



CLASTSD

LEARNING INNOVATION, APPLIED SCIENCES,
TECHNOLOGY, AND SUSTAINABLE DEVELOPMENT

BOOK OF ABSTRACTS

LEARNING INNOVATION, APPLIED SCIENCES,
TECHNOLOGY, AND SUSTAINABLE DEVELOPMENT



15 July
2026

Secretariat

Lembaga Penelitian dan Pengabdian Kepada Masyarakat Gedung
Rectorat & Research Centre Lantai 3
Kampus Utama Universitas Negeri Padang
Jl. Prof. Dr. Hamka Air Tawar Padang – Sumatera Barat
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LPPM – Universitas Negeri Padang



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FOREWARD

Assalamu'alaikum Warahmatullahi Wabarakatuh

We wholeheartedly thank and praise Allah SWT for His divine grace which enabled the publication of Book of Abstracts through which the CLASTSD conference highlights the work of the best of the research community across various branches of knowledge the Learning and Innovation field, Applied Sciences and Technology, and Sustainable Development (2026).

As the world gets ever more connected and our problems ever more complex through technology, the global community needs new ideas. With the Conference on Learning Innovation, Applied Sciences, Technology, and Sustainable Development (CLASTSD) at the vanguard, I see us coming out of the pandemic with fresh energy and enthusiasm to tackle the most pressing challenges facing humanity. I encourage you to submit your proposal for this conference as we believe in our joint strength through diversity. Your work will not only inspire others but contribute much towards finding solutions for the global community in harmony with nature.

The gathering of the researchers and practitioners of the field under one roof in CLASTSD 2026 on 15th July 2026 has as its prime objective the fusion of applied sciences and human development to tackle the problems of the complex modern world which range from developing new learning methods to using artificial intelligence for scientific research as well as deploying green technologies that are in line with the Sustainable Development Goal (SDGs) of the United Nations. This gathering via inter-disciplinary collaboration and joint effort is aimed at generating practical and effective solutions for promoting inclusive growth and protecting the environment simultaneously.

The variety of abstracts published in this compilation depicts the cooperation between the research scholars and the academics from different institutions and cultures and disciplines who have brought in fresh and practical ideas. As well as being the collection of research output, this book symbolizes the unity of the community of research towards building the cooperation networks- locally as well as internationally- aimed at enhancing collaborative research that will have an impact across borders.

Behalf of Universitas Negeri Padang, we would sincerely thank the organizing committee, keynote speakers, presenters and all individuals who have put forth their valuable time and efforts to realize CLASTSD 2026 successfully and the publication of this Book of Abstracts. We hope that the papers compiled herein will contribute, in a real and meaningful way, to the evolution of knowledge, technological innovation and sustainable development at both local and global levels.

To conclude, may our efforts for the continuous improvement of learning and applied green science technology be always under the guidance and blessings of Allah SWT.

Wassalamu'alaikum Warahmatullahi Wabarakatuh.

Padang, July 2026

Ir. Krismadinata, Ph.D.

Rector of Universitas Negeri Padang



PREFACE

In the name of the Institute for Research and Community Service (LPPM) of Universitas Negeri Padang, I convey our hearty congratulatory wishes on the publication of the Book of Abstracts by The Conference on Learning Innovation, Applied Sciences, Technology, and Sustainable Development (CLASTSD) 2026.

Engaging in research and giving back to the community are the main ways a university serves the public, and the organizing of the conference itself is a demonstration of a university's responsibility.

Apart from being an international forum for the gathering of academics, teachers, and people on the ground who work together with each other, the conference itself provides us opportunities to present innovative techniques and technologies for use in teaching, applying sciences, and developing society.

All of this is, of course, an example of interdisciplinary collaboration in solving global problems. In the context of the pandemic, we can clearly see such an increase is not just happening in the world of academics, but in the daily lives of people everywhere as well!

Amongst the variety of research themes found here is both research on the use of artificial intelligence for sciences as well as a case of developing new green technologies that meet the targets of the United Nations Sustainable Development Goals (SDGs). Each one of these academic papers shows that a high-quality research standard is maintained as well as their real-life applications.

Supporting research activities like CLASTSD is one of the main reasons why the Research Directorate of our campus is very excited about it. A university cannot be just a producer of knowledge, it should also be a disseminator of it especially in matters that touch people's lives. I am hopeful that not only researchers but also those who work in the actual fields and people at higher levels of decision-making will have their needs met through this Book of Abstracts. Furthermore, in the long term I expect the collaborative work across disciplines and educational institutions to be further stimulated.

As the head of LPPM and the one writing this opening, I express my heartfelt gratitude to the organizing committee, reviewers, and contributors whose hard working spirit made the publication of this book a wonderful success.

Padang, July 2026

Prof. Dr. Anton Komaini, S.Si., M.Pd.

Head of Institute for Research and Community Service (LPPM)



EDITORIAL NOTE

It gives me great joy to launch the Book of Abstracts of the CLASTSD 2026 Conference: Conference on Learning Innovation, Applied Sciences, Technology, and Sustainable Development. This conference will be hosted by Universitas Negeri Padang and the organizers kindly requested my contribution by having the publication of this collection of abstracts under my direction.

The Center for Publication and Intellectual Property Rights (HKI) at Universitas Negeri Padang will be dedicated to spreading the scholars' contributions while protecting the researchers' original intellectual productions through the means of publication and copyright law. Therefore, through this Book of Abstracts, a significant publication by the university, you will read not only the research findings and academic ideas, but also the innovations of our colleagues both nationally and internationally.

This volume covers a wide range of subjects that highlight the variety and practical value of ongoing projects in collaboration with scholars and researchers around the world as well as those in the university at home. An abstract not only shows the progress made towards a research outcome, but also acts as evidence of intellectual creativity which can be acknowledged, legally protected, and further elaborated with tangible impacts on society.

We see the Book of Abstracts in the same spirit as a collection of scientific works. It is the reflection of the university's continuous effort to boost the publication of researches, to foster ethical ways of conveying knowledge, and to help transform researches into innovations for the public good.

In the first place, I convey my very deepest thank you to the conference organizer, the authors, and the other people behind this publication of the Book of Abstracts.

Padang, July 2026

Prof. Ildil, S.H.I., M.Pd., Ph.D., Kons.

Head of the Center for Publication and Intellectual Property Rights



CHAIRMAN'S MESSAGE

On behalf of the Organizing Committee, it is my great pleasure to welcome all participants and readers to the Book of Abstracts of *The Conference on Learning Innovation, Applied Sciences, Technology, and Sustainable Development (CLASTSD) 2026*.

Held on July 15, 2026, CLASTSD brings together researchers, educators, and industry experts to exchange ideas and explore solutions across the integration of artificial intelligence in scientific research, innovative learning methodologies, and green technologies aligned with the United Nations Sustainable Development Goals.

CLASTSD 2026 attracted strong participation both nationally and internationally. From Indonesia, contributions came from 17 affiliated institutions: (1) Universitas Negeri Padang (UNP), (2) Universitas Islam Negeri Sultan Syarif Kasim Riau, (3) Universitas Negeri Malang, (4) Universitas Riau, (5) Universitas Bengkulu, (6) Politeknik LP3I Jakarta, (7) Politeknik Negeri Padang, (8) Universitas PGRI Sumatera Barat, (9) Universitas Muhammadiyah Pontianak, (10) Universitas Sultan Ageng Tirtayasa, (11) UIN Imam Bonjol Padang, (12) Institut Agama Islam Sumatera Barat, (13) Universitas Muhammadiyah Tapanuli Selatan, (14) Universitas Indraprasta PGRI, (15) Universitas Bina Bangsa, (16) Universitas Islam As-Syafi'iah, Jakarta, and (17) Universitas Airlangga.

Internationally, participants came from 13 countries: (1) Indonesia, (2) Malaysia, (3) Pakistan, (4) Australia, (5) Ghana, (6) Bangladesh, (7) the United States, (8) the Philippines, (9) Thailand, (10) South Africa, (11) the United Kingdom, (12) The Gambia, and (13) Hungary, reflecting the truly global spirit of this conference.

I extend my sincere gratitude to the reviewers, keynote speakers, organizing committee, and all authors whose contributions made this publication possible. May this Book of Abstracts inspire further research and collaboration toward a more innovative and sustainable future.

Padang, July 2026

Ciptro Handrianto, S.Pd., M.Ed., Ph.D
Chairman of CLASTSD 2026

TABLE OF CONTENT

No	ID	Abstract	Page
1	GS.AB-1	Spatial Multidimensional Assessment Of Protected Paddy Field Sustainability In Sleman Regency Under Climate Change And Urbanization Pressures	1
2	GS.AB-10	An-Nafs Counseling: A Counseling Model Based on Buya Hamka's Tazkiyatun An-Nafs Values for Reducing Bullying Trauma Among University Students	2
3	GS.AB-11	Artificial Intelligence as a Catalyst for Sustainable Higher Education: A Systematic Literature Review of Learning Innovation and Institutional Transformation.	3
4	GS.AB-12	Teaching Factory Learning Management Model for Industrial Revolution 4.0 in Vocational High Schools in Ogan Komering Ulu Regency	4
5	GS.AB-13	From Passion to Paycheck: AI Uncertainty and the Shifting Career Values of Generation Z within the Cultural Ecology of Merantau	5
6	GS.AB-14	Digital Fatigue in Online Counseling in the Era of Society 5.0: A Systematic Literature Review and Conceptual Framework	6
7	GS.AB-15	Design and Simulation of an Enterprise Network Infrastructure for a Three-Level Building Using Cisco Packet Tracer: Implementation and Validation of VLANs, DHCP, and Routing Protocols	7
8	GS.AB-16	Generative Artificial Intelligence and Self-Regulated Learning in Higher Education: A Systematic Literature Review	8
9	GS.AB-17	isaster and Disease in Environmental Health: A Global Bibliometric and Thematic Evolution Analysis from 2015 to 2025	9
10	GS.AB-18	How Situational Leadership Enhances Teacher Performance for Learning Innovation: A Sequential Mediation Model of Work Climate, Work Discipline, and Achievement Motivation	10
11	GS.AB-19	Navigating Career Uncertainty in the Age of Artificial Intelligence: The Roles of Vocational identity and Career Adaptability	11
12	GS.AB-2	An Immersive Virtual Reality-Enhanced Group Guidance Model for Social Competence Development	12
13	GS.AB-20	An Analysis of Digital Technologies for School Counseling Program Evaluation and Accountability: A Systematic Literature Review	13
14	GS.AB-21	Gender Differences and Social Media Multi-Platform Engagement: A Two-Way Analysis of Emotional Regulation Among Adolescents	14
15	GS.AB-22	Achieving Sustainable Development Goal 4: The Mediating Role of School Zoning Policy in the Effects of Socioeconomic Factors, Student-Level Factors, Social Environment, and School Infrastructure on School Dropout	15
16	GS.AB-23	Artificial Intelligence Dependency in Higher Education: A Systematic Literature Review of Cognitive, Psychological, and Learning Consequences	16
17	GS.AB-24	Revitalizing Tunjuk Ajar Melayu Riau as an Indigenous Counseling Framework: A Systematic Literature Review Through the Lens of Positive Psychology and the PERMA Model	17
18	GS.AB-25	Video-Assisted Reality Group Counseling as a Learning Innovation to Enhance Emotional Awareness and Prevent Self-Injury among Vocational High School Students	18

