

Book of Abstracts



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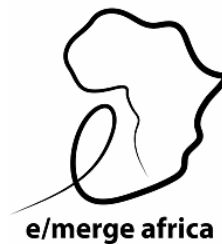


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LEADERS OF AFRICA & INSTITUTE

DISCOVER YOUR LEARNING JOURNEY



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Prof Chenicheri Sid Nair (Victorian Institute of Technology, Australia)**

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Message from Conference Chairs

digiTAL 2022 is the third edition of the international conference on Teaching, Assessment and Learning in the Digital age. The theme for 2022 is “Quality Assurance and Academic Integrity in the Digital space...”

In this edition, a total of 88 submissions were submitted from South Africa, Zimbabwe, Mauritius, Italy, Australia, Oman, Kenya, India, Venezuela, Ghana, USA, Zambia, Mauritius, Canada, Botswana, Vietnam and New Zealand. The outcome of this overwhelming response has been two publications, a book of abstracts with 55 abstracts, and a conference proceeding with 14 fully double-blind refereed papers. 81 submissions were accepted for presentation at the conference.

This 3rd edition of this conference, digiTAL2022, showcases the richness of research that takes place within the walls of the ivory towers of the higher education sector.

Finally, our thanks go out to the keynotes who have made time to enlighten us with their knowledge and experience and our collaborators of this conference, the Victorian Institute of Technology, e/Merge Africa, South Africa, the Independent Institute of Education, South Africa, and Leaders of Africa, USA.

Professor Sid Nair (Victorian Institute of Technology, Australia)

Dr. Upasana Singh (University of KwaZulu-Natal, South Africa)

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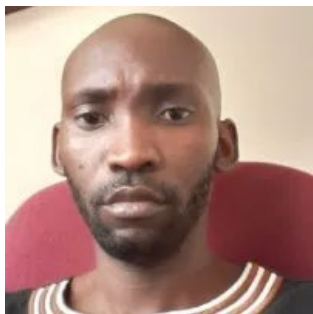
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Message from e/Merge Africa

Conference Associate

Dear colleagues, a warm welcome to the digiTAL2022 conference. As a member of the eThekweni diaspora I thank the organising committee for the invitation to write the preface for the proceedings of this important and evolving conference which links the growing body of vibrant scholarly and professional writing on online and blended learning at University of KwaZulu Natal, to debates, developments and emerging professional practices across Africa and the world. digiTAL 2022 is a unique and wonderful meeting place across multiple scholarly networks, communities of practice and diasporas. For the first time in this conference series it seems likely that the original plan to run the digiTAL series as face to face conferences will finally be realised in the buzzy and beautiful setting of Umhlanga Rocks.

The digiTAL conference series was born in the pandemic and went online in 2020 and 2021 providing a valuable space where delegates could share research and reflections about how to survive and even grow the work of online and blended learning and teaching in the very challenging context of the COVID-19 lockdowns. The presentations, workshops and papers this year show us the fruits of the accelerated learning and innovation over the last few years which are also evident in the digiTAL conference community that was formed in and around the online conferences. As we start to shape an altered normal that will sustain us beyond the pandemic, a brief word frequency analysis of the event titles suggests that the presenters in digiTAL 2022 are highly engaged with enduring themes and challenges in blended and online teaching and learning. The presenters this year are clearly focused on the effective and context appropriate use of technologies to support student learning across public and private sector higher education institutions. This includes a cluster of events focused on the design and application of assessment processes and a strong interest in innovative designs, practices and technologies.

Tony Carr
e/merge Africa Program Convenor

Message from The Independent Institute of Education

Conference Associate

Dear delegates,

It is a great privilege for The Independent Institute of Education (IIE) to be an associate member of the digiTAL conference of 2022. The past two years forced academics to reconsider teaching, assessment and learning approaches using technology and digital platforms. The digiTAL conference provides academics with opportunities to share knowledge through evidence-based practices to improve teaching and learning practices while ensuring a quality higher education experience for students. Given the socio-economic constraints the youth is facing and the significant increase of higher education costs, academics and higher education institutions must (now more than ever) find ways to effectively leverage the technology available to enhance teaching and learning for students.

