

FOREWORD

inScience Press is delighted to publish this book entitled *Education Applications & Developments XI* as part of the Advances in Education and Educational Trends books series. These series comprise the work of authors and editors to address global research in the Education area.

This 11th volume, presented in two parts, addresses some of the most relevant and pressing issues in contemporary educational research. Through the contributions of a dedicated group of authors, this volume explores diverse dimensions of Education, fostering the advancement of knowledge and encouraging innovation in the field. Progress in education depends on the active commitment of individuals who are willing to develop creative solutions and who believe in their capacity to bring about meaningful change. In this spirit, the present volume seeks to inspire broader public engagement and strengthen collaboration within and across communities. As part of our ongoing commitment to serving society, we underscore the importance of reinforcing research initiatives, promoting education and science, and encouraging interdisciplinary cooperation. We believe that connecting diverse perspectives and areas of expertise is essential for advancing educational practices that are both impactful and inclusive.

This 11th edition is organized around four major areas within the broad field of Education: “*Teachers and Students*”, “*Projects and Trends*”, “*Teaching and Learning*”, and “*Organizational Issues*”. Part I focuses on the areas: “*Teachers and Students*” and “*Teaching and Learning*”, while Part II addresses “*Projects and Trends*” and “*Organizational Issues*.” Each section comprises chapters that have emerged from extended and peer reviewed selected papers, originally published last year in the proceedings of the International Conference on Education and New Developments (END 2025) conference series (<http://end-educationconference.org/>). This meeting occurs annually with consistently successful outcomes. Selected original papers were expanded by their authors and underwent a renewed evaluation process. Following this, authors of the accepted chapters were invited to revise and improve their work based on the reviewers’ feedback. This process resulted in the publication of 27 high-quality chapters in Part I and 31 chapters in Part II. The following sections and chapter abstracts provide further insight into the content and scope of Part II of this volume.

Section 1, entitled “Projects and Trends”, presents chapters concerning, as the title indicates, education viewed as the center for innovation, technology and projects, concerning new learning and teaching models.

Chapter 1: *Generative AI in higher education: Impacts on teaching and learning*; by Nora Gavira-Duron, Ana Lorena Jiménez Preciado, & Angelica Alonso-Rivera. The rapid advancement of artificial intelligence (AI) technologies, particularly generative AI and Natural Language Processing (NLP) tools is transforming higher education. This study investigates the integration of AI in tertiary educational settings, focusing on its impact on teaching practices and learning outcomes. Our corpus analysis highlights the prominence of AI in education, with frequent references to AI applications such as ChatGPT and large language models. These technologies offer innovative solutions for personalized learning, intelligent tutoring systems, and enhanced pedagogical methods. The analysis reveals a significant focus on practical implementations of AI, emphasizing the transformation of traditional teaching methodologies. The study also addresses critical issues such as the technological infrastructure required for AI integration and the ethical considerations of AI use in education. The findings suggest that while AI holds promise for revolutionizing education, there is a need for a balanced approach that includes developing critical thinking skills and addressing ethical implications. This research contributes to the growing body of literature on AI in education by providing a detailed exploration of current trends, challenges, and future directions in the field.

Chapter 2: *Art therapy in the context of special education: A study of Bulgarian psychologists' attitudes*; by Sabina Eftimova & Teodora Genova. This book chapter examines the application of art therapy as a supportive approach when working with children with special educational needs (SEN). As part of the study, a survey was conducted with psychologists working with children with SEN in various educational and therapeutic institutions. The aim of the study is to analyze the attitudes, professional experience and perceptions of specialists regarding the benefits and challenges associated with the use of art therapy in this context. The results show a positive attitude towards art therapy as an effective tool for emotional, cognitive and social support of children, but also highlight a number of practical difficulties related to the lack of resources, specialized training and systemic support. Possibilities for a wider introduction of art therapy practices in the field of special education are discussed.

