaluation of education index in Brazil.*
- 2013 – 2017 📖 **B.Sc. in Mathematics and Didactics, Paulista University, Brazil**
Monograph title: *R as an intelligence tool for learning statistics.*
- 2009 – 2013 📖 **B.Sc. in Mechanical Engineering, University of Mogi das Cruzes, Brazil**
- 2007 – 2009 📖 **Technical School in Logistics and Business, SENAI, Brazil**

Employment History

- Sep 2025 – Present 📖 **Design Learning Specialist**, Interdisciplinary Transformation University (IT:U), Linz, Austria.
- Design courses (AI Literacy, PBL, MakerLabs, and Accessibility) focusing on e-learning and learning journey. Project-Based Learning (PBL) lecturer for Master's and Ph.D. students.
 - Core team member of UNINOVIS Alliance Work Package 2 (Microcredentials and Learning Support in Data Science), developing learning pathways and frameworks for European higher education. Conduct research on learning analytics, cultural experiences in education, and sustainability in interdisciplinary contexts. Support the development of educational technologies and coordinate learning design activities for Maker Spaces and Labs.
 - Project Management for Project-Based Learning team collaboration and knowledge management. Topic Group Organizer for ICME-16 Prague 2028 on "Sustainability and Mathematics Education."
- Apr 2024 – Aug 2025 📖 **Researcher**, STEM Department, Linz School of Education, JKU Linz, Austria.
- Developed and submitted interdisciplinary research proposals for Erasmus+, FWF (Austrian Science Fund), and Horizon Europe, focusing on gender, education, and technology.
 - Core team member on EU-funded projects: TransEET, STEAM Kitchen, STEPAM, STEAMCraft, STEM+.
 - Conference Co-Chair and Principal Organizer for Mathematics Classroom Teaching Research for All Students (M-CTRAS) 2025, JKU (June 23-25, 2025), managing proceedings, peer review process, logistics, program coordination, and speaker management.
 - Symposium participant in "Research Designs in Subject Didactics: An International Delphi Study," University of Vienna Centre for Teacher Education (July 1-3, 2025).
 - Teaching assistant for Computational Statistics course in Artificial Intelligence bachelor's program, supporting undergraduate and graduate students in probability distributions, estimation, regression models, Bayesian methods, and simulation techniques using R, Iramuteq, and Python. Conducted research bridging education, STEM/STEAM, and social sciences with a focus on inclusion, equity, and digital transformation.

Employment History (continued)

- Apr 2023 – Mar 2024 ■ **Research Fellow**, STEM Department, Linz School of Education, JKU Linz, Austria.
- Co-taught Statistics course with Professor Zsolt Lavicza, supporting Ph.D. and undergraduate students in education on probability distributions, estimation, regression models, SPSS Statistics, and Tableau. Designed instructional materials and exercises for statistical literacy and coding proficiency development. Co-supervised Ph.D. fellows and undergraduate students in research projects. Engaged in Erasmus+ projects, collaborating with international teams on education and technology initiatives. Completed Ph.D. dissertation employing critical discourse analysis and computational text mining to examine cultural representations in mathematics textbooks.
- Aug 2021 – May 2024 ■ **Analytics Product Manager / Customer Success Operations**, Letrus (EdTech NGO), Brazil (remote).
- Designed data-driven solutions for literacy education using R, SQL, and Java. Managed cloud-based infrastructure with AWS (AWS Certified Cloud Practitioner). Coordinated Customer Success operations serving 500+ educational institutions across Brazil. Integrated HubSpot for customer engagement and communication automation. Implemented Jira for ticket management and cross-team coordination. Built predictive models and dashboards analyzing platform usage and student performance data. Established KPIs and performance metrics for operations. Coordinated with the Product Development team on feature prioritization and product lifecycle management.
- Jan 2020 – Nov 2021 ■ **Head Teacher – Mathematics**, Maple Bear Canadian School, Brazil.
- Taught mathematics to elementary (grades 6-9) and high school (grades 10-12) students. Coordinated the Mathematics department (team of 4 teachers). Designed curriculum aligning the Brazilian National Curriculum (BNCC) with the Canadian educational framework. Conducted teacher training sessions on mathematics pedagogy and instructional strategies. Developed assessment frameworks and differentiated instruction materials.
- Sep 2018 – Sep 2020 ■ **Lecturer / Master's Scholarship**, Universidade de Mogi das Cruzes, Brazil.
- Taught undergraduate courses in Social Sciences and Public Policy for students in Medicine, Law, and Education programs. Developed interdisciplinary coursework connecting policy analysis with professional field applications, focusing on mixed-method research. Conducted master's thesis research on educational policy and public resource management. Analyzed 15 years of federal education data (FUNDEB, FNDE, IDEB databases, 2005-2019) using geospatial analysis (ArcGIS) and regression analysis (R). Examined relationships between funding levels and student performance. Developed policy recommendations for municipal education authorities.
- 2010 – 2018 ■ **Maintenance Engineer**, Plasolution (Polymer Manufacturing), Brazil.
- Managed production planning and process coordination in polymer manufacturing operations. Assisted in maintaining production equipment in a large-scale industrial environment. Performed analytical troubleshooting for mechanical systems using 2D and 3D tools. Designed mechanical parts and components.

