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Editorial: Reflections on the use of Generative AI, Technology Tools, Mobile Applications and Sharing Perspectives from Educators and Stakeholders in the Teaching and Learning process

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Thank you to all our authors, reviewers, readers, and well-wishers. We wish you the very best for 2024! While variants of the COVID-19 virus still linger in many of our countries, many of us in higher education are ending 2023 with our students back in face to face classrooms. We continue to salute those institutions that have and will maintain an online presence after careful review of the mode of delivery of instruction implemented in early 2020 and the lessons learned. We look forward to reviews and discussions around this in 2024.

Spotlight on AI

In this Issue we spotlight four articles guest edited by **Chaka Chaka**, on AI from or about India, Mexico and South Africa. We discuss the impact of AI through the lens of educators, the context of educational inequality and the digital divide, and we present arguments for collaborative research on AI. The section closes with two comparative analyses of AI and student writing in argumentative and discursive essays.

The Educator's Lens: Understanding the Impact of AI on Management Education

We begin with an article **by Navita Vashista, Preeti Gugnani, Manju Bala & Anuj Kumar** and a look at AI through the lens of an educator in India. In this study the authors investigated the impact of AI on management education and its implications for both students and educational institutions from the educator's perspective. .As AI technologies continue to advance, the results show how it can improve teaching, student engagement, and decision-making, and the authors emphasize the significance of humanizing AI, critical thinking, ethical considerations in the classroom and the importance of institutions, AI Developers and instructors collaborating for effective integration in the classroom. The article provides a platform for conversations, policymaking, and strategic planning to utilize AI's potential while protecting quality education and human engagement in learning environments.

Writing with ChatGPT in a context of educational inequality and the digital divide

In our second article we introduce a discourse by **Eduardo Santiago-Ruiz** on writing with CHATGPT in the context of educational inequality and the digital divide in Mexico. The author notes that Mexico faces significant challenges around the digital divide and language-related proficiencies in the higher education system, considering transformative technologies like ChatGPT, and their implications for Mexican universities. The findings reveal that students possess an elementary grasp of ChatGPT's capabilities, and employ it as an information retrieval tool, with limited awareness about its proclivity for generating fabricated content. Many students struggle to identify grammatical or organizational issues in their texts and lack the proficiency to effectively employ prompts to correct them. Conversely, educators exhibit a lack of familiarity with ChatGPT, impeding the learning process as students adopt its use. The author notes the take tangible

[1] The University of the West Indies Open Campus has been rebranded and with effect from August 1, 2023 is now known as The University of the West Indies Global Campus.

measures to ensure that the advantages materialize within education systems that are characterized by a digital divide and deficiencies in academic writing, like the Mexican context.

Generative AI and Chatbots in Higher Education: African countries collaborating with developing nations

Next, **Sello Prince Sekwatlakwatla & Vusumuzi Malele** present a case study of African countries collaborating with developing nations in the context of generative AI in Higher Education. The authors discuss the emergence of Chat Generative Pre-Trained Transformer (ChatGPT), and use citation network analysis to reveal patterns of application of generative AI chatbots in HE, and collaborations in generative AI research. The preliminary findings show that Spain, the United States of America (USA), and Australia are countries that collaborate more often on the development of generative AI chatbots and generative AI chatbots were most likely to cover plagiarism and essay inclusion, but very few covered research for postgraduate enterprises. The study concludes that Chatbots are an important part of teaching technology that should be embraced by higher education.

Comparing Syntactic and Lexical Complexity in AI and Human-Generated Argumentative Essays

In this penultimate article in our spotlight, **Nomsa Zindela** explores syntactic and lexical complexity in argumentative essays written by AI and second language (L2) learners of English in a South African University. The study examines differences in the essays using linguistic measures of syntactic and lexical complexity. The author reports differences in the use of complexity features between the AI-generated-generated and human-generated content, with the AI content demonstrating more sophisticated and varied vocabulary.

Comparing Student-Written Versus ChatGPT-Generated Discursive Essays using Coh-Metrix Indices

In our final article in this section, **Tlatso Nkhobo & Chaka Chaka** report on a comparative analysis of student-discursive essays and ChatGPT-generated discursive essays on the same essay topic, using three Coh-Metrix indices - lexical density, syntactic complexity, and referential cohesion. Overall, at raw mean score levels, the student discursive essays outperformed those that were ChatGPT generated in lexical density and referential cohesion, while the ChatGPT generated essays outperformed in syntactic complexity. However, the authors note that there was no statistically significant difference between the mean scores of the two essay sets in relation to the three Coh-Metrix linguistic indices investigated in this study.