Chapter 3: *AI transformation in economics and finance education: Innovations, challenges, and future directions*; by Luis Enrique García Pérez & Muhammad Kashif. The integration of Artificial Intelligence (AI) into economics and finance teaching represents a transformative shift in pedagogical strategies, offering opportunities to enhance learning outcomes and institutional efficiency. This study explores the applications of AI tools, such as generative models and big data analytics, and personalized learning. By synthesizing empirical findings from multiple case studies and qualitative analyses, this research identifies key

innovations, including automated content generation, adaptive learning platforms, and AI-driven assessment systems. However, the adoption of AI also presents significant challenges, such as algorithmic biases, data privacy concerns, and the risk of overreliance on technology diminishing human interaction. The research employs a mixed-methods approach, combining literature reviews, surveys of educators, and practical implementations of AI tools in classroom settings. Results indicate an increase in AI adoption among educators when supported by structured training programs, alongside improved student engagement in complex topics like financial modeling and economic policy analysis. In conclusion, AI serves as a complementary force in education, enhancing, not replacing, the role of educators. Strategic implementation, grounded in ethical considerations and pedagogical goals, can bridge gaps in traditional teaching methods and prepare students for a digitized economy.

Chapter 4: *Precarious prosperity: Rethinking financial dependence on international students in Canadian higher education*; by Adnaan Mallam-Hassam & Dale Kirby. This paper examines the growing financial dependence of Canadian universities on international student tuition and the risks associated with this funding model. Applying Resource Dependence Theory, the study explores how institutional reliance on unregulated international tuition revenue has made universities vulnerable to external shocks, including recent federal policy changes limiting study permits. The analysis highlights three core issues: financial instability, ethical concerns around the commodification of education, and reputational risks in global academic markets. It also underscores the consequences of decentralized governance and declining public investment in higher education. Drawing on international comparisons, the paper outlines a range of policy and institutional strategies to promote financial sustainability, including revenue diversification, public-private partnerships, research commercialization, and tax-based grant models. This review calls for a coordinated and ethically grounded funding approach to safeguard academic quality and ensure the long-term resilience of Canada's post-secondary sector.

Chapter 5: *Mastery, participation, and motivation in secondary school*; by May Olaug Horverak, Gerd Martina Langeland, Emre Sari, & Tommy Haugen. Mental health issues have been on the increase for years in Norway, and after the pandemic, school absence has been an increasing problem. To meet these challenges, several national initiatives have been launched. The current study will present experiences from a health promoting project called SAMM – A systematic approach to mastery, participation, and motivation, where a five-step method has been applied. A quasi-experimental study with test and control groups was carried out, including an intervention of four sessions spread over about a month, and repeated throughout the school year. Seven upper secondary school classes were included as test groups, resulting in 132 student participants. Five control groups were included, resulting in 132 control students. Finding an appropriate scale to measure the effects of the intervention proved challenging. The General Self-Efficacy Scale was used despite

a rather limited focus. An ANOVA-analysis has been carried out, showing no significant difference between test and control groups over time. However, the approach in the intervention relates to several aspects of health promotion, and a more extensive scale would perhaps have been more adequate to measure possible effects.

Chapter 6: *Butterfly-Piano: A playful learning proposal for children with Autism Spectrum Disorder*; by Priscila Gambary. This chapter discusses the importance of teachers' openness to new teaching methodologies and tools, especially in the context of inclusive music education for individuals with Autism Spectrum Disorder (ASD). In addition to the challenges arising from adaptive pedagogical practice, the chapter proposes a reflection on the use of the piano as an instrument that mediates learning and socialization. The present study aims to suggest new and creative possibilities for using the piano – considered one of the most traditional musical instruments – through the application of a non-conventional graphic element. The methodological proposal presented here, called Butterfly-Piano, involves not only a playful and diversified design, but also a therapeutic association between musical notes and colors, which can effectively complement treatments for this population. It is expected that this “new instrument,” which can be made at home using cardboard, will provide children—especially nonverbal children and those with limited social interaction—with a better quality of life.

Chapter 7: *Hackathons in the era of grand challenges: A tool fit for management education objectives?*; by Sandrine Stervinou, Jennifer Goodman, Laurent Noël, Aline Polipowski, & Jean-Marc Charlot. In management education, hackathons have become a popular tool, originally designed to foster technology prototyping. This study examines their suitability for tackling grand challenges like climate change, poverty, inequality, and environmental sustainability. It focuses on hackathons for sustainable development held at a business school since 2016. Adopting a multi-stakeholder approach, the research includes data from students, professors, programme management, and external stakeholders via questionnaires and interviews to analyse one specific hackathon. The findings reveal that each group attributes different value to the hackathon experience, leading to significant tensions. The study, therefore, advises caution in adopting hackathons as a one-size-fits-all solution for teaching complex grand challenges. Ultimately, the research suggests that hackathons fail to satisfy all stakeholders simultaneously. This highlights the need to adapt the hackathon format to specific contexts to maintain its pedagogical integrity. These insights are crucial, given the growing emphasis on multi-stakeholder approaches in sustainable development education and the widespread use of hackathons in higher education.