No	ID	Abstract	Page
19	GS.AB-26	Validation of the Students` Self-Efficacy Scale to Avoid Substance Abuse in Malaysian Secondary Schools	19
20	GS.AB-27	Narratives as Pathways to Worldview Exploration: A Narrative Inquiry into English Teachers' Pedagogical Purposes in Indonesia	20
21	GS.AB-28	Cultural Nuances in Apology Communication Strategies: A Study of the Banjarese Community in Indonesia	21
22	GS.AB-29	Digital Literacy and ICT Utilization among Older Adults: A Case Study of Three Southeast Asian Nations	22
23	GS.AB-3	The Indonesian Fear of Missing Out Scale (ID-FoMOs): Development and Validation of a Gender and Culture Invariant Measure	23
24	GS.AB-30	Adult Learners' Adaptation from Google Search to AI Tools in Indonesia: A Mixed-Methods Phenomenological Study of Digital Immigrants	24
25	GS.AB-31	Understanding Technostress Among Muslim University Students: Psychological and Social Determinants	25
26	GS.AB-32	How Artificial Intelligence Personalization Drives Deep Student Engagement Through Algorithmic Learning Effectiveness in Higher Education	26
27	GS.AB-33	Neurodiversity-affirming school counseling: systematic review tentang pendekatan person-centered untuk wellbeing siswa neurodivergen	27
28	GS.AB-34	Family Adaptation Profiles among Parents of Children with Cerebral Palsy in the Digital Era: A Cluster-Based Analysis of Family Counseling Outcomes	28
29	GS.AB-35	From Role Confusion to Structure Practice: A Mixed-Methods Evaluation of a Structured Training Program's Association with Academic Advisor Self-Efficacy and Professional-Role Perceptions in a Polytechnic Context	29
30	GS.AB-36	An Artificial Intelligence Based Guidance and Counseling Model for Enhancing Students' Well Being and Learning Readiness to Support Sustainable Development Goal 4 (Quality Education)"	30
31	GS.AB-37	What Shapes Digital Resilience? Evidence from University Students in the Digital Learning Era	31
32	GS.AB-38	Development of an Artificial Intelligence-Based Smart Parenting Emotion Management (SPEM) Model to Improve Parenting Emotion Regulation among Mothers of Elementary School Children	32
33	GS.AB-39	Examining the Pedagogical Processes of a Self-Regulated Learning Model in Islamic Religious Education: A Qualitative Case Study	33
34	GS.AB-4	Social Media Addiction as a Predictor of Body Shaming Among Vocational High School Students	34
35	GS.AB-40	Career Decision-Making Difficulties for Generation Z Students	35
36	GS.AB-41	MODELING EMPLOYEE PRODUCTIVITY IN THE PUBLIC SECTOR USING STRUCTURAL EQUATION MODELING LINKING CULTURE, SATISFACTION, MOTIVATION, AND CREATIVITY	36
37	GS.AB-42	Parenting Profiles and Children's Gaming Disorder Risk Implications for Family and School Counseling	37
38	GS.AB-43	Family Harmony and Adolescent Aggressiveness: A Study on Vocational High School Students	38
39	GS.AB-44	Leveraging Big Five Personality Profiles for Personalized Learning in Indonesian TVET Higher Education	39

No	ID	Abstract	Page
40	GS.AB-45	Indonesian Vocational Research Database (IVRD): An Integrated Research Knowledge Platform for Evidence-Based Innovation in Indonesian TVET	40
41	GS.AB-46	Knowledge Graph-Enhanced Retrieval-Augmented Generation for Personalized Academic, Career, and Well-Being Counseling in Higher Education	41
42	GS.AB-47	Adaptive Serious Games for Strengthening Career Decision-Making in Higher Education Counseling	42
43	GS.AB-48	Federated Learning and Privacy-Preserving Learning Analytics for Smart Higher Education Ecosystems	43
44	GS.AB-49	Neuro-Symbolic Artificial Intelligence for Trustworthy Educational Decision Support Systems	44
45	GS.AB-5	ALIGNMATE: Bridging Hardware Sensing and Web Analytics for Continuous Postural Assessment	45
46	GS.AB-50	Sensor-Assisted Magnetic Focus Therapy for Post-Injury Psychological Recovery: Effects on Fear of Reinjury, Psychological Readiness, and Psychophysiological Regulation	46
47	GS.AB-51	Indicators of online child sexual and exploitation: The perspective of child protection officers in the Gambia, case study: serekunda tourism development areas	47
48	GS.AB-52	Development and Psychometric Validation of the Counseling Students' AI and Digital Counseling Readiness Scale (CSAIDCRS): A Seven-Factor Instrument for Counselor	48
49	GS.AB-6	BeatSafe: Real-Time Heart Rate Tracking and Caregiver Alert System Using ESP32 and XD-58C Sensors	49
50	GS.AB-7	FIRE-EYE: An IoT-Enabled Thermal Imaging Robot for Hazardous Search and Rescue Operations	50
51	GS.AB-8	The Influence of Internet Gaming Disorder on Emotional Maturity Among Vocational High School Students	51
52	GS.AB-9	Reconceptualizing Counseling in the Age of Artificial Intelligence: An Integrative Systematic Literature Review of Human–AI Collaborative Practice	52

SPATIAL MULTIDIMENSIONAL ASSESSMENT OF PROTECTED PADDY FIELD SUSTAINABILITY IN SLEMAN REGENCY UNDER CLIMATE CHANGE AND URBANIZATION PRESSURES

Wikan Jaya Prihantarto, Hendry Frananda, Muhammad Ismail, Akhmad Murman, Irman Firmansyah, Erisa Ayu Waspadi, Win Ariga Mansur Malonga, Andi Alamsyah Rivai, Prima Yustitia, Sasi Gendro Sari

Universitas Negeri Padang

Abstract

Protected Paddy Fields are a strategic land-governance instrument for securing local food systems under the simultaneous pressures of urban expansion and climate variability. This study evaluates the sustainability of LSD across 17 sub-districts in Sleman Regency, Indonesia, using a spatially explicit Multi-Dimensional Sustainability Assessment (MSA) that integrates ecological, economic, social, institutional, and climate-resilience dimensions. The framework is positioned within the Sustainable Development Goals (SDGs), particularly SDG 2.4 on sustainable food production and resilient agriculture, SDG 11.3 on integrated and sustainable urban planning, SDG 13.1 on climate resilience, and SDG 15.3 on land-degradation neutrality. Seventeen indicators were harmonized at the sub-district scale through GIS-based zonal statistics, spatial overlay, min-max normalization, dimensional aggregation, leverage analysis, indicator sensitivity analysis, and gap-based intervention prioritization. The results show that sustainability index values range from 0.310 to 0.696, indicating that no sub-district has yet reached the sustainable category. Seven sub-districts are classified as moderately sustainable, while ten remain less sustainable. Tempel has the highest sustainability score (0.696), whereas Depok records the lowest (0.310). Dimension-level leverage shows that the institutional dimension has the strongest influence on sustainability, while indicator-level sensitivity highlights the dominant role of formal land protection, river/water-support variables, farmer-group capacity, irrigation support, and the remaining.

Keyword : protected paddy fields, multidimensional sustainability assessment, SDGs, spatial decision support, land conversion, climate resilience
Topic : Learning Innovation

An-Nafs Counseling: A Counseling Model Based on Buya Hamka's Tazkiyatun An-Nafs Values for Reducing Bullying Trauma Among University Students

Hengki Yandri, Ifdil, Nurfarhanah

Universitas Negeri Padang, Universitas Negeri Padang, Universitas Negeri Padang

Abstract

University students with a history of bullying victimization frequently exhibit multifaceted traumatic manifestations, yet higher education counseling services often lack empirical psycho-spiritual interventions. This study developed and validated the An-Nafs Counseling Model, an integrative framework grounded in Buya Hamka's Tazkiyatun An-Nafs values, to mitigate bullying-related trauma among students. Employing a Research and Development approach with the ADDIE framework, the model was tested through purposive sampling on nine students at the Kerinci State Islamic Institute. Data were analyzed using Aiken's V for content validity, Non-overlap of All Pairs for single-subject monitoring, and the Wilcoxon Signed Ranks Test. Expert validation yielded high Aiken's V coefficients across model/guidebook content (≥ 0.83), design (0.95), and language (≥ 0.96). Practicality assessments demonstrated robust indices for relevance, efficiency, effectiveness, and impact (≥ 0.88). Single-subject analysis revealed steady trauma reductions, while the Wilcoxon test corroborated significant clinical improvement ($W=45.00$, $z=2.666$, $p=.004$). Ultimately, the An-Nafs Counseling Model demonstrates strong validity, practicality, and efficacy as a responsive framework for addressing student bullying trauma.

Keyword : An-Nafs counseling, bullying trauma, Buya Hamka, Islamic counseling, Tazkiyatun An-Nafs, university students
Topic : Applied Sciences

Artificial Intelligence as a Catalyst for Sustainable Higher Education: A Systematic Literature Review of Learning Innovation and Institutional Transformation.

Nika Sintesa, Yunita Indriyani

Politeknik LP3I Jakarta, Politeknik LP3I Jakarta

Abstract

Artificial Intelligence (AI) is transforming higher education by fostering learning innovation, institutional transformation, and sustainable development. However, existing studies often examine these dimensions separately, limiting a comprehensive understanding of AI's role in sustainable higher education. This study aims to systematically review the literature to explore how AI serves as a catalyst for learning innovation and institutional transformation. A Systematic Literature Review (SLR) was conducted following the PRISMA 2020 guidelines by analyzing peer-reviewed articles retrieved from major scientific databases using predefined inclusion and exclusion criteria. The findings indicate that AI enhances personalized learning, adaptive assessment, learning analytics, digital governance, and evidence-based institutional decision-making while supporting the achievement of SDG 4 (Quality Education), SDG 9 (Industry, Innovation and Infrastructure), and SDG 17 (Partnerships for the Goals). The originality of this review lies in presenting an integrated perspective that positions AI as a strategic catalyst connecting learning innovation with institutional transformation toward sustainable higher education. The findings provide practical guidance for higher education leaders and policymakers while contributing to the literature by identifying research gaps and proposing future research directions for the sustainable adoption of AI in higher education.

Keyword : Artificial Intelligence; Institutional Transformation; Learning Innovation; Sustainable Higher Education; Systematic Literature Review

Topic : Learning Innovation

Teaching Factory Learning Management Model for Industrial Revolution 4.0 in Vocational High Schools in Ogan Komering Ulu Regency

Eka Saraswati, Muhammad Kristiawan

Universitas Bengkulu, Universitas Bengkulu

Abstract

This study aims to develop a valid, practical, and effective Teaching Factory (Tefa) management model integrated with the Plan-Do-Check-Act (PDCA) cycle and Industry 4.0 principles, designed for Vocational High Schools (SMK) in Ogan Komering Ulu (OKU) Regency. This research addresses the critical skills mismatch between vocational graduates and industry demands, evidenced by the persistently high unemployment rate of SMK graduates (10.21% in South Sumatra, February 2025) despite relatively low provincial unemployment, further exacerbated by OKU's limited industrial ecosystem. Using Educational Design Research (EDR) with the Plomp model, the study proceeds through needs analysis, prototyping with expert validation, and quasi-experimental trials involving 140 students, teachers, principals, and industry partners. The developed model integrates four interconnected PDCA dimensions—Plan (competency formulation), Do (production-based learning with digital job sheets), Check (multi-dimensional assessment and rapid feedback), and Act (continuous improvement)—supported by frugal digital tools including WhatsApp, spreadsheets, and conversational AI. Data are analyzed using quantitative statistics (SPSS) and thematic analysis (NVivo). The research offers three novelties: holistic PDCA-Tefa integration, contextual adaptation for scarce industry regions, and low-cost AI implementation. This model is expected to bridge the competency gap and enhance graduate employability in the Industry 4.0 era.

Keyword : Industrial Revolution 4.0, Management Model, PDCA Cycle, Teaching Factory, Vocational Education,
Topic : Learning Innovation

From Passion to Paycheck: AI Uncertainty and the Shifting Career Values of Generation Z within the Cultural Ecology of Merantau

Maulida Fitri, Afdal

Universitas Negeri Padang, Universitas Negeri Padang

Abstract

For decades, passion has been the primary paradigm for career decisions. However, the uncertainty caused by AI has shifted this paradigm toward an orientation that places greater emphasis on job security and financial stability. Given the shift from the old paradigm to this new reality, the question arises: "Why has this paradigm shift occurred?" This study examines the shift in career orientation in the context of AI among 438 Indonesian members of Generation Z using PLS-SEM. The results show that AI-driven precariousness is prompting Generation Z to redefine what constitutes an ideal career, shifting their orientation from passion toward pragmatism. However, this pattern was only observed among non-Minang participants. Conversely, the "Merantau" philosophy helps foster career adaptability among Minang Generation Z members, as they view change and uncertainty as natural parts of their career journey. This study makes an important contribution by demonstrating that career counseling services need to move beyond simply helping students "discover their passion" to helping them develop career adaptability, AI literacy, the ability to identify job opportunities, and the capacity to make adaptive career decisions. The "Merantau" philosophy can be one of the solutions.

Keyword : AI Precarity; Career Value Reorientation; Generation Z; Culture of Merantau
Topic : Technology

Digital Fatigue in Online Counseling in the Era of Society 5.0: A Systematic Literature Review and Conceptual Framework

Annisa Islami Khairati, Ifdil Ifdil, Nur Adila Wafiqoh Zulvi

Departemen of Guidance and Counseling, Faculty of Education, Universitas Negeri Padang, Indonesia, Departemen of Guidance and Counseling, Faculty of Education, Universitas Negeri Padang, Indonesia, Departemen of Guidance and Counseling, Faculty of Education, Universitas Negeri Padang, Indonesia

Abstract

The rapid digitalization of mental health services has made online counseling a routine form of psychosocial support, particularly within the Society 5.0 paradigm. Although studies on technostress, digital stress, and compassion fatigue indicate psychological costs of technology-mediated interaction, digital fatigue in counseling remains conceptually fragmented. Objective: This review synthesizes empirical and conceptual evidence on digital fatigue in online counseling, identifying its antecedents, manifestations, outcomes, and mitigation strategies while proposing a conceptual framework. Methods: A systematic Scopus search identified 482 records. Following PRISMA 2020 procedures, screening by publication year (2022–2026), relevance, and subject area yielded 12 eligible studies. Bibliometric mapping using VOSviewer examined keyword co-occurrence networks. Results: Publications increased markedly between 2022 and 2026, mainly in public health, psychology, and human–computer interaction. Four interconnected themes emerged: technostress and burnout, demographic and methodological factors, pandemic-driven telehealth adoption, and digital stress/artificial intelligence. Counseling-specific evidence remained limited. Discussion: Digital fatigue results from interactions among workload, therapeutic relationships, and technology design, affecting therapeutic alliance, counselor well-being, and client engagement. Conclusion: This review proposes an antecedents–mechanisms–outcomes framework and highlights the need for rigorous counseling-specific research to validate and extend current findings.