Miscellaneous Experience

Awards and Achievements

2023 ■ **CAPES PrInt Scholarship**, awarded for PhD Research Internship in Austria.

Certification

2016 – 2017 ■ **Specialization in Polymer Thermoprocessing**, UFSCAR.

2013 ■ **White Belt Certification**, awarded for support in a Green Belt cost-reduction project in the rental of rolling systems.

References

1. Univ.Professor Zsolt Lavicza

Johannes Kepler Universität,
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3. Univ. Professor Laura Black

University of Manchester,
Laura.Black@manchester.ac.uk

2. Univ.Professor Marcelo Borba

State University of São Paulo,
marcelo.c.borba@unesp.br

Research Publications

Journal Articles

- 1 M. D. Cruz, A. L. B. Hartmann, M. V. Maltempi, and Z. Lavicza, "Ethnomathematics, gender and rural education: An intersectional analysis of pedagogical practices in a rural family house," *Journal of Rural Studies*, 2026, Under Review.
- 2 M. D. Cruz, J. Lau, A. Ignjanovic, and Z. Lavicza, "A systematic review of physical activity integration in ste(a)m education: Pedagogical approaches, learning outcomes, and pa-ste(a)m framework international journal of stem education," *International Journal of STEM Education*, 2026, Under Review.
- 3 J. P. Possamai, N. S. G. Allevato, and M. C. D. Cruz, "Problem posing in mathematics teaching: Constructing teaching cases for teacher education," *Paradigma*, vol. XLVI, no. 1, pp. 1–24, 2025, Maracay.  DOI: 10.37618/PARADIGMA.1011-2251.2025.e2025008.id1714.
- 4 E. Ulbrich, M. D. Cruz, B. Ančić, M. Tejera, N. T. Dana-Picard, and Z. Lavicza, "Cross-cultural examination of 3D modelling and 3D printing in STEAM education: Comparing results from teachers in Montenegro and Austria," *London Review of Education*, vol. 22, no. 1, pp. 1–15, 2024.  DOI: 10.14324/LRE.22.1.12.
- 5 M. C. da Cruz Bernardino, P. F. de Lima, L. M. de Melo Bonini, and R. J. de Almeida-Scabbia, "Diagnóstico antrópico: Impacto ambiental no trecho norte do Rodoanel na região metropolitana de São Paulo, SP," *South American Development Society Journal*, vol. 6, no. 18, pp. 82–100, 2020.
- 6 B. L. Ramacciotti and M. C. da Cruz Bernardino, "Epistemological strands of public policies: Between descriptive and prescriptive analyses," *Cadernos de Pesquisa*, vol. 50, pp. 56–76, 2020.  DOI: 10.1590/198053146645.
- 7 B. L. Ramacciotti and M. C. Bernardino, "Welfare state: An analysis on the education development indices on Brazilian education system," *International Journal of Innovation Education and Research*, vol. 7, no. 3, pp. 1361–1371, 2019.  DOI: 10.31686/ijier.vol7.iss3.1361.
- 8 Q. L. de Almeida Fleury, M. C. da Cruz Bernardino, and R. M. N. Prados, "O desenvolvimento e a aprendizagem," *Diálogos Interdisciplinares*, vol. 7, no. 2, pp. 142–152, 2018.  URL: <https://revistas.brazcubas.edu.br/index.php/dialogos/article/view/427>.
- 9 C. dos Santos Porteró, M. C. da Cruz Bernardino, and V. Freitas, "The role of the social educator and the search of professionalism in brazil," *International Journal for Innovation Education and Research*, vol. 7, no. 2, pp. 142–152, 2018.  DOI: 10.31686/ijier.vol7.iss3.1360.
- 10 E. P. dos Santos Ribeiro and M. Bernardino, "Homotransphobia in brazil: From school to society," *Global Research in Higher Education*, vol. 2, no. 4, pp. 129–140, 2018.  DOI: 10.22158/grhe.v2n4p129.