Chapter 8: *Becoming a stem focused school: Initial priorities for school transformation*; by Wendy P. Ruchti & Cory A. Bennett. The global importance of science, technology, engineering, and mathematics (STEM) education is growing, prompting schools and policymakers to seek more effective ways to implement STEM instruction. Ministries of education are responding by creating specialized STEM-focused schools, which aim to cultivate critical thinking, experiential learning, and innovative problem-solving through an integrated, interdisciplinary curriculum. These schools often use project-based learning to connect with real-world applications and prepare a diverse student body, particularly those from underrepresented populations, for STEM careers. However, the implementation of such programs presents challenges. These obstacles can be better overcome with a purposeful pre-implementation framework that addresses key structures and conditions before significant changes are made. This chapter will review existing literature on STEM-focused schools and propose a research-based framework for initial priorities for the transformation to becoming a STEM focused school. This framework will provide teachers, administrators, and policymakers with a clear roadmap for successful school-wide STEM transformation.

Chapter 9: *Navigating contradicting expectations: Study demands and resources in European games, animation and VFX education*; by Silke Hassreiter, A. Treshi-Marie Perera, Tuki Clavero, Lindsey Bouwels, & Mata Haggis-Burridge. The games, animation, and visual effects (VFX) creative industries are characterised by high-pressure team projects and oversaturated job markets, leading to contradictory demands for students to become both humble team players and highly competitive self-promoters. Using qualitative semi-structured interviews and focus groups, this study examined the study demands and resources experienced by 50 participants across 12 European countries: educators (n = 28), students (n = 14), and recent graduates (n = 8). Drawing on Study Demands-Resources (SD-R) theory, which emphasises the importance of educational institutions balancing study demands and resources to support student well-being, this study demonstrates how curriculum reforms, faculty guidance, and peer networks (factors that should function as study resources) can instead transform into demands for students in these specific contexts. The findings also reveal adaptive strategies students developed in response to these conditions. This study extends SD-R theory by demonstrating conditions under which traditional resource-demand relationships operate differently than established patterns, contributing to theoretical understanding of student well-being in creative industries in higher education.

Chapter 10: *Future educators' perceptions of vicariance as a design tool in early childhood education services in the presence of visually impaired children*; by Addolorata Amadoro, Umberto Veneruso, & Diana Carmela Di Gennaro. Neuroscience highlights the body's central role in cognition, showing the close link between perception, action, and thought. Vicariance is a creative capacity of the brain that enables humans to devise alternative solutions to the complexity and

unpredictability of reality. It thus represents an adaptive resource that fosters flexibility and responsiveness, both essential for survival. In the case of visual impairment, vicariance allows the body to compensate for the lack of sight by enhancing other senses and supporting movement. This concept is highly relevant to education, where biological and cultural dimensions intersect. In the learning processes of visually impaired children, vicariance can be understood in two ways. On the one hand, it reflects the child's ability to develop strategies that compensate for the absence of vision. On the other hand, it refers to the educator's role in designing flexible responses tailored to specific educational needs, within an Adaptive Decision-Making perspective. On these grounds, a questionnaire was administered to students in the Educational Sciences degree program at the University of Salerno during the course "Inclusive Design of Early Childhood Services." The aim was to explore future educators' perceptions of designing activities for early childhood contexts with children with visual impairments, and to assess how they envision using vicariance as a creative tool to foster inclusive education for all.

Chapter 11: *"You can bring yourself into your piece."* *Young women's agency in making*; by Ken Rafanan, Nuria Jaumot-Pascual, Elise Levin-Güracar, & Teresa Lara-Meloy. While many makerspaces are created by and cater to middle-aged males, our research has found that young women enjoy engaging in a multitude of making disciplines, including those traditionally thought of as masculine such as woodworking. In the AAMASE project, we worked with participants and program staff to co-design an eight-week program focusing on introducing several making disciplines with a set of principles, activities, and tools to support youths' agency in a community-based makerspace in the mid-Atlantic region of the United States. Most participants were African American high-school-aged young women from two out-of-school learning organizations and a private school. Making projects ranged from single-day projects, such as creating resin art pieces, to longer multi-session projects, such as making a laser engraved cutting board. We found that projects supported participants' agency as assessed through a framework we developed consisting of five criteria (self-efficacy, personalization, connection, planfulness, and iteration) consistent with the research literature on agency. Our research found that single-day projects supported participants' self-efficacy, personalization, and connection, and longer final projects supported their planfulness and iteration. The paper also briefly describes the researchers' use of artifact elicitation and provides recommendations for future research on agency and for practices that support agency.