Refereed Articles

In this section we present articles from Finland, Botswana, Japan, Tanzania and Giyana. The articles span topics on the use of technology tools to improve the student experience in online learning, the integration of ethical literacy in teacher training programmes, and we revisit the topic of e-learning adoption in higher education. We close this section with an autoethnographic account of an educator's experience of online learning during the COVID-19 pandemic.

Evaluating the use of Learning Analytics in the Moodle Learning Management System in Finland

In our first article in this section**, Sunday Olaleye, Richard Agjei, Biliaminu Jimoh & Prince Adoma** discuss the potential significance of using Learning Analytics tool for tracking students' capabilities and consequently improve their performance. This study focused on two fundamental questions. What is the usability of the Learning Management System Moodle through Analytics

Graphs in the University of Applied Sciences context? Two, how can the Learning Management System Moodle through Analytics Graphs be adapted by educators and maximise its potential? This study generates some interesting managerial implications for teachers, students, institutions (Universities) and the e-learning designer or Moodle administrator.

Exploring Awareness and Use of Web 2.0 Tools by Students in Botswana

In this paper **Letsema Lenao** investigated the awareness and use of Web 2.0 tools by students at BA ISAGO University, Botswana. The study findings revealed that students are quite familiar with most Web 2.0 tools, but they hardly used them. The author reports some of the reasons for non-use including inadequate numbers of computers in the computer laboratories and limited access to Internet services as well as power failures. The author recommended integrating a large part of using Web 2.0 tools in the curricula and improving the university infrastructures to facilitate higher uptake and improvement in student skills and their drive to use the tools.

Assessing the Accuracy of Plagiarism Detection Systems

In this article **Tim Vandenhoek** discusses the limitations of previous research **o**n the plagiarism detection systems used to evaluate student writing. The study author seeks to contribute to scholarship on plagiarism by both measuring potential plagiarism in the writing of students at a university in Japan and assessing the accuracy of two plagiarism detection systems, Google Classroom and Grammarly. The findings indicate that student writing was slightly less likely to feature content which may be deemed plagiarized, and the total amount of such content as a percentage of the total was notably low. The accuracy of the two systems differed greatly, with the Google Classroom version being more reliable in terms of generating fewer false positives and having more potential to be used as a self-editing or learning tool for students.

Integrating Ethical Literacy into Initial Teacher Education Programmes in Tanzania

In this article, **Hamisi Mfaume** discusses ethical concerns within the education community occasioned by the adoption of digital technology. Mfaume explored educational stakeholders' perspectives on the place of ethical literacy in initial teacher education in Tanzania and report findings that indicate the digitalisation of education, with unethical practices and the absence of training on the ethical use of technology in the preparation of ethical role models. The study recommends mandatory integration of ethical literacy in initial teacher training programmes and the hosting of regular seminars and workshops to expose in-service teachers to ethical knowledge about technology use.

Adoption and use of eLearning in Tanzanian Higher Learning Institutions

In this study the author reports on design of a model for enhanced adoption and use of eLearning at Tanzanian higher learning Institutions. **Simeo B. Kisanjara** reports results that showed the level of eLearning adoption and use was significantly influenced by technological, user, pedagogical, social, and environmental factors. A model for the adoption and use of successful and improved eLearning in Tanzanian's HLIs and other countries with comparable features was developed and validated in the paper. The author recommends that policymakers and other stakeholders should embrace the model to give enough support for the adoption of eLearning and to enhance the performance in teaching and learning. The findings add to the body of knowledge on the social, environmental, and human factors that affect the adoption of eLearning in Tanzania's HLIs.

An Autoethnography: An Academic's Professional Experiences during the COVID-19 Pandemic

In this article **Vineeta Persaud** shares experiences from self-reflection on operating in an online environment fraught with challenges relating to inadequate technological expertise and support, lack of official policies, and financial, technological, and infrastructural constraints. The research considered how the author experienced lecturing during the COVID-19 pandemic and the themes that emerged revealed the specific challenges faced by the author, how they adapted their professional practice, and the lessons learned from the experiences.

From the Field

The articles in this section focus on issues affecting teaching and learning in South Africa, Nigeria, Tanzania, Sri Lanka and Uganda. Authors explore the TPACK model, smart learning environments for the teaching of Mathematics, the use of modern technologies in secondary schools for enhancing teaching and learning, and automated assessment strategies that utilize the revised Bloom's Taxonomy. The section closes with two articles that elaborate on the use of mobile technology for integrating digital games in the classroom, and for improving communication among agricultural extension officers and the communities they serve.