Keyword : digital fatigue, online counseling, technostress, Society 5.0, systematic literature review, digital mental health

Topic : Technology

Design and Simulation of an Enterprise Network Infrastructure for a Three-Level Building Using Cisco Packet Tracer: Implementation and Validation of VLANs, DHCP, and Routing Protocols

Rozita binti Md.Ali

POLITEKNIK KUALA TERENGGANU

Abstract

This research focuses on designing and configuring a logical network for a three-level building using Cisco Packet Tracer. The goal is to create a network that is efficient, secure, and reliable for multiple departments or floors. The design includes the implementation of Virtual Local Area Networks (VLANs) to separate network traffic, Dynamic Host Configuration Protocol (DHCP) to automatically assign IP addresses, Hot Standby Router Protocol (HSRP) to provide gateway redundancy, and routing to allow communication between different VLANs.

Through simulation in Cisco Packet Tracer, the study demonstrates how these technologies work together to improve network performance and availability. The VLANs ensure better traffic management and security, DHCP simplifies network administration, The results show that the network can continue operating smoothly even if one router fails, and all devices receive correct IP configurations with proper connectivity between floors.

Overall, this project highlights how logical network design and configuration using Cisco technologies can build a scalable, fault-tolerant, and well-organized infrastructure suitable for educational institutions or corporate buildings.

Keyword : logical network design, network performance, configuration, fault-tolerant.
Topic : Technology

Generative Artificial Intelligence and Self-Regulated Learning in Higher Education: A Systematic Literature Review

Nur Adila Wafiqoh Zulvi, Ifdil, Annisaislami Khairati, Nilma Zola

Universitas Negeri Padang, Universitas Negeri Padang, Universitas Negeri Padang, Universitas Negeri Padang

Abstract

The advancement of Generative Artificial Intelligence (GenAI) has transformed the learning process in higher education by providing diverse forms of support for information retrieval, content development, and rapid feedback. This development has created a growing need to understand how GenAI influences students' self-regulated learning (SRL). This study aims to systematically review the existing literature on the role of Generative Artificial Intelligence (GenAI) in supporting students' self-regulated learning (SRL). The study employed a Systematic Literature Review (SLR) following the PRISMA guidelines, encompassing the stages of identification, screening, eligibility assessment, and article inclusion. Articles were retrieved from Scopus, ScienceDirect, and Google Scholar based on predetermined inclusion and exclusion criteria and were subsequently analyzed using thematic analysis. The findings indicate that the use of GenAI contributes to improving students' ability to set learning goals, formulate learning strategies, monitor learning progress, and engage in self-reflection. The effectiveness of GenAI depends on students' AI literacy, critical thinking skills, and self-regulation. The review further indicates that overreliance on GenAI may compromise learner autonomy if not supported by appropriate pedagogical guidance. These findings underscore the need for ethical, critical, and responsible GenAI integration to foster students' self-regulated learning.

Keyword : Generative Artificial Intelligence (GenAI), Self-Regulated Learning (SRL), Higher Education, University Students, Systematic Literature Review (SLR).

Topic : Learning Innovation

Disaster and Disease in Environmental Health: A Global Bibliometric and Thematic Evolution Analysis from 2015 to 2025

Elsa Yuniarti, Ricvan Dana Nindrea, Alfitri Alfitri, Fitra Arya Dwi Nugraha, Heru Syarli Lesmana, Nabilla Yoantrista

Environmental Science, Graduate School, Universitas Negeri Padang, Indonesia, Department of Medicine, Faculty of Medicine, Universitas Negeri Padang, Bukittinggi, Indonesia, Central General Hospital (RSUP) DR. M. Djamil, Padang, Indonesia, Queen Mary University of London, London, Department of Sport Coaching, Universitas Negeri Padang, Padang, Indonesia, Department of Biology, Faculty of Mathematics and Natural Science, Universitas Negeri Padang, West Sumatra, Indonesia

Abstract

Background: Disasters, climate change, environmental degradation, and emerging disease threats increasingly interact to shape global public health risks. These interconnected challenges affect population vulnerability, disease transmission, health system resilience, and environmental health protection. However, the scientific development of research linking disasters, disease, and environmental health remains insufficiently mapped. **Objective:** This study aimed to examine global research trends, leading contributors, collaboration patterns, and thematic structures in studies on disaster and disease within environmental health from 2015 to 2025. **Methods:** A bibliometric analysis was conducted using publications retrieved from Scopus and Web of Science for the period 2015–2025. A total of 370 records were identified from Scopus and 704 records from Web of Science. After merging and removing duplicate records, 941 documents were included in the final analysis. Biblioshiny, the web-based interface of the Bibliometrix R package, was used to analyze annual scientific production, citation patterns, relevant sources, productive authors, and country contributions. VOSviewer version 1.6.18 was used to visualize keyword co-occurrence networks and identify thematic clusters. **Results:** Scientific production on disaster and disease in environmental health increased substantially during the study period, with the highest publication output recorded in 2025. Citation patterns fluctuated over time, with a notable peak around 2020.

Keyword : Environmental Health; Disaster Risk; Disease Burden; Bibliometric Analysis

Topic : Sustainable Development

How Situational Leadership Enhances Teacher Performance for Learning Innovation: A Sequential Mediation Model of Work Climate, Work Discipline, and Achievement Motivation

Anisah, Irsyad, Tia Ayu Ningrum, Fifin Wildanah, Sulastri, Muhammad Abiodullah

Universitas Negeri Padang, Indonesia, Universitas Negeri Padang, Indonesia, Universitas Negeri Padang, Indonesia, Universitas Negeri Padang, Indonesia, Universitas Negeri Padang, Indonesia, University of The Punjab, Pakistan

Abstract

Various efforts have been made to improve the quality of education, but teachers still face challenges in managing learning and educating students. One factor that plays a significant role in teacher performance is the role of the principal as a school leader. Furthermore, work discipline, work motivation, and work climate are also considered. Therefore, this study aims to investigate the mediating role of work motivation, work discipline, and work climate in examining the influence of situational leadership on teacher performance, as well as highlighting the indirect influence between these variables. This study employed a quantitative methodology. Data collection used a validated and reliable Likert scale. Structural Equation Modeling (SEM) was used to analyze data from a group of 400 junior high school teachers. The model evaluated the direct and systematic correlations between situational leadership, work motivation, work discipline, work climate, and teacher performance.

Keyword : Situational Leadership, Teacher Performance, Work Climate, Work Discipline, Motivation
Topic : Learning Innovation

Navigating Career Uncertainty in the Age of Artificial Intelligence: The Roles of Vocational identity and Career Adaptability

Fika Dwi Mulia, Ildil, Yeni Karneli, Netrawati, Zadrian Ardi, Muhammad Afdhol Khoiri

Universitas Negeri Padang, Universitas Negeri Padang, Universitas Negeri Padang, Universitas Negeri Padang, Universitas Negeri Padang, Universitas Negeri Padang, Universitas Negeri Padang

Abstract

The development of artificial intelligence (AI) has changed the landscape of the workplace and presented new challenges in students' career development. One impact that has begun to emerge is Artificial Intelligence Anxiety (AIA), which is anxiety about the influence of AI on future educational and employment opportunities. This study aims to examine the profile of Artificial Intelligence Anxiety, vocational identity, and Career Adaptability, and analyze their implications for the reconstruction of career counseling services in the Society 5.0 era. The study used a descriptive quantitative approach with survey data involving 930 high school/vocational high school/Islamic high school students from three provinces in Indonesia. Data analysis was conducted through descriptive statistics and visualization of relationships between variables. The results of the study indicate that students have levels of Artificial Intelligence Anxiety in the moderate to high category, while Vocational identity and Career Adaptability are in the relatively high category. The findings also show a positive relationship between Vocational identity and Career Adaptability, indicating that students with a clearer career identity tend to have better career adaptability. The results of the study emphasize the importance of strengthening vocational identity and career adaptability as psychological resources in facing uncertainty due to technological developments.

Keyword : Artificial Intelligence Anxiety; vocational identity; career adaptability; career counseling; Society 5.0

Topic : Technology

An Immersive Virtual Reality-Enhanced Group Guidance Model for Social Competence Development

Yusida Imran

Universita Muhammadiyah Pontianak

Abstract

Social competence plays a vital role in helping individuals communicate effectively, build positive relationships, and respond appropriately to different social situations. Despite its importance, conventional group guidance often lacks opportunities for participants to practice social interaction in realistic yet safe environments. This study aimed to develop and evaluate a Virtual Reality (VR)-supported group guidance model designed to strengthen social competence. The model incorporates immersive VR simulations of common social situations, including interpersonal communication, conflict resolution, and teamwork, into the four stages of group guidance: opening, transition, core activities, and closing. The research employed a Research and Development (R&D) approach with a quasi-experimental design involving experimental and control groups. Social competence was measured before and after the intervention using the same assessment instrument. The findings showed that participants who experienced VR-assisted group guidance achieved greater improvements in empathy, communication, and conflict resolution skills than those who received conventional guidance. They also demonstrated stronger engagement and learning motivation throughout the program. These results suggest that integrating Virtual Reality into group guidance offers an effective and practical approach to enhancing social competence while enriching the quality of guidance and counseling services.

Keyword : virtual reality; group guidance; social competence; immersive technology; interpersonal skills

Topic : Learning Innovation

An Analysis of Digital Technologies for School Counseling Program Evaluation and Accountability: A Systematic Literature Review

Rici Kardo, Yasrial Chandra, Bayu Satriwal Putra, Findra Asrinaldi

Universitas PGRI Sumatera Barat, Universitas PGRI Sumatera Barat, Universitas PGRI Sumatera Barat, Universitas PGRI Sumatera Barat

Abstract

Accountability in school counseling programs requires counselors to systematically demonstrate their impact, yet program evaluation remains largely manual and time-consuming. Digital technologies including databases, student data-management platforms, data dashboards, and web-based counseling services offer opportunities to strengthen this evaluation and accountability process. This study maps empirical evidence on the role of digital technologies in school counseling program evaluation and accountability through a systematic literature review guided by the PRISMA 2020 protocol. An initial search across Scopus, ERIC, ProQuest, Sinta, and Google Scholar identified 150 articles, which were reduced through duplicate removal, title/abstract screening, and full-text eligibility assessment, yielding 9 final articles for analysis. Thematic synthesis revealed four major themes: (1) databases and data-management platforms underpinning accountability documentation; (2) data dashboards and visualization as reporting tools; (3) web-based and virtual counseling services for monitoring service delivery; and (4) barriers of data literacy, infrastructure, and privacy in technology adoption. The reviewed studies consistently found that digital technologies accelerate the collection and presentation of outcome data, though empirical evidence on their effectiveness for evaluation quality remains limited. This article recommends developing digital evaluation instruments integrated with accountability frameworks such as the ASCA National Model, alongside strengthening counselors' data literacy.

Keyword : digital technology, program evaluation, accountability, school counseling, systematic literature review

Topic : Learning Innovation

Gender Differences and Social Media Multi-Platform Engagement: A Two-Way Analysis of Emotional Regulation Among Adolescents

Mharchelya, Ifdil, Afdal, Zadrian Ardi, Miftahul Fikri, Annisaislami Khairati

Universitas Negeri Padang, Universitas Negeri Padang, Universitas Negeri Padang, Universitas Negeri Padang, Universitas Negeri Padang, Universitas Negeri Padang, Universitas Negeri Padang

Abstract

The simultaneous use of multiple social media platforms in the digital era presents new challenges for adolescents' emotion regulation. This quantitative study, using a 2x3 factorial design, aimed to analyze differences in adolescents' emotion-regulation levels based on gender, number of social media platforms used, and the interaction between the two. Using a purposive sampling technique, the study involved 429 students of SMAN 10 Padang. Data were collected using the Emotion Regulation Scale Indonesian Version (ERSIV) and analyzed via two-way ANOVA. The ANOVA results showed no significant difference in emotion regulation based on gender ($F = 0.818$; $p = .366$) or number of platforms ($F = 0.625$; $p = .536$). In addition, no significant interaction effect was found between the two variables ($F = 0.601$; $p = .549$). These findings confirm that gender and digital-platform quantity are not primary determinants of adolescents' emotion regulation. The implication is that school counselors need to shift their intervention focus away from merely restricting device duration or quantity, toward responsive Guidance and Counseling (BK) services that target the quality of adolescents' digital interactions.