Chapter 12: *Model of functional literacy for teachers concerning the application of 3D printing in secondary schools*; by Tetjana Tomášková, Jan Krotký, & Jarmila Honzíková. Teachers' functional literacy includes not only basic reading and writing skills but also the ability to use modern technologies effectively. In the context of 3D Printing, this requires understanding technical principles, working

with 3D modeling software, managing the printing process, and addressing technical issues. 3D Printing serves as an innovative educational tool that enables students to visualize and explore complex concepts, fostering creativity, critical thinking, and practical skills essential for the 21st century. Teacher preparation plays a crucial role and includes technical training as well as pedagogical strategies for meaningful integration of this technology into instruction. This may involve workshops, online courses, or collaboration with experts. However, the implementation of 3D Printing also brings challenges such as financial costs, the need for technical support, and curriculum updates. Identifying barriers and seeking solutions—through grants or resource sharing among schools—is therefore essential. The chapter presents examples of good practice and emphasizes that teachers’ functional literacy also includes adaptability to new technologies. Successful integration of 3D Printing requires school leadership support and continuous professional development. The chapter concludes with a model of teachers’ functional literacy applicable in educational practice.

Chapter 13: *De-centering the human: Critical posthumanism and the refiguration of educational futures*; by Valerija Vendramin. My starting point is critical posthumanism as a post-anthropocentric deconstruction of both cultural and technological determinism. This paper aims to lay the groundwork for critically examining the possible refigurations of the broader purposes of education. I will be looking into (1) the adoption (or resistance to adoption) of technology in schools and also into (2) the need for decentring the human, rethinking the position of other-than-human actors and their role in shaping knowledge and practices within (post-)educational contexts. My approach challenges the official or commonly accepted understanding of social reality, political relations, and conceptual categories by examining alternative viewpoints (e.g., “traditional” education vs. education in light of technological innovations), thereby offering an analysis of fundamental concepts. By employing a posthumanist lens, I foreground several “failures” of humanist assumptions, including the framing of education as a purely human-centered project and the presumed clear ontological separation between the human and the nonhuman. A still prevailing narrative suggests that digital technology inherently makes education “better” (i.e., more efficient, more accessible, etc.); however, the question arises of how well education is equipped to deal with present complexities, one of them being how to treat educational technologies so as not to mask their agency and power.

Chapter 14: *The importance of integrating engineering and science students in banking: Enhancing innovation and security*; by Didier Mbela Kalengay, Kaarina Anna Paulus, Boniface Kerima, & Alex Banze Wa Mutombo. The digital transformation of the banking sector has created an unprecedented demand for technical, analytical, and creative problem-solving skills. This chapter examines how scientific and engineering (STEM) students might be strategically integrated into the banking industry to meet this need, with a focus on Namibia and the Democratic

Republic of the Congo (DRC). Despite the widespread recognition of the potential benefits of this type of integration, including enhanced cybersecurity, data-driven innovation, and operational efficiency, many questions remain regarding practical implementation strategies and how to overcome sector-specific barriers, particularly in developing countries. This study examines the key contributions, perceived benefits, and significant obstacles of integrating STEM talent into banking using a mixed-methods approach (in-depth interviews with 30 participants and surveys with 200 respondents). The findings indicate that 85% of banking professionals firmly believe that STEM students foster creativity. Additionally, quantitative research reveals a substantial positive correlation between integration and process innovation ($r = 0.65$, $p < 0.01$). However, there are still barriers including cultural reluctance at banks (55%) and a lack of awareness of STEM competencies (60%). According to the chapter, successful integration requires specific strategies including transdisciplinary project design, structured mentorship, and updated recruitment frameworks in order to effectively use STEM skills for banking's impending challenges.