Exploring use of the TPACK model in delivering subject content after the COVID-19 disruption

In this article **Abueng Molotsi** use of the TPACK model by secondary school teachers in South Africa for delivery of content. Molotsi used non-participant observation and semi-structured interviews and highlight findings that point to a lack of digital devices within the selected secondary schools as well as teachers' limited knowledge of online delivery of content. The author recommends that schools be provided with ICT infrastructure and the necessary training for use

Locally Developed Smart Learning Environments in the Teaching of Mathematics in Public Secondary Schools

Temitope Oteyola, Oluyemisi Akintitan & Oyetola Oyeniran discuss the **c**hallenges of teaching Mathematics inclusive of an inadequate number of teachers, over reliance on the talk and chalk method of teaching and inadequate use of instructional materials, resulting in poor academic performance among secondary school students in Osun State, Nigeria. In their assessment of the effect of locally developed smart learning environments the academic achievement of the students in Mathematics the findings indicate no significant difference in the academic achievement of students exposed to the SLE and those taught with the talk and chalk method and the interaction between gender of the students and the mode of instruction was not significant.

Stakeholders' Perceptions of Modern Technology Usage in Tanzanian Secondary Schools

In this article **Mkude, Mwila & Ndomba** assess stakeholders' perceptions of modern technology use in secondary schools in Mvomero District, Tanzania. Using diffusion of innovation theory, the study findings reveal that modern technology is commonly used for teaching and learning in the secondary school system and regression analysis indicates a positive relationship between stakeholder perception and technology use. However, challenges such as insufficient teachers, funding, and inadequate infrastructure hinder the adoption of modern technology. The study recommends government support for enhancing school ICT infrastructure, building teachers ICT skills, ensuring a constant power supply, integrating ICT skills into the curriculum, and subsidizing the cost of ICT devices and Internet packages.

Revolutionising Educational Assessment using Bloom's Taxonomy and Deep Learning Techniques

Kuhaneswaran Banujan, Samantha Kumara, Senthan Prasanth & Nirubikaa Ravikumar utilised Artificial Neural Network and Long Short-Term Memory models for automating the classification of examination questions according to the revised Bloom's taxonomy. The study collected various question types from online sources and multiple state universities in Sri Lanka to generate a dataset of questions to create models for automating the selection of examinations questions using the revised Bloom's Taxonomy. The authors present their findings and a proposed approach that demonstrates reliability and consistency in the evaluation of students, that educators can use to improve their teaching strategies. The findings of this study have important implications for educational institutions and can lead to more effective and efficient evaluations.

Integrating digital games for teenage mental health education in classroom teaching

In this study of the development and integration of digital games for mental health education in secondary schools in Uganda, **Joseph Kizito Bada, Abima Bonface, Elizabeth Asianzu, Maria Miiro Kafuko & Fatuma Nakawoya** collaborated with secondary school teachers to design a digital game for teaching and learning mental health lessons in schools. The authors evaluated the game-based learning process and report findings that support the students' experience of using digital games and their conscious attention when participating in game-based lessons. The authors concluded that digital game-based learning is an effective tool for teenage mental health education in secondary schools.

Use of mobile technologies in communicating agricultural information among extension officers

In this study carried out at the Mpanda Municipal Council, **Kalungwizi** assessed the factors influencing the use of an interactive mobile agriculture platform in communicating agricultural information among extension workers. The findings indicated a shortage of tablets, low motivation of some buyers to register and provide market information in the system, high cost of some Internet bundles and low clarity of some features influenced the use of the mobile technology, however the extension workers were intrinsically motivated to use the technologies. The author recommends on-going training for extension workers, subsidizing Internet costs, and development of a specific campaign that includes business actors, to offer diversity of the information disseminated.

Best wishes for 2024 from the Editorial Team!

We thank all our authors for the lived experience of continuing patience and understanding of our review and acceptance processes throughout 2023, and we look forward to a more engaging experience in 2013. As always, we appreciate the support and the enduring desire to serve, demonstrated by our peer review panels. Thank you everyone!

Thank you to our Guest Editor, Chaka Chaka for the work on our spotlight articles on AI in this Issue and the team of reviewers that provided invaluable assistance.

A further reminder to new and continuing authors of our journal guidelines that should be observed when submitting articles for publication. Your attention to the author guidelines at: http://ijedict.dec.uwi.edu/submissions.php#guidelines will enhance our review process and improve the time to completion by our review panels.

We anticipate a supplemental publication soon to facilitate submissions that remain in our queue for the attention of our review panels.

To all our authors and readers, stay safe and continue to be well in 2024!

Denise Gaspard-Richards
Chief Editor, IJEDICT