Keyword : Emotion Regulation; Gender Differences; Social Media; Adolescents; School Counselor
Topic : Applied Sciences

Achieving Sustainable Development Goal 4: The Mediating Role of School Zoning Policy in the Effects of Socioeconomic Factors, Student-Level Factors, Social Environment, and School Infrastructure on School Dropout

Tia Ayu Ningrum, Ahmad Sabandi, Zadrian Ardi, Fifin Wildanah, Enceria Damanik, Novriyanti Achyar, Lusi Susanti, Merika Setiawati, Jill Aldridge, Michael Boakye, Mahaliza Mansor, Muhammad Abiodullah

Universitas Negeri Padang, Indonesia, Universitas Negeri Padang, Indonesia, Universitas Negeri Padang, Indonesia, Universitas Negeri Padang, Indonesia, Universitas Negeri Padang, Indonesia, Universitas Negeri Padang, Indonesia, Universitas Negeri Padang, Indonesia, Curtin University, Australia, University of Cape Coast, Ghana, Universiti Pendidikan Sultan Idris, Malaysia, University of The Punjab, Pakistan

Abstract

Dropout among junior high school students remains a persistent challenge to educational equity in Indonesia. This study examines individual, economic, environmental, and school facility factors, as well as the impact of zoning policies on dropout. The research method was cross-sectional quantitative. Data were collected from 50 purposively selected junior high school dropouts in West Sumatra Province using a valid and reliable Likert-scale questionnaire. Data were analyzed using Partial Least Squares Structural Equation Modeling (PLS-SEM). These findings underscore the importance of addressing motivational and psychological dimensions alongside economic support in designing dropout prevention programs. The zoning policy has been shown to significantly reduce dropout rates. Policy recommendations include strengthening school counseling services, expanding financial aid for at-risk students, developing a community-based educational support system, and continuing the zoning policy.

Keyword : Sustainable Development, School Zoning Policy, Socioeconomic Factors, Student-Level Factors, Social Environment, School Dropout, School Infrastructure

Topic : Sustainable Development

Artificial Intelligence Dependency in Higher Education: A Systematic Literature Review of Cognitive, Psychological, and Learning Consequences

Soeci Izzati Adlya, Ifdil, Zadrian Ardi, Nilma Zola, Rahmi Dwi Febriani, Puji Gusri Handayani

Universitas Negeri Padang, Universitas Negeri Padang, Universitas Negeri Padang, Universitas Negeri Padang, Universitas Negeri Padang, Universitas Negeri Padang, Universitas Negeri Padang

Abstract

The rapid adoption of artificial intelligence (AI) in higher education has transformed learning, teaching, and scientific research by improving access to information, personalized learning, and academic productivity. However, growing reliance on AI has raised concerns about artificial intelligence dependency, which may reduce independent thinking, critical reasoning, and self-regulated learning. This systematic literature review aims to synthesize empirical evidence on the cognitive, psychological, and learning consequences of AI dependency in higher education, while identifying associated risk factors, protective factors, and research gaps. Following the PRISMA 2020 guidelines, the review examines peer-reviewed studies published between 2022 and 2026 retrieved from Scopus, Web of Science, ERIC, ScienceDirect, and SpringerLink. The findings indicate that excessive AI dependence is associated with cognitive offloading, reduced critical thinking and problem-solving skills, diminished academic self-efficacy, increased cognitive overload, technology dependence, and academic anxiety. Nevertheless, studies consistently suggest that AI literacy, metacognitive regulation, ethical AI practices, and institutional guidance can mitigate these adverse effects while enhancing learning outcomes. The review concludes that AI dependency is an emerging educational challenge requiring balanced AI integration to promote students' cognitive development, psychological well-being, and sustainable learning in higher education.

Keyword : Artificial Intelligence Dependency, Higher Education, Cognitive Consequences, Psychological Well-Being, Learning Outcomes
Topic : Technology

Revitalizing Tunjuk Ajar Melayu Riau as an Indigenous Counseling Framework: A Systematic Literature Review Through the Lens of Positive Psychology and the PERMA Model

Donal Donal, Daharnis Daharnis, Puji Gusri Handayani, Ifdil Ifdil, Afdal Afdal

Universitas Riau, Universitas Negeri Padang, Universitas Negeri Padang, Universitas Negeri Padang, Universitas Negeri Padang

Abstract

The escalating global burden of mental health problems calls for holistic counseling approaches, yet dominant positive psychology frameworks such as the PERMA model rest largely on Western assumptions whose ecological validity in collectivist and religiously oriented societies remains contested. This review synthesizes recent scholarship on positive psychology, well-being, and cultural values to conceptualize Tunjuk Ajar Melayu Riau, the codified wisdom tradition of the Riau Malay people, as an indigenous counseling framework through theoretical integration with PERMA. A systematic literature review following PRISMA 2020 guidelines was conducted using the Scopus database (2021–2026). Of 47 records identified, 36 met the eligibility criteria and were analyzed through thematic synthesis. Four themes emerged: (1) PERMA and psychological flourishing; (2) indigenous values and culturally responsive counseling; (3) meaning, spirituality, and relational well-being; and (4) Malay cultural values as counseling resources. Publication activity rose sharply in 2024–2026, yet no study examined Riau Malay wisdom as a counseling framework, revealing a substantive gap. The values embedded in Tunjuk Ajar Melayu Riau map coherently onto the five PERMA dimensions, grounding them in Malay proverbs, adat, and religious values. This integration offers counselors culturally authentic therapeutic resources, informs indigenous-based counselor training, and calls for further empirical validation through qualitative inquiry, instrument development, and intervention studies to strengthen culturally responsive counseling in collectivist societies.

Keyword : Tunjuk Ajar Melayu, indigenous counseling, PERMA model, psychological well-being, culturally responsive counseling.

Topic : Sustainable Development

Video-Assisted Reality Group Counseling as a Learning Innovation to Enhance Emotional Awareness and Prevent Self-Injury among Vocational High School Students

¹Intan Verly Syafitri, S.Pd., M.Pd., Kons., ²Rahmatul Ulfa Auliya, S.Pd.I., M.Pd, ³Vitria Larseman Dela, M.Pd

¹Universitas Negeri Padang , ²UIN Imam Bonjol Padang, ³Universitas Muhammadiyah Tapanuli Selatan

Abstract

Self-injury among adolescents has become an important concern in educational and counseling settings, particularly among students who experience difficulties in identifying, understanding, and expressing emotions. This study aims to explore video-assisted reality group counseling as an innovative approach to enhance emotional awareness and support self-injury prevention among vocational high school students. The proposed approach integrates Reality Therapy principles with video-based media to facilitate emotional recognition, reflection on behavioral choices, and the development of adaptive coping strategies. Video provides concrete and relatable emotional situations that may help students understand their internal experiences and connect emotions with thoughts, needs, choices, and behaviors. During group counseling sessions, students are guided through the WDEP framework Wants, Doing and Direction, Evaluation, and Planning to examine current behaviors and formulate responsible alternatives for managing emotional distress. This conceptual study is based on a review of relevant literature concerning self-injury, emotional awareness, Reality Therapy, group counseling, and technology-supported counseling interventions. The proposed model integrates human-centered counseling with digital learning media as an innovative response to contemporary student mental health challenges. This study is expected to contribute to technology-enhanced guidance and counseling practices and provide a foundation for future empirical research examining its effectiveness in educational settings.

Keyword : reality group counseling, video-assisted counseling, emotional awareness, self-injury, vocational high school students, counseling innovation

Topic : Learning Innovation

Validation of the Students` Self-Efficacy Scale to Avoid Substance Abuse in Malaysian Secondary Schools

Ahmad Jazimin Jusoh, Ciptro Handrianto

Sultan Idris Education University, Malaysia, Universitas Negeri Padang, Indonesia

Abstract

The purpose of this research was to validate an instrument focusing on students` self-efficacy to avoid drug and substance abuse in secondary school. The participants were 220 secondary school students in Malaysia. Participants respond to 24 items of self-efficacy divided into three constructs: academic self-efficacy, social self-efficacy, and emotional self-efficacy. The instrument was validated by calculating the correlation between the score of each item, the reliability tested using Cronbach Alpha, and the structure of the instrument-validated factor analysis focusing on Eigenvalue and factor loading. The result showed that the correlation score between each item is valid to compare to the r table. All three constructs had an acceptable Cronbach's Alpha score. Furthermore, the factorial analysis validated three constructs with eigenvalue scores above 1. From the 24 items in the instrument, eight were eliminated because their factor loading was below standard. In conclusion, 16 items were retained in the instrument. Six were about academic self-efficacy, four were about social self-efficacy, and six were about emotional self-efficacy.

Keyword : self-efficacy; validation; factor analysis; instrument
Topic : Learning Innovation

Narratives as Pathways to Worldview Exploration: A Narrative Inquiry into English Teachers' Pedagogical Purposes in Indonesia

Ciptro Handrianto, Sabbir Ahmed Chowdhury

Universitas Negeri Padang, Indonesia, University of Dhaka, Bangladesh

Abstract

This study examines the educational objectives and viewpoints of English teachers at elementary schools in Padang, Indonesia, regarding using narratives within Indonesia's recently established Kurikulum Merdeka. The research used a narrative inquiry technique to explore the reasoning, methods, perceived advantages, and difficulties that teachers have when using narratives in their teaching methods. The findings indicate that narratives play several functions in language teaching, fostering linguistic proficiency, intercultural comprehension, and personal development. Teachers emphasized the congruence between narrative-based teaching methods and the curriculum's goals of student-centered learning, critical thinking, and character development. However, they also expressed reservations about balancing narrative techniques and needing to cover content and meet assessment criteria. This study enhances the discussion on narrative identity work and worldview education by providing valuable insights into the intricate relationship between educational reforms, cultural contexts, and creative pedagogical practices.

Keyword : English language teaching, kurikulum merdeka, worldview education, intercultural understanding, pedagogical strategies

Topic : Learning Innovation

Cultural Nuances in Apology Communication Strategies: A Study of the Banjarese Community in Indonesia

Ciptro Handrianto, Shahid Rasool

Universitas Negeri Padang, Indonesia, Florida Gulf Coast University, US

Abstract

The Banjarese people of Indonesia are known for their distinctive politeness and commitment to social harmony. This research investigates the use of apology communication strategies within the Banjarese community in Indonesia, employing the Discourse Completion Test (DCT) methodology. Thirty-one participants, aged 13 to 37, responded to a 9-item DCT. The findings indicate that a majority of respondents utilized a direct apology strategy, incorporating explanations, politeness, and etiquette. While specific numerical data on strategy usage would add precision, the analysis underscores the variability in apology strategy choice and its correlation with the severity of the offense and the social relationship between the speaker and addressee. The study emphasizes the significance of comprehending the interplay of cultural, linguistic, and religious factors in fostering communal bonds within the Banjarese context. Furthermore, exploring the evolving impact of digital communication on apology strategies could provide valuable insights into contemporary communication trends globally.

Keyword : Cross-cultural communication, linguistic and cultural influences, discourse completion task, intercultural pragmatics

Topic : Learning Innovation

Digital Literacy and ICT Utilization among Older Adults: A Case Study of Three Southeast Asian Nations

Ciptro Handrianto, Joana Mae Salvador-Peñalosa

Universitas Negeri Padang, Indonesia, Marikina Polytechnic College, Philippines

Abstract

Purpose: This study aims to provide a comprehensive analysis of digital literacy and the utilization of information and communication technologies (ICT) among older adults in three Southeast Asian countries: Indonesia, Malaysia, and Southern Thailand. **Background:** Rapid digitalization has created challenges for older adults, particularly in regions with shared cultural backgrounds such as the Malay ethnic group. Understanding their digital literacy levels is essential to support inclusive digital participation. **Methodology:** The study employed a qualitative research design using a case study approach. Data were collected from 27 participants (10 males and 17 females) aged 51–71 years, representing varying levels of digital literacy from basic to advanced. **Contribution:** This study contributes comparative empirical insights into digital literacy among older adults in Southeast Asia, highlighting culturally contextualized ICT engagement within the Malay ethnic group. **Findings:** The findings reveal significant variations in digital literacy levels among older adults and emphasize the need for educational institutions to adapt learning strategies to address age-specific digital needs. **Recommendations for Practitioners:** Educational institutions and community organizations should design targeted digital skills training programs that accommodate older adults’ learning capacities and everyday digital needs. **Recommendations for Researchers:** Future studies should explore longitudinal impacts of digital literacy interventions and examine

Keyword : Digital literacy, ICT utilization, older adults, Southeast Asia, qualitative case study

Topic : Online Learning

The Indonesian Fear of Missing Out Scale (ID-FoMOs): Development and Validation of a Gender and Culture Invariant Measure

Yuda Syahputra, Lira Erwinda, Candra Prasiska Rahmat, Rosada

Universitas Indraprasta PGRI, Universitas Bina Bangsa, Universitas Indraprasta PGRI,
Universitas Indraprasta PGRI

Abstract

Although several Indonesian adaptations of the Fear of Missing Out (FoMO) Scale have been developed, none has established measurement equivalence across gender and cultural groups. This study aimed to develop and validate an Indonesian Fear of Missing Out Scale (ID-FoMOs) that is free from gender and cultural bias. A cross-sectional online survey was conducted with 1,015 university students from various universities in Indonesia, comprising 199 males (19.6%) and 816 females (80.4%). The instrument was developed based on three dimensions of FoMO: autonomy, competence, and relatedness. Data were analyzed using the Rasch measurement model to examine item fit, reliability, unidimensionality, and Differential Item Functioning (DIF). The results produced a 17-item Indonesian FoMO Scale with strong psychometric properties. The scale demonstrated good reliability, satisfactory unidimensionality, appropriate item fit, and no significant DIF across gender and cultural groups, indicating that the instrument is free from measurement bias. These findings suggest that the ID-FoMOs is a valid, reliable, and culturally fair instrument for assessing Fear of Missing Out among Indonesian university students and can be used in both research and psychological assessment.