Chapter 15: *Artificial intelligence as a catalyst for fashion's digital future - Insights from university-company collaboration*; by Xiaozhu Lin & Matteo Oreste Ingaramo. Since the Industrial Revolution, six essential innovation waves have been widely acknowledged as having significantly transformed the world economy and society. Today, we are witnessing the emergence of the sixth wave, characterized by breakthroughs in artificial. In the fashion sector, AI has already emerged as a game-changer. It can enhance trend forecasts and design processes, optimize supply chain management, and boost personalized customer engagement. These innovations collectively lead to significant improvements in efficiency, profitability, and sustainability within the sector. The rapid convergence of fashion and technology has created a pressing need for individuals possessing strong digital skills. Fashion companies must rapidly adapt to this changing environment, while fashion education must simultaneously evolve to provide students with the essential competencies they need. This paper presents a case study of a collaborative workshop between a university and a company, designed to provide students with hands-on experience in advanced AI applications within the fashion sector. This effort enables students to gain a deep understanding of the industry's digital transformation while cultivating a passion for emerging technologies. The authors hope that the experiences presented in this paper will be a valuable resource for researchers and practitioners investigating the convergence of fashion, design, and technology.

Chapter 16: *Use of AI agents and agentic AI to evaluate university curricula*; by Deirdre Pratt & Pregalathan Reddy. AI agents are specific AI tools, while agentic AI shows many aspects of human thinking, and is touted as replacing functions which human educators now perform. This chapter first discusses the differences between AI agents and agentic AI, and then identifies which aspects of the university curriculum they appear best suited to perform, before discussing a model of AI functions enhancing human thinking processes. These AI augmentations constitute

technological evolution, involving ongoing adaptation to emerging technologies, not just in education, but in everyday life, as we now live in cities which are technosystems. However, while methods, media and tools are constantly evolving, there are basic functions which remain constant in the teaching/learning process. The functions performed by AI agents or agentic AI are discussed in terms of how they might facilitate the basic teaching/learning functions in a generic model of course design. Two applications, one based on AI agents, the other, on agentic AI, are then described to show how they operate in evaluating aspects of university curricula. It is emphasized that AI agents and agentic AI should be used to serve the key human social purposes of education, rather than education being reshaped to fit technological innovations.

Chapter 17: *Reframing subject advisors' professional roles as catalysts for sustainable life sciences education*; by Nomzamo Xaba. This chapter examines how partnerships between universities and Life Sciences subject advisors can foster sustainable teacher professional development in rural South African contexts, aligned with Sustainable Development Goal 4. Drawing on Sociocultural Theory, the study explores how subject advisors mediated learning, negotiated authority, and demonstrated resilience during a collaborative professional development initiative with university facilitators. A qualitative multiple case study design was employed, involving two subject advisors from Northern KwaZulu-Natal who participated in a series of university-facilitated workshops. Data was generated through semi-structured interviews, questionnaires, reflective journals, and observations, and analysed thematically through constant comparison and triangulation. Findings reveal that Life Sciences subject advisors' roles evolved from administrative oversight to collaborative mediation, enabling richer teacher engagement and contextualised curriculum support. However, structural constraints such as workload, limited resources, and lack of policy recognition impeded sustained participation. The chapter argues that sustainable teacher professional development requires reframing subject advisors' roles as pedagogical partners and knowledge brokers. It concludes that intentional, interactive partnerships between universities and education departments are vital for achieving the inclusive and equitable quality education envisioned by SDG 4.

Chapter 18: *The use of 3D printing as a didactic tool in technical drawing education with an emphasis on ecodesign*; by Tetjana Tomášková, Jan Krotký, & Jarmila Honzíková. This chapter explores the use of 3D printing as a didactic tool in the teaching of technical drawing, with an emphasis on ecodesign. 3D printing offers an innovative approach to education, enabling students to better understand complex geometric shapes and constructions through interactive and tangible models. At the same time, it provides hands-on experiences that significantly support the development of spatial imagination and technical skills. The chapter also highlights key aspects of ecodesign and sustainability in modern education. The use of ecological materials for 3D printing, such as biodegradable plastics, contributes to environmental protection and encourages sustainable practices. Furthermore, the efficient use of resources inherent to 3D printing can help reduce waste and material

consumption compared to traditional production methods. Practical applications are illustrated through specific project examples in which 3D-printed models have been successfully integrated into technical drawing instruction. Feedback from students and teachers shows that this technology can enrich the learning process and increase interest in technical subjects. The chapter additionally provides an overview of essential software and hardware tools required for 3D printing, along with a discussion of challenges and possible solutions related to its implementation. Overall, the chapter offers a comprehensive view of the potential of 3D printing as a tool for modern and sustainable technical drawing education.