The IIE is a private higher education institution offering more than 100 registered and accredited higher education programmes from Higher Certificates to PhDs, as well as a range of Short Learning Programmes. The IIE is accredited by the British Accreditation Council as an Independent Higher Education Institution. The six IIE faculties (Humanities and Social Sciences; Information and Communications Technology; Commerce; Education; Engineering, Science and Health; and Law) cater to more than 50 000 students across 27 sites via four educational Brands (Varsity College, Vega, IIE MSA and Rosebank College). The IIE has multiple associations and endorsements with leading organisations and professional bodies and works with several other public and private higher education institutions.

I want to challenge you, the delegates, to implement the findings in the relevant sector/industry to showcase the relevance of your research to the sector. I wish all the presenters and attendees an enjoyable and fruitful conference experience.

Dr Willy Engelbrecht

Dean: Research and Postgraduate Studies

Message from The Leaders of Africa Institute

Conference Associate

The Leaders of Africa and Institute is proud to support the digiTAL Conference 2022. digiTAL2K is a leading voice in conversations about the application of technology in teaching and learning, as well as encouraging faculty and staff to experiment with an array of digital mediums. We at the Institute have also thought a lot about the opportunities and gaps in digital skills teaching and learning. Since 2019, the Institute has pioneered the use and creation of technology tools to facilitate engaging learning experiences and supported universities across the world when it came to harnessing technology during the pandemic period. This work continues, but the demand for extending programs and support has grown exponentially. Not only that, we are called to do more than publish research on digital skills education and the applicability of tools. The desire to translate research into social innovation is at the heart of the Institute's mission and programs, including the flagship Research Methods and Innovation Program. We invite you to learn more about the Leaders of Africa (www.leadersofafrica.org) and the Institute (www.institute.leadersofafrica.org) to find out if the Institute can collegially support you on your learning journey in research, data science, and technology development. We have provided over 1 million USD in Impact Scholarships for our programs and have been recognized by Johns Hopkins University as a leader in digital education and social innovation. To learn more, download our Official Guide: <https://bit.ly/LOAdigital2022>. As a conference associate, the Institute is providing three full scholarships to participants of the digiTAL Conference 2022 to join the next cohort of Fellows in the Data + Design for Development Program beginning next year. We look forward to engaging with you and invite you to reach out at info@leadersofafrica.org to collaborate as we advance digital skills education.

Prof. Peter Penar
Executive Director
Leaders of Africa Institute

Keynote Speech: The Politics of Quality Assurance for Online and Blended Learning: Who are the stakeholders?

Sanjaya Mishra, PhD
Director: Education
Commonwealth of Learning, Canada

Abstract

Quality assurance has always been a key discussion in the higher education sector. Starting with international ranking of institutions to the use of metrics to assure quality of research, there are several debatable practices that are prevalent in higher education. Prior to the pandemic, the quality of distance and online learning had been erroneously considered inferior in most contexts as these do not fit the normal discourses in higher education. However, COVID-19 changed that overnight, and most institutions adopted a form of online learning without addressing the issue of quality and access to basic ICT infrastructure for students and teachers. We also witnessed a range of methods used to assess student performance, and there were mostly no questions asked in-terms of quality or their impact. The result is what is now referred as “learning loss.” Who was responsible for the quality assurance of emergency remote teaching? This presentation will highlight the politics of quality assurance and focus on the standards and quality assurance mechanisms available for designing and delivery of online and blended learning. I will also discuss the role of different stakeholders to emphasize that ensuring the quality of any form of learning is a collective process with responsibilities of multiple stakeholders.

Keynote Speech: Continuous quality assured professional development in the digital era

Prof. Karen Ferreira-Meyers
Institute of Distance Education
University of Eswatini