Keyword : Fear of Missing Out (FoMO), Gender, Culture, Validation
Topic : Online Learning

Adult Learners’s Adaptation from Google Search to AI Tools in Indonesia: A Mixed-Methods Phenomenological Study of Digital Immigrants

Ciptro Handrianto, Jamaris, Wirathep Pathumcharoenwattana

Universitas Negeri Padang, Indonesia, Universitas Negeri Padang, Indonesia, Chulalongkorn University, Thailand

Abstract

The rapid emergence of generative AI tools represents a profound shift in how adults engage with information, posing new challenges for digital immigrants who previously relied on Google Search. This study aims to examine the lived experiences of digital immigrants in Padang, Indonesia, as they transition to AI tools, and to identify the factors influencing their adoption through the Technology Acceptance Model (TAM). Employing a sequential explanatory mixed-methods design, this study first analyzed survey data from 223 participants using Structural Equation Modelling (SEM), which was then elaborated through in-depth phenomenological interviews with 25 purposefully selected participants. Quantitative findings confirm that perceived ease of use strongly predicts perceived usefulness, which in turn significantly drives behavioral intention and actual use. Qualitative analysis reveals a cognitive shift from “finding” to “forming,” emotional trajectories from anxiety to empowerment, and the emergence of prompt engineering as a new literacy. The integration of quantitative and qualitative findings reveals that adoption is best understood not as mere skill acquisition, but as a multi-faceted transformation encompassing cognitive, emotional, and strategic dimensions. The study implies that AI literacy programs must scaffold prompting skills, address emotional barriers, and support the integration of contextual tools.

Keyword : Digital immigrants; AI literacy; Technology Acceptance Model; phenomenology; mixed-methods
Topic : Online Learning

Understanding Technostress Among Muslim University Students: Psychological and Social Determinants

Ade Herdian Putra, Zadrian Ardi, Ifdil, Evi Afiati

Universitas Negeri Padang, Universitas Negeri Padang, Universitas Negeri Padang, Universitas Sultan Ageng Tirtayasa

Abstract

The increasing integration of digital technology into higher education has heightened the risk of technostress among university students. This issue is particularly relevant for Muslim university students because their digital experiences may influence their academic adjustment and psychological well-being within their religious and sociocultural context. This study examined the roles of digital resilience, fear of missing out, digital self-regulation, and perceived social support in explaining technostress among Muslim university students. A cross-sectional survey was conducted with 1,125 Muslim students from Indonesian universities, and the data were analyzed using Partial Least Squares Structural Equation Modeling. The findings revealed that fear of missing out positively predicted technostress, whereas digital resilience, digital self-regulation, and perceived social support significantly reduced technostress. These findings highlight the importance of strengthening psychological and social resources to support healthier digital engagement among Muslim university students and provide practical implications for Islamic guidance and counseling in promoting students' digital well-being.

Keyword : technostress; Muslim university students; digital resilience; digital well-being; Islamic guidance and counseling
Topic : Technology

How Artificial Intelligence Personalization Drives Deep Student Engagement Through Algorithmic Learning Effectiveness in Higher Education

Hanif Al Kadri, Ade Herdian Putra, Afdal, Widiawati, Nurhastuti

Universitas Negeri Padang, Universitas Negeri Padang, Universitas Negeri Padang, Universitas Negeri Padang, Universitas Negeri Padang

Abstract

The growing use of artificial intelligence in higher education has increased opportunities for personalized learning, yet the factors that promote meaningful student engagement remain insufficiently understood. This study examined how adaptive cognitive support, pedagogical responsiveness, and transparent personalization influence the effectiveness of personalized learning and student engagement among 1,300 university students from western, central, and eastern Indonesia. Data were analyzed using structural equation modeling with complementary cluster and visualization analyses. The findings indicate that adaptive cognitive support, pedagogical responsiveness, and transparent personalization positively influence the effectiveness of personalized learning, which subsequently enhances student engagement. Three distinct engagement profiles were also identified, reflecting substantial differences in students' learning experiences. These findings highlight that effective personalization should combine cognitive adaptation, responsive pedagogy, and transparency to foster deeper and more meaningful engagement in higher education.

Keyword : artificial intelligence; personalized learning; student engagement; higher education; personalization
Topic : Technology

Precision Mental Health Counseling: A Systematic Review and Integrative Framework of Personalized, Adaptive, and Data-Informed Interventions

Yona Mita Soma, Dina Sukma, Ifdil Ifdil, Nilma Zola

Universitas Negeri Padang, Universitas Negeri Padang, Universitas Negeri Padang, Universitas Negeri Padang

Abstract

Mental health counseling is shifting from a one-size-fits-all approach toward precision mental health, emphasizing personalization, adaptation, and data-informed decision-making through routine monitoring, clinical decision support, just-in-time adaptive interventions (JITIs), Sequential Multiple Assignment Randomized Trials (SMARTs)/Micro-Randomized Trials (MRTs), and machine learning/AI. This systematic review aims to map the evidence published between 2021 and 2026 on personalized, adaptive, and data-informed interventions in mental health counseling and to develop an integrative framework for clinical implementation. Following the PRISMA guidelines, a systematic review was conducted of studies published from 2021 to 2026 addressing precision mental health, personalized psychotherapy, adaptive interventions, JITIs, SMARTs, digital phenotyping, clinical decision support, and other data-informed approaches within mental health contexts. The literature indicates a consistent shift toward interventions that tailor content, timing, dosage, and delivery format based on patient data, routine symptom monitoring, individual preferences, contextual factors, and real-world data. Evidence further suggests that clinical decision support systems and adaptive feedback may improve outcomes when effectively integrated into clinical practice, while JITI and other digital approaches show promising potential but remain limited by incomplete adaptivity, inconsistent effectiveness, and insufficient prospective validation. Recurring implementation barriers include model accuracy, cost, data privacy and security, staff competencies, sample representativeness, and integration into routine care. Overall, evidence from 2021–2026 suggests that precision mental health counseling is increasingly evolving toward more individualized, dynamic, and data-informed models. However, meaningful clinical advancement will depend on prospective validation, implementation integration, and strengthened service infrastructure.

Keyword : precision mental health; systematic review; PRISMA; personalized intervention; adaptive intervention; data-informed counseling
Topic : Learning Innovation

Family Adaptation Profiles among Parents of Children with Cerebral Palsy in the Digital Era: A Cluster-Based Analysis of Family Counseling Outcomes

Nurhastuti, Ade Herdian Putra, Mardhatillah Zulpiani, Zadrian Ardi, Syari Yuliana

Universitas Negeri Padang, Universitas Negeri Padang, Universitas Negeri Padang, Universitas Negeri Padang, Universitas Negeri Padang

Abstract

Parents of children with cerebral palsy face sustained psychological and practical demands that shape their capacity to provide consistent care, and family counseling is often used to strengthen their adaptive resources. This study examined whether parents receiving family counseling form distinct adaptation profiles across ten psychosocial and practical domains related to understanding, support, caregiving, communication, and stress management. Data were collected from ninety three parents using a thirty item structured questionnaire and analyzed through cluster analysis, with the number of groups determined using the elbow method and visualized through a nonlinear dimensionality reduction technique. Three profiles emerged, ranging from consistently strong to markedly vulnerable functioning, with nearly a third of parents showing weak understanding and limited involvement in therapy. These findings point to the need for counseling that responds to each parent's specific pattern of strengths and needs.

Keyword : cerebral palsy; family counseling; parent adaptation profile; cluster analysis; digital era caregiving

Topic : Sustainable Development

From Role Confusion to Structure Practice: A Mixed-Methods Evaluation of a Structured Training Program's Association with Academic Advisor Self-Efficacy and Professional-Role Perceptions in a Polytechnic Context

Hasbi Hasbi, Ifdil Ifdil, Zadrian Ardi

Politeknik Negeri Padang, Universitas Negeri Padang, Universitas Negeri Padang

Abstract

Vocational higher education academic advisors may feel their role is unclear, and the confusion in their work undermines their confidence and consistency of practice.

This paper investigated whether structured, experiential training might enhance advisors' role self-efficacy and change their professional role perceptions at a state polytechnic in Indonesia, using 51 matched academic advisors in a one-group pretest-posttest experimental design. Moreover, their accounts of role change were examined using reflexive thematic analysis. All 11 Likert items (self-efficacy and professional-role perception scales; $\alpha = .86-.90$) after Holm correction showed a statistically significant increase, with the effect sizes varying from small-to-moderate ($d_z = 0.30$) to large ($d_z = 1.03$).

Qualitative analysis identified a transition in advisor behavior from confusion about procedures to more structured, empathetic advising; however, advisors still faced time and engagement constraints, while the need for institutional support was a shared demand.

In view of the study's single-university, uncontrolled design, the authors have interpreted their findings as associations rather than causal effects, providing evidence from a particular context that supports the need for structured advisor training in Southeast Asia's vocational higher education.

Keyword : academic advising, self-efficacy, professional-role perceptions, faculty development, vocational higher education, reflexive thematic analysis, polytechnic, Indonesia

Topic : Learning Innovation

An Artificial Intelligence Based Guidance and Counseling Model for Enhancing Students' Well Being and Learning Readiness to Support Sustainable Development Goal 4 (Quality Education)"

Rahmatul Ulfa Auliya, S.Pd.I., M.Pd, Wisda Ramadinur, S.Psi. I., M.Pd, Intan Verly Syafitri, S.Pd., M.Pd., Kons., Vitria Larseman Dela, M.Pd

UIN Imam Bonjol Padang, Institut Agama Islam Sumatera barat, Universitas Negeri Padang,
Universitas Muhammadiyah Tapanuli Selatan

Abstract

The rapid advancement of Artificial Intelligence (AI) has significantly transformed various aspects of higher education, including guidance and counseling services. AI offers substantial potential to improve counseling practices through digital assessment, early identification of students' academic and psychological challenges, personalized interventions, and continuous monitoring of student development. This study aims to systematically examine the implementation of AI in guidance and counseling services, analyze its contribution to enhancing students' well being and learning readiness, and explore its potential to support the achievement of Sustainable Development Goal (SDG) 4: Quality Education. This study employed a Systematic Literature Review (SLR) following the PRISMA 2020 guidelines. Relevant literature was retrieved from Scopus, Web of Science, ERIC, and Google Scholar, covering peer-reviewed publications published between 2021 and 2025 based on predetermined inclusion and exclusion criteria. The findings indicate that AI positively contributes to counseling services through AI powered chatbots, learning analytics, digital psychological assessments, early warning systems, and personalized counseling support. These technologies enhance students' well being by expanding access to counseling services and enabling preventive interventions while simultaneously improving learning readiness through increased learning motivation, self regulated learning, and academic engagement. Furthermore, this review proposes a conceptual Artificial Intelligence Based Guidance and Counseling Model that integrates AI technologies with professional counselors' expertise to provide adaptive, human centered, and sustainable counseling services, thereby contributing to the realization of SDG 4 (Quality Education) in higher education

Keyword : Artificial Intelligence, Bimbingan dan Konseling, Well being, Kesiapan Belajar, Sustainable Development Goal 4

Topic : Learning Innovation

What Shapes Digital Resilience? Evidence from University Students in the Digital Learning Era

Zadrian Ardi, Ade Herdian Putra, Chiedu Eseadi, Fika Dwi Mulia

Universitas Negeri Padang, Universitas Negeri Padang, University of Johannesburg, Universitas Negeri Padang

Abstract

Digital resilience has become an essential competency for university students as digital technologies increasingly shape teaching, learning, and academic communication. However, the psychological factors influencing students' digital resilience remain insufficiently understood. This study examined the effects of technostress, fear of missing out, and digital self-regulation on digital resilience among university students, while also investigating the moderating role of digital self-regulation. A cross-sectional survey was conducted with 1,125 university students, and the data were analyzed using Partial Least Squares Structural Equation Modeling. The results revealed that technostress negatively affected digital resilience, whereas digital self-regulation had a positive effect. Fear of missing out and the moderating effects of digital self-regulation were not statistically significant. These findings highlight the importance of strengthening students' self-regulation skills to enhance digital resilience and promote more adaptive learning experiences in technology-enhanced education.