Chapter 19: *Leadership of place to build anthropologies of presence: An alternative educational response to disinformation*; by Victoria Konidari & Manolis Koutouzis. This study contends that the limitations of the current educational responses to disinformation underscore the need for a complementary educational approach. In this context, the chapter stresses the importance of moving from a correctional paradigm to one that frames combating disinformation as a political action, focusing on how young people engage in digital spaces. To support this shift, this study draws on the spatial characteristics of youth political participation and highlights the spatial dimensions of political engagement through Arendt's concept of space of appearance and de Certeau's distinction between strategies and tactics. A thematic analysis of 40 semi-structured interviews with Greek secondary education students aged 13 to 17 years revealed limited student engagement with the digital information space, societal issues, and informed opinions. The analysis also found that students received limited resources to navigate the digital space, and an equal number of students perceived safety in both the school and digital environments. Based on these findings, the chapter uses Riley's conceptualization of place leadership to propose a complementary educational response that could foster anthropologies of presence at school as a prerequisite for place-making in digital spaces.

Chapter 20: *A relational framework for professional development in rural science education: Integrating Ubuntu, indigenous knowledge, & inquiry-based practice*; by Nomzamo Xaba, Mayaba Brian, & Aviwe Sondlo. This chapter examines how collaborative professional development can enhance Life Sciences teachers' practical work competencies in rural South African schools by integrating Indigenous Knowledge Systems, Ubuntu, and inquiry-based practice. The qualitative case study involved 25 Grade 10 and 11 teachers from twelve resource-constrained rural schools who were both convenient and purposively sampled. Data was generated through video and audio recorded observations, fieldnotes, focus group discussions, and written artefacts, which were all analysed thematically using constant comparison and triangulation. Findings reveal that teachers reconceptualised practical work when exposed to culturally grounded, embodied activities, such as ingoma (Zulu song/singing) and ukugida (Zulu dance), which linked communal cultural practices to scientific inquiry. Collaborative mapping of Indigenous Knowledge System-based practicals fostered professional creativity, epistemic engagement, and teacher agency, while Ubuntu principles

underpinned relational learning, emphasising collective reflection, mentorship, and shared responsibility. Structural constraints, including workload, limited resources, and policy rigidity, were identified as barriers to sustained innovation. The chapter argues that sustainable PD in rural contexts requires recognising learners, teachers and subject advisors as pedagogical partners and knowledge brokers, creating relational, culturally responsive spaces that transform both teacher practice and the enactment of practical work in Life Sciences classrooms.

Chapter 21: *“Does it save time and make you smarter?” – Lessons learned from a workshop developing teachers’ prompting competence with ChatGPT*; by Björn Sjöden & Jeroen Lievens. The use of generative AI (GenAI) such as ChatGPT highlights the need for educators to develop novel critical competencies. We present a process-oriented approach for developing teachers’ prompting competence – the ability to formulate effective instructions to GenAI tools – and our first evaluation of its implementation in a workshop for teachers in higher education. We argue for an “anti-shortcut” approach, meaning that effective AI use requires slowing down, reflecting, and collaboratively refining one’s interactions to reach desirable outcomes. 15 teachers participated in the workshop, which focused on a typical professional task (assessing student essays) using stepwise prompts in ChatGPT. The participants were instructed to use ChatGPT or similar GenAI tool to grade a short student essay, using a scoring rubric, and to write some feedback to the student. The GenAI output was then compared to a human professional assessment of the same text. As part of developing the teachers’ skills, we introduced the strategies “prompt chaining” and “few-shot prompting”. The participants were asked to revise and improve their prompts, so that the GenAI assessment matched that of the human as closely as possible. The results fueled a discussion on teachers’ use of GenAI, from which we report some key insights.

Section 2, entitled “Organizational Issues”, gives a glance on tools for implementing organizational learning and change in the education context.

Chapter 22: *Principals’ leadership practices in a digitally evolving world: A human rights perspective*; by Ngozi Blessing Enebe & June Monica Palmer. The rapid pace of digital revolution in education requires school principals to reconsider and adjust their leadership styles. To handle the opportunities and difficulties presented by digital transformation, this study suggests a Human Rights Leadership (HRL) action toolkit. The study emphasized human rights leadership practices necessary for promoting inclusive learning, reducing digital divides, and guaranteeing that technological improvements benefit all learners. The Human Rights-Based Approach (HRBA) was used as the theoretical framework for this paper. We qualitatively analysed stipulations from UNICEF’s Policy Guide on Children and Digital Connectivity (2018) to show the nature and importance of fostering human rights leadership practices in an era of digital transformation. The results demonstrated that in an era of digital change, affordable access, protection from harm and privacy and identity can be useful tools for advancing principals’ human

rights leadership practices which we propose in a human rights leadership action toolkit. By integrating digital innovation with human rights imperatives, the findings advance school principals' responsibilities as agents of educational and societal transformation and digital leadership. To promote human rights leadership in the digital age, this paper recommends that principals strive to be agents of transformation to advance HRL in an era of digital transformation.