Conference Proceedings

- 1 M. C. da Cruz, "Between discrimination and posthuman possibilities: A STEAM framework for queer/LGBT+ empowerment," in *European Conference on Educational Research*, Accepted for presentation, Network 33: Gender and Education, 2025.
- 2 M. C. da Cruz, L. V. Andrade, A. P. Perovano, and Z. Lavicza, "Exploring educational resources through sociopolitical lenses: Initial insights from a study of mathematics textbooks," in *Proceedings of the 14th Congress of the European Society for Research in Mathematics Education*, TWG10, Bozen-Bolzano, Italy, 2025.

- 3 M. C. da Cruz, “Canadian textbooks and interlocations with textbook analysis: A review,” in *Proceedings of the 15th International Congress on Mathematical Education*, Sydney, Australia, 2024.  URL: <https://icme15.org/>.
- 4 M. C. da Cruz and R. A. Schio, “New high school, PNLD and textbooks: Changes in Brazil,” in *Proceedings of the 15th International Congress on Mathematical Education*, Sydney, Australia, 2024.  URL: <https://icme15.org/>.
- 5 M. C. da Cruz Bernardino, I. M. Noro, and M. M. Crestani, “Função quadrática: Um olhar para dois livros didáticos,” in *Anais do XIV Encontro Nacional de Educação Matemática*, Online, Brasília, DF, 2022.  URL: <https://www.even3.com.br/anais/xivenem2022/484110>.
- 6 A. F. de Lima and M. C. da Cruz Bernardino, “Mapeamento das publicações sobre a análise de livros didáticos nas últimas três edições do ENEM: O caso da geometria,” in *Anais do 1º Colóquio de Livros Didáticos de Matemática*, Rio Claro, SP: UNESP, 2022.  URL: <https://sites.google.com/view/grupoteorema/cldm>.
- 7 M. C. da Cruz Bernardino, “Livros didáticos de matemática do Canadá: Um enfoque em geometria nos anos finais,” in *Anais do XXV Encontro Brasileiro de Estudantes de Pós-Graduação em Educação Matemática*, Campina Grande, PB: UEPB, 2021.  URL: <https://www.even3.com.br/anais/xxvebrapem/425762>.
- 8 M. C. da Cruz Bernardino and V. R. A. de Freitas, “Uma análise dos índices de desenvolvimento da educação em escolas municipais de Mogi das Cruzes,” in *Anais do IV Encontro Internacional Participação, Democracia e Políticas Públicas*, 2019.  URL: https://pdpp2019.sinteseeventos.com.br/simposio/view?ID_SIMPOSIO=13.

Skills

Languages	 Portuguese (Native), English (C1), Spanish (A2), German (A2 – actively improving), Italian (A2 – actively improving).
Coaching & Pedagogical Expertise	 Experienced in university-level teaching, curriculum development, and workshop facilitation. Skilled in supervising theses and mentoring students in interdisciplinary topics, with a focus on guiding learning processes, data science, and empirical studies.
Project Management & Coordination	 Background in research coordination, event planning, and cross-functional team leadership. Very good experience managing projects from proposal writing to implementation, including knowledge of agile methods.
Research & Analysis	 Expertise in academic research, qualitative and quantitative data analysis, and proposal writing. Special focus on STEM education (STEAM), with research interests in gender studies, problem solving, LGBTIAP+ inclusion, inclusive education, and cultural power dynamics in education.