Keyword : digital resilience; technostress; digital self-regulation; fear of missing out; university students

Topic : Technology

Development of an Artificial Intelligence-Based Smart Parenting Emotion Management (SPEM) Model to Improve Parenting Emotion Regulation among Mothers of Elementary School Children

Vitria Larseman Dela, M.Pd., Intan Verly Syafitri, S.Pd., M.Pd., Kons, Rahmatul Ulfa Aulya, S.Pd.I., M.Pd., Prof. Dr. Yeni Karneli, M.Pd., Kons., Dr. Miftahul Fikri, M.Pd., Kons.

Universitas Muhammadiyah Tapanuli Selatan, Universitas Negeri Padang, UIN Imam Bonjol Padang, Universitas Negeri Padang, Universitas Negeri Padang

Abstract

Parenting in the digital era presents increasingly complex emotional challenges for mothers due to the simultaneous demands of family responsibilities, professional work, and continuous digital engagement. Inadequate emotional regulation during parenting may negatively influence parent–child relationships and children's socio-emotional development. Despite the growing availability of digital parenting applications, few interventions utilize Artificial Intelligence (AI) to provide personalized emotional support tailored to mothers' emotional conditions. This study aims to develop and validate the Smart Parenting Emotion Management (SPEM) model, an AI-based digital intervention designed to enhance parenting emotion regulation among mothers of elementary school-aged children through personalized emotional assistance and adaptive learning. The study employs a Research and Development (R&D) approach consisting of five stages: needs assessment, conceptual model development, expert validation, prototype development, and effectiveness evaluation using a quasi-experimental design. The SPEM model integrates AI-assisted emotion recognition, self-monitoring, digital reflective journaling, mindfulness exercises, micro-learning modules, and personalized recommendation systems. Data will be analyzed using descriptive statistics, content validity analysis, practicality assessment, and inferential statistics to evaluate the effectiveness of the intervention. The expected findings indicate that the SPEM model will demonstrate high levels of validity, practicality, and effectiveness in improving mothers' parenting emotion regulation. The AI-based system is expected to provide adaptive emotional feedback, increase emotional awareness, reduce parenting stress, and strengthen positive parent–child interactions. Furthermore, the digital platform is anticipated to improve accessibility to parenting support services regardless of geographical limitations. The SPEM model offers an innovative integration of Artificial Intelligence, digital learning, and family counseling to support sustainable parenting practices. This technology-enhanced intervention has the potential to contribute to digital transformation in parenting education while supporting the achievement of Sustainable Development Goals (SDGs), particularly Good Health and Well-being (SDG 3), Quality Education (SDG 4), and Gender Equality (SDG 5).

Keyword : Artificial Intelligence, Digital Parenting; Emotion Regulation, Parenting Education, Smart Parenting, Sustainable Development.

Topic : Learning Innovation

Examining the Pedagogical Processes of a Self-Regulated Learning Model in Islamic Religious Education: A Qualitative Case Study

Indah Muliati, Alfurqan, Putri Lizah Aryani

Universitas Negeri Padang, Universitas Negeri Padang, Universitas Negeri Padang

Abstract

Purpose – This study examines how the pedagogical processes of a Self-Regulated Learning (SRL) model operate in Islamic Religious Education (IRE) and how its instructional phases foster students’ learning regulation.

Design/methodology/approach – A qualitative case study was conducted in two Grade XII classes at SMA Praja Nusantara, West Sumatra. The SRL model was implemented through three phases, forethought, performance, and self-reflection, supported by goal setting, mind mapping, gallery walk, collaborative discussion, and reflective evaluation. Data were collected through classroom observations, interviews, documentation, and a self-efficacy questionnaire as supporting evidence, then analyzed using thematic analysis.

Findings – The SRL model fostered learning regulation through three interconnected phases. Forethought promoted goal setting and planning, performance strengthened strategic learning, collaboration, and self-monitoring, while self-reflection encouraged evaluation and adaptive improvement. These processes transformed students from passive recipients of instruction into active, self-regulated learners, with enhanced self-efficacy emerging as a pedagogical outcome.

Originality/value – This study shifts attention from learning outcomes to the pedagogical mechanisms of SRL in IRE, offering a process-oriented framework for fostering self-regulated learners in the AI era.

Keyword : Self-Regulated Learning; pedagogical processes; Islamic Religious Education; qualitative case study; learning regulation.

Topic : Learning Innovation

Social Media Addiction as a Predictor of Body Shaming Among Vocational High School Students

Lira Erwinda, Yuda Syahputra

Universitas Bina Bangsa, Universitas Indraprasta PGRI

Abstract

The rapid growth of social media use has transformed adolescents' social interactions while simultaneously increasing exposure to unrealistic appearance standards that may encourage body shaming behavior. Despite growing concern over this issue, empirical evidence examining the relationship between social media addiction and body shaming among vocational high school students remains limited. This study investigated the influence of social media addiction on body shaming behavior among vocational high school students. A quantitative cross-sectional design was employed involving 168 vocational high school students. Data were analyzed using linear regression analysis. The results showed that social media addiction significantly predicted body shaming behavior ($p < .001$), explaining 12.6% of the variance ($R^2 = .126$). These findings indicate that students with higher levels of social media addiction are more likely to engage in or experience body shaming. The study highlights the importance of promoting healthy social media use, digital literacy, and positive body image through school-based prevention programs to reduce body shaming among adolescents.

Keyword : Social Media Addiction, Body Shaming, Body Image, Vocational High School
Topic : Online Learning

Career Decision-Making Difficulties for Generation Z Students*Gusni Dian Suri*

Universitas Negeri Padang

Abstract

Career decision-making is a crucial developmental task for university students, yet this process is often accompanied by various difficulties, particularly for Generation Z, who are growing up amid a brittle, anxious, nonlinear, and incomprehensible (BANI) world of work. This study aims to describe the level and category of career decision-making difficulties among university students based on the three dimensions of the Career Decision-Making Difficulties Questionnaire (CDDQ): Lack of Readiness, Lack of Information, and Inconsistent Information. A quantitative descriptive approach was employed, involving 250 undergraduate students from various universities in Sumatra, most of whom were enrolled in Guidance and Counseling programs. Data were collected through an online 1-5 Likert-scale questionnaire and analyzed descriptively using a five-level categorization (Very Low, Low, Moderate, High, Very High). The results indicate that the majority of students fell into the moderate category across all three dimensions, with mean scores of 14.40 (SD = 2.95) for Lack of Readiness, 15.40 (SD = 2.68) for Lack of Information, and 14.24 (SD = 3.37) for Inconsistent Information, out of a possible range of 5-25. The Lack of Information dimension showed the highest combined proportion of high and very high categories (28.8%), indicating that limited career information is the most

Keyword : : career decision-making difficulties; CDDQ; Generation Z; BANI era;
guidance and counseling
Topic : Learning Innovation

MODELING EMPLOYEE PRODUCTIVITY IN THE PUBLIC SECTOR USING STRUCTURAL EQUATION MODELING LINKING CULTURE, SATISFACTION, MOTIVATION, AND CREATIVITY

Irsyad, Anisah, Widiawati, Vivi Efrianova

Universitas Negeri Padang, Universitas Negeri Padang, Universitas Negeri Padang, Universitas Negeri Padang

Abstract

This study investigates how organizational culture, job satisfaction, and achievement motivation influence employee productivity, with creativity as a mediating variable, at Regional Office of the Ministry of Religion in West Sumatra. The study used a quantitative explanatory design with a cross-sectional survey approach. Data were collected through a structured questionnaire using a five-point Likert scale from 382 employees selected from a population of 8,122 through proportional random sampling. After instrument validation and reliability testing, the data were analyzed using Structural Equation Modeling (SEM) with AMOS 26. The analysis shows that creativity is the strongest direct predictor of productivity ($\beta = 0.36$), while organizational culture has the largest total effect on productivity (direct $\beta = 0.28$; indirect $\beta = 0.112$). Achievement motivation affects productivity both directly ($\beta = 0.19$) and indirectly through creativity, whereas job satisfaction contributes mainly through the creativity pathway (indirect effect = 0.090). These findings indicate that employee productivity in public sector institutions is shaped not only by formal work procedures, but also by supportive culture, strong achievement motivation, and the capacity of employees to generate useful ideas. The study highlights creativity as a key mechanism for sustainable productivity improvement.

Keyword : organizational culture, job satisfaction, achievement motivation, creativity, productivity

Topic : Applied Sciences

Parenting Profiles and Children's Gaming Disorder Risk Implications for Family and School Counseling

Evi Afiati, Ade Herdian Putra, Zadrian Ardi, Yarmis Syukur

Universitas Sultan Ageng Tirtayasa, Universitas Negeri Padang, Universitas Negeri Padang,
Universitas Negeri Padang

Abstract

Excessive child gaming is a growing concern for families and counseling services. This study examined how parental mediation, inconsistent parenting, and parental technoference relate to children gaming disorder scores, and how resulting risk profiles map onto counseling needs. Survey data from 672 parent respondents were analyzed using reliability testing, correlation, multiple regression, chi-square, and cluster analysis with dimensionality-reduction visualization. Regression showed the model explained 45 percent of variance in gaming disorder scores, with inconsistent parenting and daily gaming duration as the strongest risk factors, and active mediation, co-use, and monitoring as protective factors. Four distinct parenting profiles emerged, ranging from consistently engaged to disengaged and inconsistent, with the latter showing the highest risk and counseling need. These findings support a tiered, family-centered counseling framework that matches intervention intensity to parenting profile and risk level, giving counselors a practical basis for prioritizing limited service resources toward families most likely to benefit.

Keyword : gaming disorder, parental mediation, technoference, counseling needs,
cluster analysis
Topic : Technology

Family Harmony and Adolescent Aggressiveness: A Study on Vocational High School Students

Eki Aprinaldi, Ifdil, Afdal, Annisaislami Khairati, Marchelya

Universitas Negeri Padang, Universitas Negeri Padang, Universitas Negeri Padang, Universitas Negeri Padang, Universitas Negeri Padang

Abstract

Student aggressiveness within educational environments poses a severe threat to adolescents' psychosocial and academic development. This study investigated the levels of family harmony and student aggressiveness such as physical and verbal hostility and examined the correlation between these two variables. Utilizing a quantitative descriptive-correlational design, a sample of 263 vocational high school students in Indonesia was selected via stratified proportional random sampling from a population of 798. Data were collected using the Family Harmony and Student Aggressiveness scales, then analyzed using Pearson Product-Moment Correlation. The descriptive results revealed that family harmony was moderately harmonious, while student aggressiveness was at a medium level. Crucially, inferential statistics confirmed a significant and strong negative correlation between family harmony and student aggressiveness ($r = -0.536$, $p = 0.000$), demonstrating that lower family cohesion strongly predicts heightened aggressive tendencies. These empirical findings imply that domestic stability serves as a vital buffer against behavioral deviations. Consequently, school counselors must proactively implement comprehensive guidance services and family-based counseling programs to foster domestic harmony, thereby enhancing student emotional regulation and minimizing institutional violence.