Chapter 23: *Knowledge management approach to remote care competence development*; by Sonja Fröjd, Nina Helander, & Jussi Myllärniemi. This paper presents a Knowledge Management approach to developing competencies among nurses working in remote healthcare. The study addresses the challenges and opportunities of hybrid healthcare environments, where professionals operate remotely from patients and colleagues. Through a case study involving interviews with remote care nurses at Finnish Heart Hospital, the research identifies key competencies required for effective remote care, such as technical skills, communication, and adaptability. The study introduces a competence development model grounded in Knowledge Management principles, particularly the SECI-model, to facilitate the transformation and sharing of tacit knowledge. The model emphasizes systematic identification, assessment, and development of competencies, supported by structured orientation and continuous education. The findings highlight the importance of regular competence assessment and knowledge sharing to ensure high-quality and efficient remote care delivery.

Chapter 24: *Participatory design of a health-promoting university – The project mindful campus at Leibniz university Hannover*; by Ariane Steuber & Natalie Banek. This article presents the project “Mindful Campus – Strengthening Mental Health Literacy among Students” (MinCa), which aims to establish a student health management system (SHM) at Leibniz University Hannover (LUH). The overarching objective of MinCa is to develop a participatory concept and strategy for establishing SHM through measures at the curricular and structural level. Participation is understood as the individual or collective involvement of individuals in health-related decisions. This is considered as a central principle of health promotion at universities. The project is being funded by Techniker Krankenkasse, a German health insurance, for the period from January 2025 to December 2026. MinCa examines how the organizational structures of the LUH can contribute to supporting students in their individual learning of Mental Health Literacy (MHL). This question will be investigated in a qualitative accompanying study. The article explains the conceptual approach of the project and the design of the study. In addition, initial findings and conclusions will be presented and opened up for discussion.

Chapter 25: *Development of the university research center and transfer of its results and new knowledge into teaching*; by Tetjana Tomášková & Miloslav Kepka. Education is an important area of the socio-economic life of any country, which serves to accumulate knowledge, experience and skills and to ensure the individual's intellectual development. Professional application of existing forms and teaching

methods and active dissemination of new forms of education within the process of higher education is an important issue. For the successful implementation of new methods in higher education, it is necessary to define the requirements for the student, e.g., communication skills, technological skills and personality traits. No less important are the requirements for the qualifications of university teachers. E.g., technical skills, technological skills, consulting skills, lifelong learning skills, a process approach to solving different situations, and personal characteristics. The research and development in which they participate significantly contributes to the development of university pedagogues, as well as their institutions. The organisational structure of research and development plays an important role and can impact the educational process differently. The contribution deals with this in general and on the example of a specific technical faculty. The case study presents 3 main periods of the existence of one mechanical engineering research center at a technical faculty in an industrial region (from 2010 to the present). An overview of the main research results achieved, including income from contract research, is presented. An organisational change is suggested, which should bring about an improvement in the transfer of new research findings into student education.

Chapter 26: *The role of the local school in the rural community: A perspective of school multifunctionality*; by Liga Paula & Anda Grinfelde. Latvia is facing major demographic changes that threaten the existence of local schools in rural communities. National education policy has led to closing small rural schools; this process, however, affects not only children and teachers but also the whole community: it increases social inequality, makes it difficult to provide qualitative education as close as possible to where children live, and promotes further depopulation of rural areas. Transforming schools into multifunctional community centres can increase the quality of life of local communities. As a result of the case study of Garoza elementary school in Jelgava County (Latvia) conducted in 2025, the authors support the idea of more opened schools experimenting with different forms of learning in collaboration with the community as suitable scenario for small rural schools in Latvia. The research aimed to explore the opportunities for rural school multifunctionality in local communities, taking into account their needs as well as to develop recommendations to promote sustainable development of local schools. The results show that the multifunctionality of rural schools can provide solutions for their sustainable development and strengthening local community through adapting schools to the different needs of local communities and acknowledging significant advantages of the rural environment and small schools.