Abstract

In this keynote address, I wish to address the need for continuous quality assured professional development (PD) in the digital era. While PD is essential at all levels and in all professions, ensuring quality PD for primary, secondary and high school teachers and college and university lecturers in the field of digital skills (Esteve-Mon et al., 2020) has become even more poignant as demonstrated during the COVID-19 pandemic (Manco-Chavez et al., 2020; Perifanou et al., 2021). I intend to discuss which digital skills (Melash et al., 2020; Fernández-Batanero et al., 2020) we should focus on in PD programmes (Matveeva et al., 2020), how these could best be imparted (Lockee, 2021), what the teacher professional needs in digital skills are (Jannah et al., 2020) and how these needs manifest themselves, whether – in the Global South in particular (Ragnedda and Gladkova, 2020) – we should be designing PD programmes from scratch or whether adapting and localizing existing PD programmes is possible, relevant and useful, which policies exist and/or should be developed and implemented (van der Vlies, 2020). In addition to theoretical and practical tips from existing literature, I will give an overview of the Certificate in Teaching Online for Educators (designed and piloted in 2021; offered in 2022) and the Postgraduate Diploma in Online Teaching and Learning (designed in 2021, to be offered in 2022/2023). Both programmes were conceived following stakeholders' expression of need and interest during the pandemic. Schools' and university campus' closures brought about the direct and urgent need to teach and learn online, using digital skills desperately lacking in many Southern African communities. The use of quality Open Education Resources is one of the important steps to ensure the end products are of high quality and follow the rules of academic integrity. It is my hope to raise awareness, enhance understanding and bring about change in the way we develop teachers' professional digital skills through the keynote address.

Panel Discussion: Digital Skills Development Inside and Outside of Higher Education

Abstract

There are many approaches to enhancing digital skills development inside and outside of higher education. In recent years, African governments have begun to develop digital skills requirements for students, including data science and coding benchmarks. However, cross-nationally there is variation in the ability of higher education institutions to deliver quality data science and technology development curricula in part because of the challenge of hiring and retaining master instructors. The gaps in higher education curricula have led to the development of adjacent skills accelerators, programs, and online upskilling platforms. This panel considers the gaps that exist in higher educational institutions in digital skills education and the role that institutions outside of higher education play in advancing a new generation of digital experts. The panel will feature presentations based on academic research that survey the landscape of skills development capacity in higher education from a cross-national comparative perspective. To ensure that the panel goes beyond academic research, the panel will also feature presentations from select practitioners (two in number) to share experiences in the upskilling space outside of higher education. The aim is to bridge the gap between digital skills education occurring in higher education settings and other institutions in the "upskilling space." The session enhances dialogue between experts in both spaces as well.

Panel Discussion: Capabilities Needed for Online Teaching

Abstract

This panel is designed as a community of practice event for colleagues who have taught online during the pandemic. There will opportunities to share experiences and lessons learnt. Participants will be invited to talk about the skills and knowledge that were required to survive emergency response teaching; other skills and knowledge needed for effectiveness in online teaching and what they are keeping as normal day to day practices as we move out of the pandemic. This event will include an invitation to co-author an article for publication which draws on the harvested stories and insights from the workshop.

Workshop: New, Emerging and Alternative Tools

Tony Carr, Irene Maweu, and Ralitsa Debrah

This workshop is designed for colleagues who are Zoomed and Teamsed out and interested and finding exploring alternatives to the tools to which they are accustomed. The workshop will include time to experiment with three technologies and overview of some options relating to voice chat, online whiteboards, interaction during presentations, environments with spatial metaphors and alternatives to Zoom. There will be time for play, reflection and sharing of knowledge.

Workshop plan

- 1) Surfacing the diverse interests and experiences
 - using a human spectrogram on issues like
 - balance between technology and education focus
 - satisfaction with the standard technologies
 - willingness to experiment
 - fascination with technology
- 2) Questions from the participants: Groups of three or four discuss and report their key questions
- 3) Why consider new tools (when the ones we have are so good and familiar)? Drawing on the opening activities and in discussion with participants
- 4) Voice chat technologies
 - Brief review of four voice chat
 - Sharing of experience by participants
 - Brief visit to Twitter Spaces
 - Review of activity
- 5) Online Whiteboards
 - Brief Review of four online whiteboard technologies
 - Sharing of experience by participants
 - Shared activity in Miro
 - Review of activity
- 6) Interaction during presentations
 - Brief Review of four online feedback tool technologies
 - Sharing of experience by participants
 - Use of Slido
 - Review of activity
- 7) Environments with spatial metaphors
 - Brief Review of four online environments with spatial metaphors
 - Sharing of experience by participants
 - Use of Spatialchat
 - Review of activity
- 8) Alternatives to Zoom
 - Brief Review of four alternative synchronous meeting environments
 - Sharing of experience by participants
 - Demo of Butter
 - Review of demo
- 9) Closing with short insights and next steps from participants

Workshop: Using Liberating Structures to think together about the altered normal

Tony Carr, Irene Maweu, Catherine Fortune and Alice Barlow-Zambodla

This workshop will provide an experiential and conceptual introduction to [Liberating Structures](#) - a repertoire of activities which are designed to provide just enough structure to unleash the intelligence, creativity and energy in face to face, online and blended meetings and classrooms and to ensure that all voices are heard. The workshop led by members of the e/merge Africa team will use examples that draw on the current context of return to an altered normal in higher education. The primarily face to face interactions will be extended and enhanced by the use of a simple chat tool and a Jamboard.