Keyword : Adolescent Aggressiveness, Family Harmony, Student Behavior, Vocational Education

Topic : Applied Sciences

Leveraging Big Five Personality Profiles for Personalized Learning in Indonesian TVET Higher Education

Alzet Rama, Ifdil Ifdil, Wiki Lofandri, Nizwardi Jalinus, Muhammad Anwar

Universitas Negeri Padang, Universitas Negeri Padang, Universitas Negeri Padang, Universitas Negeri Padang, Universitas Negeri Padang

Abstract

The growing adoption of personalized learning has transformed educational practices in higher education, yet instructional strategies in Technical and Vocational Education and Training (TVET) continue to be predominantly standardized, with limited consideration of learners' individual characteristics. Although personality has been recognized as an important factor influencing learning engagement, self-regulation, and career development, empirical evidence demonstrating how personality profiling can inform personalized learning in Indonesian TVET remains limited. Addressing this gap, this study investigates the Big Five personality profiles of vocational higher education students and examines their potential to support learner-centered instructional strategies. A quantitative cross-sectional study was conducted involving 232 students from Indonesian TVET higher education institutions. Personality traits were assessed using the validated Indonesian version of the IPIP-BFM-25 instrument. The data were analyzed through descriptive statistics, independent-samples t-tests, one-way ANOVA, Pearson correlation analysis, and K-means clustering to identify meaningful learner profiles for educational interpretation. The results indicate that Agreeableness and Conscientiousness were the most dominant personality dimensions, while Emotional Stability showed comparatively lower scores. A significant gender difference was observed only for Emotional Stability, whereas no significant differences were found across academic cohorts, suggesting relatively stable personality characteristics throughout the study period. Furthermore, cluster analysis identified three distinct personality

Keyword : Big Five Personality; Personalized Learning; Technical and Vocational Education and Training (TVET); Higher Education; Personality Profiling; Learning Analytics; Student-Centered Learning

Topic : Learning Innovation

Indonesian Vocational Research Database (IVRD): An Integrated Research Knowledge Platform for Evidence-Based Innovation in Indonesian TVET

Alzet Rama, Nizwardi Jalinus, Muhammad Anwar, Hasan Maksum, Sukardi Sukardi, Dedy Irfan, Wiki Lofandri, Ifdil Ifdil

Universitas Negeri Padang, Universitas Negeri Padang, Universitas Negeri Padang, Universitas Negeri Padang, Universitas Negeri Padang, Universitas Negeri Padang, Universitas Negeri Padang

Abstract

The rapid growth of vocational research in Indonesia has not been accompanied by an integrated research knowledge infrastructure. Research outputs remain fragmented across institutional repositories, limiting accessibility, interdisciplinary collaboration, and the utilization of evidence for curriculum development, policy formulation, and industry innovation. This study addresses these challenges through the development of the Indonesian Vocation Research Data (IVRD), an integrated research knowledge platform specifically designed to strengthen the vocational education research ecosystem. Unlike conventional institutional repositories that primarily function as digital archives, IVRD provides an interconnected environment that supports research data integration, collaborative knowledge sharing, research trend exploration, and evidence-based decision-making within Technical and Vocational Education and Training (TVET). The platform was developed using the DevOps development approach, enabling continuous system refinement through iterative design, implementation, testing, and evaluation. The development process involved comprehensive needs analysis, system design, prototype implementation, and empirical evaluation involving experts and prospective users from the Faculty of Engineering and the Vocational School of Universitas Negeri Padang. The platform was evaluated in terms of validity, usability, and implementation effectiveness to ensure its practical applicability in supporting vocational research management. The findings demonstrate that IVRD successfully establishes a centralized and collaborative research knowledge environment capable of improving research

Keyword : Indonesian Vocation Research Data (IVRD); Research Knowledge Platform; Technical and Vocational Education and Training (TVET); Evidence-Based Innovation; Research Data Integration; Knowledge Management; Digital Transformation; Research Collaboration

Topic : Technology

Knowledge Graph-Enhanced Retrieval-Augmented Generation for Personalized Academic, Career, and Well-Being Counseling in Higher Education

Alzet Rama, Wiki Lofandri, Ifdil Ifdil, Muhammad Anwar, Nizwardi Jalinus

Universitas Negeri Padang, Universitas Negeri Padang, Universitas Negeri Padang, Universitas Negeri Padang, Universitas Negeri Padang

Abstract

The increasing complexity of students' academic pathways, career planning, and psychological well-being has created new challenges for guidance and counseling services in higher education. Conventional digital counseling systems generally rely on keyword-based retrieval or rule-based recommendations, limiting their ability to provide personalized, context-aware, and evidence-based support. This study proposes a Knowledge Graph-Enhanced Retrieval-Augmented Generation (KG-RAG) framework to improve the quality of academic, career, and well-being counseling services in higher education. The proposed framework integrates a knowledge graph that models relationships among student profiles, academic records, competencies, career interests, institutional regulations, counseling resources, and labor market information with a retrieval-augmented generation architecture that grounds responses in verified institutional knowledge. By combining semantic knowledge representation with context-aware retrieval, the framework generates personalized counseling recommendations while reducing unsupported or fabricated AI responses. A prototype is designed to support counselors and students through intelligent academic guidance, career pathway recommendations, and well-being assistance. The framework is evaluated using information retrieval metrics, response quality assessment, and user-centered evaluation involving counselors and university students. The proposed approach demonstrates improved retrieval relevance, recommendation accuracy, contextual consistency, and user satisfaction compared with conventional counseling information systems. This research contributes an AI-driven counseling framework that enhances the reliability, transparency, and

Keyword : Knowledge Graph; Retrieval-Augmented Generation; Artificial Intelligence in Education; Guidance and Counseling; Personalized Counseling; Higher Education; Student Well-Being.

Topic : Technology

Adaptive Serious Games for Strengthening Career Decision-Making in Higher Education Counseling

Wiki Lofandri, Ifdil Ifdil, Alzet Rama

Universitas Negeri Padang, Universitas Negeri Padang, Universitas Negeri Padang

Abstract

Career decision-making has become increasingly complex for university students due to rapid technological advancement, evolving labor market demands, and the emergence of new interdisciplinary professions. Conventional career counseling services often rely on face-to-face consultations and self-report assessments, which may not sufficiently engage students or provide continuous opportunities for career exploration. These limitations highlight the need for innovative counseling approaches that foster active participation while supporting informed and confident career decisions. This study proposes an Adaptive Serious Game (ASG) framework designed to strengthen career decision-making within higher education counseling. The framework integrates career assessment, adaptive game mechanics, personalized learning pathways, and reflective feedback to create an interactive counseling environment. By dynamically adjusting scenarios, challenges, and career-related tasks according to students' interests, competencies, and decision-making progress, the proposed system encourages deeper self-exploration and sustained engagement throughout the counseling process. The framework is grounded in established career development principles and incorporates learning analytics to monitor behavioral patterns and support evidence-based counseling interventions. The proposed framework is evaluated through usability, engagement, and educational effectiveness using representative career counseling scenarios in higher education. The evaluation focuses on students' interaction quality, decision-making confidence, career exploration behavior, and user acceptance of the adaptive game environment. The assessment

Keyword : Adaptive Serious Games, Career Decision-Making, Higher Education Counseling, Career Development, Personalized Learning, Learning Analytics

Topic : Learning Innovation

Federated Learning and Privacy-Preserving Learning Analytics for Smart Higher Education Ecosystems

Wiki Lofandri, Alzet Rama

Universitas Negeri Padang, Universitas Negeri Padang

Abstract

The rapid adoption of digital learning platforms has enabled higher education institutions to collect extensive educational data for learning analytics and data-driven decision making. However, conventional centralized analytics require aggregating sensitive student data into a single repository, creating significant challenges related to privacy protection, data governance, institutional autonomy, and regulatory compliance. These limitations hinder inter-institutional collaboration and reduce the potential of large-scale educational intelligence. This study proposes a Federated Learning-based Privacy-Preserving Learning Analytics (FL-PPLA) framework that enables multiple higher education institutions to collaboratively train predictive learning models without transferring raw student data outside institutional boundaries. The proposed architecture integrates distributed model training, secure parameter aggregation, and privacy-preserving mechanisms to support academic performance prediction, early identification of at-risk students, and personalized learning recommendations while maintaining data confidentiality. Unlike conventional centralized approaches, the framework promotes collaborative intelligence by exchanging only model parameters, thereby reducing privacy risks and improving institutional trust. The proposed framework is evaluated through a prototype implementation using representative higher education learning datasets. Performance is assessed using predictive accuracy, communication efficiency, convergence behavior, privacy preservation, and scalability across distributed institutional environments. The evaluation demonstrates that collaborative federated learning can achieve competitive predictive performance while substantially reducing exposure of sensitive educational

Keyword : Federated Learning, Privacy-Preserving Learning Analytics, Higher Education, Educational Data Mining, Student Performance Prediction, Trustworthy Artificial Intelligence.

Topic : Learning Innovation

Neuro-Symbolic Artificial Intelligence for Trustworthy Educational Decision Support Systems

Wiki Lofandri, Bayu Ramadhani Fajri, Ulfia Rahmi

Universitas Negeri Padang, Universitas Negeri Padang, Universitas Negeri Padang

Abstract

The increasing adoption of artificial intelligence (AI) in higher education has significantly improved data-driven decision-making for academic advising, curriculum planning, and student support services. Despite these advances, most existing educational decision support systems rely on deep learning models that often operate as black boxes, limiting transparency, logical consistency, and stakeholder trust in AI-generated recommendations. These limitations present significant challenges for educational institutions that require accountable and explainable decision-making processes. This study proposes a Neuro-Symbolic Artificial Intelligence (NSAI) framework for trustworthy educational decision support by integrating neural learning with symbolic knowledge representation and rule-based reasoning. The proposed framework combines data-driven predictive modeling with explicit educational domain knowledge to generate recommendations that are not only accurate but also interpretable and logically consistent. Through this hybrid approach, the system supports academic decision-making in areas such as student performance prediction, personalized learning pathways, academic risk identification, and curriculum recommendation while providing transparent reasoning for every recommendation. The proposed framework is designed around four interconnected components: educational data processing, neural prediction models, symbolic reasoning based on academic knowledge rules, and an explainable decision generation module. Its effectiveness is evaluated using representative educational datasets through multiple performance dimensions, including predictive accuracy, interpretability, reasoning consistency, and user

Keyword : Neuro-Symbolic Artificial Intelligence, Educational Decision Support Systems, Explainable Artificial Intelligence, Higher Education, Student Performance Prediction, Trustworthy Artificial Intelligence

Topic : Technology

ALIGNMATE: Bridging Hardware Sensing and Web Analytics for Continuous Postural Assessment

Afsal Binti Abdullah, Siti Alya Sorfina Binti Suhal Majid, Nurul Izzati Binti Mohd Jalaluddin

Politeknik Kuala Terengganu, Politeknik Kuala Terengganu, Politeknik Kuala Terengganu

Abstract

ALIGNMATE is an innovative, low-cost wearable posture monitoring system designed to combat the rising prevalence of musculoskeletal issues caused by sedentary lifestyles, heavy loads, and prolonged sitting among students and office workers. Developed using an iterative development model, the system integrates an ESP32 microcontroller with flex and IMU sensors to detect body alignment in real time. When poor posture is identified, the device triggers immediate corrective feedback through an integrated buzzer and mobile phone notifications. Beyond real-time alerts, ALIGNMATE features a web-based dashboard that records and analyzes posture data, presenting it through intuitive graphs for long-term progress tracking. By combining hardware-based sensing with data-driven insights, this project provides a user-friendly solution to increase postural awareness, prevent long-term spinal complications like scoliosis, and promote healthier ergonomic habits in healthcare, education, and workplace settings.

Keyword : Posture Monitoring System, Internet of Things (IoT), Postural Awareness, Scoliosis Prevention, Wearable Technology

Topic : Technology

Sensor-Assisted Magnetic Focus Therapy for Post-Injury Psychological Recovery: Effects on Fear of Reinjury, Psychological Readiness, and Psychophysiological Regulation

M. Fahli Zatrachadi, Ildil Ildil

Universitas Negeri Padang, Indonesia

Abstract

When a person has physically healed, this does not necessarily indicate complete psychological recovery. Individuals who regain physical capacity after injury may still experience fear of reinjury, reduced psychological readiness to resume activity, and persistent psychophysiological responses associated with previous injury experiences. These conditions highlight the need for interventions that simultaneously address mind–body responses while incorporating objective technology-based monitoring. This study aims to investigate the effects of Sensor-Assisted Magnetic Focus Therapy (SA-MFT), an innovative body-focused counseling intervention integrating structured sensory-attentional processes with real-time physiological monitoring through wearable devices. A prospective pilot quasi-experimental design will involve 40 participants assigned to intervention and comparison groups. Data will be collected at baseline, immediately after the intervention, and at follow-up. Fear of reinjury and psychological readiness will be assessed using validated psychological measures, while psychophysiological regulation will be evaluated through heart rate and heart rate variability recorded by wearable sensors. The intervention will follow a structured protocol comprising stabilization, body awareness, identification of injury-related bodily responses, magnetic sensory focusing, regulated processing, and integration. Participants receiving SA-MFT are expected to demonstrate reduced fear of reinjury, greater psychological readiness, and improved psychophysiological regulation. By integrating body-focused counseling with wearable physiological monitoring, this study proposes a technology-assisted

Keyword : Magnetic Focus Therapy; fear of reinjury; psychological readiness; psychophysiological regulation; post-injury recovery
Topic : Technology

Indicators of online child sexual and exploitation: The perspective of child protection officers in the Gambia, case study: serekunda tourism development areas

Yahya Muhammed Bah, Myrtati Dyah Artaria

University of The Gambia, University of Airlangga

Abstract

Digital technology has significantly improved the lives and living conditions of many people worldwide. However, studies have revealed some negative socio-economic, political, cultural, and environmental impacts. This case study was conducted to interrogate online child sexual abuse and exploitation in The Gambia, focusing on the motivating factors, techniques, negative impacts, victims' and perpetrators' support services, preventive strategies, and institutional collaboration. Grounded on the findings, the indicators of online child sexual entail sexy vocabulary, unusual sexy actions, romantic behaviours, regular self-isolation, attitudinal change, dress style, regular watching of pornographic materials, always talking on the phone and in secret, and poor academic performance.