Chapter 27: *The impact of the extended curriculum programmes: The narratives from current and graduate students*; by Jeanine N. Mwambakana-Mutombo. This study investigates the efficacy of Extended Curriculum Programmes (ECPs) in Science and Commerce at a South African University, aimed at addressing persistent educational inequality. The ECPs provide an alternative access pathway for students who do not meet standard admission requirements, offering four streams: commerce, physical sciences, mathematical sciences, and biological sciences, with the objective

of completing a three-year degree within an extended timeframe (n+1). A cohort analysis of students enrolled between 2017 to 2020 indicates a modest improvement in graduation within the (n+1) period, increasing from 17% to 19.5%. Despite this positive trend, substantial challenges remain. Approximately 32% of students discontinued their studies at the end of the fourth year, while many of those who remained required more than the prescribed timeframe to graduate. To contextualise these outcomes, the study includes a qualitative component comprising interviews with twenty randomly selected students who commenced their studies in the foundational year. These interviews explore the students' lived experiences, identifying factors that facilitated or hindered their academic progress. The qualitative findings enrich the quantitative results by providing insight into both effective practices and persistent barriers within the ECPs structure. Student-generated recommendations offer practical guidance for strengthening programme design and enhancing student success.

Chapter 28: *Tri-theory approach for mitigating the impacts of poly-violence exposure on learners in South African schools*; by Oluwasola Babatunde Sasere & Martha Matashu. The incessant episodes of learners' exposure to poly-violence and their attendant traumatic consequences in South African schools present a complex challenge that significantly impacts learners' well-being and academic outcomes. The lack of trauma-informed approaches in school safety management creates a cycle of disadvantage that can have long-lasting effects on learners and broader societal outcomes. This situation highlights a gap in the existing school safety framework. Hence, this study aims to propose a trauma-informed blueprint that empowers school leaders to mitigate the impact of poly-violence exposure trauma on learners' academic outcomes and general well-being. The study adopted a conceptual analysis research design to synthesise three theories and relevant literature. This study underscores the multifaceted negative impact of poly-violence exposure on learners' emotional, psychological, and academic well-being. The deficiencies in current school safety interventions are also highlighted. The study proposes an integrative trauma-informed school system (ITISS) to mitigate the impact of trauma associated with learners' exposure to poly-violence. Implementing the ITISS is anticipated to enhance learners' emotional and social competence and improve their well-being and learning outcomes. The study calls for a school safety policy reform that institutionalises trauma-responsive professional development and budgets for educational practitioners to be effective.

Chapter 29: *Enhancing social inclusion: The role of cognitive and emotional regulation in adolescents with specific needs*; by Eva Vancu. This study examines the role of cognitive and emotional regulation in promoting social inclusion among adolescents with specific needs. Drawing on theoretical frameworks and current practices, it explores how regulatory processes support adaptive functioning and inclusive participation in school settings. A mixed-methods design combined quantitative data from the short version of the Cognitive Emotion Regulation Questionnaire (CERQ) and the Emotion Regulation Questionnaire (ERQ) with

qualitative data from semi-structured interviews. The sample comprised 158 high school students with identified specific needs. Quantitative results showed a significant age effect on cognitive reappraisal, with older adolescents using this strategy more frequently, while no significant gender differences were observed. Qualitative findings revealed ongoing barriers to inclusion, including limited peer support and insufficient institutional measures. The study highlights the developmental importance of emotional and cognitive regulation and underscores the need for targeted interventions. Enhancing regulatory skills and integrating social-emotional learning into inclusive educational practices may strengthen adolescents' resilience and foster supportive, socially inclusive school environments.

Chapter 30: *Ethical leadership woven with integrity: Emerging pathways for school principals*; by Edwin Darrell De Klerk & Sipiwe Mudadigwa. Recent research in the academic literature expressed the urgency for emerging pathways to assist school principals to understand ethical leadership (EL) toward leading with integrity. Notably, leading with integrity is a continuing learning process, yet the rewards are inevitable. The aim of this chapter, therefore, was to showcase how EL is woven with integrity, proposing moral pathways that can be used by school principals to act ethically in the line of their duties. Through the lens of integrity theory, this conceptual chapter presents an analysis of selected texts in the South African Standard for Principalship (SASP) which outlines significant pathways for school principals in supporting educational ethics. Data mining techniques were used to search for and select texts that could provide insights into school principals' application of EL toward acting with integrity. The findings suggest that relational transparency, inclusive moral vision and moral reasoning can be dynamic moral pathways to fuel school principals with innovative pathways on how to apply EL woven with integrity. These proposed pathways should be regarded as a source of light for the enactment of integrity in the hope that principals will be able to safely navigate issues of ethical concern in schools.

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