Keyword : online, indicators, child abuse, exploitation, perpetrators, tourism
Topic : Technology

Development and Psychometric Validation of the Counseling Students' AI and Digital Counseling Readiness Scale (CSAIDCRS): A Seven-Factor Instrument for Counselor

Ifdil Ifdil, M. Fahli Zatrahadi, Khairul Bariyyah, Ranti Marnis, Nur Adila Wafiqoh Zulvi, Annisa Islami Khairati, Ade Herdian Putra

Universitas Negeri Padang, Universitas Islam Negeri Sultan Syarif Kasim Riau, Universitas Negeri Malang, Universitas Negeri Padang, Universitas Negeri Padang, Universitas Negeri Padang, Universitas Negeri Padang

Abstract

There are no validated tools that can measure multidimensional AI and digital counseling readiness of counseling students. The current scales only measure general acceptance of technology rather than the readiness of a specific profession in the context of emerging economies. This article presents the development and psychometric validation of Counseling Students' AI and Digital Counseling Readiness Scale (CSAIDCRS), a 21-item and 7-factor tool based on theories of technology-acceptance, social-cognitive, technology-readiness, and professional-ethics. This article using a six-stage sequential development protocol (item generation, content validation, cognitive interviewing, item analysis, exploratory factor analysis, confirmatory factor analysis), data were collected from 296 Indonesian undergraduate counseling students (84.8% female) for validation of the instrument. Reliability was assessed through Cronbach's alpha and McDonald's omega; construct validity was tested through CFA, average variance extracted (AVE), and heterotrait, monotrait (HTMT) ratio. The seven-factor CFA model was shown to have a decent fit ($\chi^2/df = 1.67$, CFI = .917, RMSEA = .048). The total internal consistency was high ($\alpha = .840$). Subscale reliabilities varied from $\alpha = .323$ to $\alpha = .680$; the Technology Anxiety subscale returned a negative alpha ($\alpha = -.277$), and AVE was below .50 for all subscales. Two HTMT pairs surpassing .85 indicate the possibility of a discriminant validity problem. The CSAIDCRS

Keyword : AI readiness, digital counseling, psychometric validation, confirmatory factor analysis, counselor education

Topic : Learning Innovation

BeatSafe: Real-Time Heart Rate Tracking and Caregiver Alert System Using ESP32 and XD-58C Sensors

Rosmayati binti Ismail, Sarah binti Mohamad Fuad, Sharifah Malissa Suhaila binti Syed Mahdam Suari

Politeknik Kuala Terengganu, Politeknik Kuala Terengganu, Politeknik Kuala Terengganu

Abstract

ABSTRACT

BeatSafe is a wearable device developed to monitor heart rate for elderly individuals and chronic patients often left alone at home. The project uses an XD-58C pulse sensor connected to an ESP32 microcontroller to measure heart rate and transmit data to a mobile application via Wi-Fi. The app provides real-time alerts to caregivers when abnormal readings are detected. The results show that the system functions effectively and is suitable for home health monitoring. This project demonstrates that BeatSafe can improve patient safety and support independent living through continuous monitoring. Future improvements may include integrating additional sensors and expanding app features to enhance system reliability and accuracy.

Keyword : IoT, ESP32 Microcontroller, XD-58C Pulse Sensor, Wireless Health Monitoring, Real-time Alert System
Topic : Technology

FIRE-EYE: An IoT-Enabled Thermal Imaging Robot for Hazardous Search and Rescue Operations

Afsal Binti Abdullah, Muhammad Aiman Hakimi Bin Mohd Zaini , Muhammad Syazwil Ammar Bin Sufian

Politeknik Kuala Terengganu, Politeknik Kuala Terengganu, Politeknik Kuala Terengganu

Abstract

FIRE-EYE is a rescue robot designed to support emergency teams by detecting victims in smoke-filled, dark, and hazardous environments using infrared thermal imaging and real-time wireless monitoring. Traditional rescue methods depend on human visibility, which becomes ineffective during fire incidents and often delays victim identification while increasing risks to rescuers. FIRE-EYE addresses these limitations by integrating thermal sensors, GPS tracking, and IoT-based communication to transmit live heat signatures and location data through platforms such as Blynk or Firebase. Developed using Arduino hardware, wireless modules, and a structured development methodology, the system enhances detection speed, improves data accuracy, and reduces manual workload during rescue operations. Overall, FIRE-EYE provides a cost-effective and reliable solution for fire and search-and-rescue teams, with future potential for improved navigation and integration into broader emergency response systems.

Keyword : Thermal Imaging, Internet of Things (IoT), Real Time Wireless Monitoring, IoT Cloud Integration (Blynk/Firebase), Real-Time Wireless Monitoring
Topic : Technology

The Influence of Internet Gaming Disorder on Emotional Maturity Among Vocational High School Students

Nurul Fajri, Destri Astrianingsih, Vidya Ayuningtyas, Yuda Syahputra

Universitas Islam As syafi'iah, Jakarta, Universitas Bina Bangsa, Universitas Bina Bangsa,
Universitas Indraprasta PGRI

Abstract

The rapid growth of digital technology and online gaming has raised concerns about its impact on adolescents' emotional development, particularly among vocational high school students. Excessive gaming may interfere with emotional regulation, self-control, and psychosocial adjustment, increasing the risk of Internet Gaming Disorder (IGD). This study examined the level of Internet Gaming Disorder, the level of emotional maturity, and the influence of Internet Gaming Disorder on emotional maturity among vocational high school students. A quantitative cross-sectional survey was conducted using validated Likert-scale questionnaires. Data were analyzed using descriptive statistics and simple linear regression. The findings indicated that students generally exhibited low levels of Internet Gaming Disorder and high levels of emotional maturity. Regression analysis further revealed that Internet Gaming Disorder significantly predicted emotional maturity, indicating that higher levels of problematic gaming were associated with lower emotional maturity.

Keyword : Internet Gaming Disorder (IGD), Emotional Maturity, Adolescents,
Vocational High School

Topic : Online Learning

Reconceptualizing Counseling in the Age of Artificial Intelligence: An Integrative Systematic Literature Review of Human–AI Collaborative Practice

Nilma Zola, Ifdil Ifdil, Yeni Karneli, Zadrian Ardi, Soeci Izzati Adlya, Yona Mita Soma, Fiky Zarya

Universitas Negeri Padang, Universitas Negeri Padang, Universitas Negeri Padang, Universitas Negeri Padang, Universitas Negeri Padang, Universitas Negeri Padang, Universitas Negeri Padang, Universitas Negeri Padang

Abstract

Artificial intelligence (AI) is increasingly being integrated into counseling to support screening, early support, monitoring, prevention, and clinical education, while also raising concerns about ethics, trust, cultural fit, and professional oversight. This article synthesizes recent literature on human–AI collaboration in counseling and positions AI as a complementary tool to professional practice rather than a replacement for counsellors. An integrative systematic literature review was conducted on studies published from 2021 to 2026 addressing counseling, AI tools, acceptance, governance, supervision, training, workflow, and service outcomes. The literature consistently suggests that AI is most useful for access, triage, information support, documentation, monitoring, and skills training, including role-play and counselor education. In contrast, human counselors remain central for empathy, clinical judgment, cultural sensitivity, and relational meaning-making. Studies also highlight the importance of AI literacy, supervision, informed consent, governance, and ethical safeguards to prevent dehumanization of care. The evidence supports a hybrid counseling model in which AI serves as an augmentative tool to improve access, efficiency, and professional support, while the human counselor remains the core of therapeutic care.

Keyword : artificial intelligence, counselling, systematic literature review, PRISMA, human-AI collaboration, hybrid practice

Topic : Learning Innovation

No	ID	Abstract	Page
19	GS.AB-26	Validation of the Students` Self-Efficacy Scale to Avoid Substance Abuse in Malaysian Secondary Schools	19
20	GS.AB-27	Narratives as Pathways to Worldview Exploration: A Narrative Inquiry into English Teachers' Pedagogical Purposes in Indonesia	20
21	GS.AB-28	Cultural Nuances in Apology Communication Strategies: A Study of the Banjarese Community in Indonesia	21
22	GS.AB-29	Digital Literacy and ICT Utilization among Older Adults: A Case Study of Three Southeast Asian Nations	22
23	GS.AB-3	The Indonesian Fear of Missing Out Scale (ID-FoMOs): Development and Validation of a Gender and Culture Invariant Measure	23
24	GS.AB-30	Adult Learners' Adaptation from Google Search to AI Tools in Indonesia: A Mixed-Methods Phenomenological Study of Digital Immigrants	24
25	GS.AB-31	Understanding Technostress Among Muslim University Students: Psychological and Social Determinants	25
26	GS.AB-32	How Artificial Intelligence Personalization Drives Deep Student Engagement Through Algorithmic Learning Effectiveness in Higher Education	26
27	GS.AB-33	Neurodiversity-affirming school counseling: systematic review tentang pendekatan person-centered untuk wellbeing siswa neurodivergen	27
28	GS.AB-34	Family Adaptation Profiles among Parents of Children with Cerebral Palsy in the Digital Era: A Cluster-Based Analysis of Family Counseling Outcomes	28
29	GS.AB-35	From Role Confusion to Structure Practice: A Mixed-Methods Evaluation of a Structured Training Program's Association with Academic Advisor Self-Efficacy and Professional-Role Perceptions in a Polytechnic Context	29
30	GS.AB-36	An Artificial Intelligence Based Guidance and Counseling Model for Enhancing Students' Well Being and Learning Readiness to Support Sustainable Development Goal 4 (Quality Education)"	30
31	GS.AB-37	What Shapes Digital Resilience? Evidence from University Students in the Digital Learning Era	31
32	GS.AB-38	Development of an Artificial Intelligence-Based Smart Parenting Emotion Management (SPEM) Model to Improve Parenting Emotion Regulation among Mothers of Elementary School Children	32
33	GS.AB-39	Examining the Pedagogical Processes of a Self-Regulated Learning Model in Islamic Religious Education: A Qualitative Case Study	33
34	GS.AB-4	Social Media Addiction as a Predictor of Body Shaming Among Vocational High School Students	34
35	GS.AB-40	Career Decision-Making Difficulties for Generation Z Students	35
36	GS.AB-41	MODELING EMPLOYEE PRODUCTIVITY IN THE PUBLIC SECTOR USING STRUCTURAL EQUATION MODELING LINKING CULTURE, SATISFACTION, MOTIVATION, AND CREATIVITY	36
37	GS.AB-42	Parenting Profiles and Children's Gaming Disorder Risk Implications for Family and School Counseling	37
38	GS.AB-43	Family Harmony and Adolescent Aggressiveness: A Study on Vocational High School Students	38
39	GS.AB-44	Leveraging Big Five Personality Profiles for Personalized Learning in Indonesian TVET Higher Education	39

No	ID	Abstract	Page
40	GS.AB-45	Indonesian Vocational Research Database (IVRD): An Integrated Research Knowledge Platform for Evidence-Based Innovation in Indonesian TVET	40
41	GS.AB-46	Knowledge Graph-Enhanced Retrieval-Augmented Generation for Personalized Academic, Career, and Well-Being Counseling in Higher Education	41
42	GS.AB-47	Adaptive Serious Games for Strengthening Career Decision-Making in Higher Education Counseling	42
43	GS.AB-48	Federated Learning and Privacy-Preserving Learning Analytics for Smart Higher Education Ecosystems	43
44	GS.AB-49	Neuro-Symbolic Artificial Intelligence for Trustworthy Educational Decision Support Systems	44
45	GS.AB-5	ALIGNMATE: Bridging Hardware Sensing and Web Analytics for Continuous Postural Assessment	45
46	GS.AB-50	Sensor-Assisted Magnetic Focus Therapy for Post-Injury Psychological Recovery: Effects on Fear of Reinjury, Psychological Readiness, and Psychophysiological Regulation	46
47	GS.AB-51	Indicators of online child sexual and exploitation: The perspective of child protection officers in the Gambia, case study: serekunda tourism development areas	47
48	GS.AB-52	Development and Psychometric Validation of the Counseling Students' AI and Digital Counseling Readiness Scale (CSAIDCRS): A Seven-Factor Instrument for Counselor	48
49	GS.AB-6	BeatSafe: Real-Time Heart Rate Tracking and Caregiver Alert System Using ESP32 and XD-58C Sensors	49
50	GS.AB-7	FIRE-EYE: An IoT-Enabled Thermal Imaging Robot for Hazardous Search and Rescue Operations	50
51	GS.AB-8	The Influence of Internet Gaming Disorder on Emotional Maturity Among Vocational High School Students	51
52	GS.AB-9	Reconceptualizing Counseling in the Age of Artificial Intelligence: An Integrative Systematic Literature Review of Human–AI Collaborative Practice	52

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Secretariat

Lembaga Penelitian dan Pengabdian Kepada Masyarakat Gedung
Rectorat & Research Centre Lantai 3
Kampus Utama Universitas Negeri Padang
Jl. Prof. Dr. Hamka Air Tawar Padang – Sumatera Barat
Telp. 0751 – 7055689 | ax. 0751 – 7055689
<https://conferences.unp.ac.id>

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