The design will include time for reflection and sharing of insights about changes in technology integration in higher education and about the opportunities for using Liberating Structures in our work. Liberating Structures were originally designed for face to face interaction and have been extensively applied to online engagement during the pandemic. The e/merge Africa team will introduce the concept of Liberating Structures and facilitate a highly experiential workshop which features five structures, namely: Mad Tea, Impromptu Networking, Spiral Journal, 1-2-4-All and Conversation Cafe'. The [Liberating Structures website](#) features 33 of the over 50 structures that have been developed.

Creation of Meta-Assessment Questions for Automated Self-Study

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The effort involved with developing, administering and grading assessments poses a significant workload which challenges the turnaround time needed for effective feedback. For this reason, assessments are often applied merely for the sake of evaluation rather than being integrated into the pedagogy. In this session, the presenters and audience co-develop assessment “meta-questions” which spawn automated assessments. While automated assessments reduce grading loads, they require careful design and can be more complicated to initiate. We seek to demonstrate that through a short period of training, it is possible to create well-designed automated assessments which can be used not only for summative evaluation but integrated into the formative pedagogy. The creation of a national database of assessment questions is proposed together with the practical difficulties of supporting the Open Education initiative. The audience is invited to contribute the questions created during the session to an OER platform.

Resources leveraged by students at a Private Higher Education Institution during COVID-19

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Abstract

The initial response to COVID-19 by higher education institutions (HEIs) was for learning to go online as a contingency. However, not all students were equipped with the appropriate resources for the shift in learning environments. The study aimed to understand the resources students leveraged during COVID-19 as a means of continuing their higher education online. Using a quantitative research design, an online survey was administered among second-year to postgraduate students at a private HEI (PHEI) in South Africa. A total of 239 students responded to the survey. The study found that most students had access to resources during emergency remote learning, with the family playing a key role in providing human and financial resources to the student, while the HEI providing the key material resources. Textbooks, data/wi-fi, laptop/computer, and mobile phones/smartphones were noted as having high importance, with administrative and academic support staff, online lecturers, videos and textbooks/e-books playing a key role in the student's academic performance.

Keywords: COVID-19, online learning, private higher education, resources

Perceptions towards online learning performance among Master of Public Health Students at the University of Johannesburg

Martha Chadyiwa, Mercy Sepadi, Nathan Ssekandi and Claris Siyamambo

University of Johannesburg

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Abstract

Online teaching and learning in Public Health have emerged as an important and perhaps transformative development in higher education in the recent 4.0 industrial era (Gooding, 2013). To date, no studies have explored the perceptions of students with respect to whether online learning enhances performance. The purpose of this research project is to understand if online learning enhances general student performance. This will help to increase positive outcomes for online-learning through continuous quality improvement based on the gaps challenges that would have been identified. A cross-sectional quantitative study will be conducted among the 100% online Master of Public Health students at the University of Johannesburg and data will be collected via questionnaires. Future studies should include more research settings among facilitators of the online programs, qualitative data and confirmation of the findings or trends by conducting the same survey at a future period.

Keywords: perceptions, online learning, students, COVID-19, experience

Mobile application for the management of pre-eclampsia in an antenatal clinic in Ekurhuleni

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Abstract

African countries, such as South Africa, face devastating social and psychological effects related to maternal deaths, affecting families and communities. Pre-eclampsia, a life-threatening condition, is the leading direct cause of maternal deaths and studies indicate that many cases were preventable. A lack of knowledge and skills in the management of pre-eclampsia affects midwives' ability to detect, diagnose, and treat women with life-threatening conditions, causing preventable deaths and litigation. This research study aims to develop, test, and evaluate a mobile application for the management of pre-eclampsia to use as a training and teaching tool for midwives in Ekurhuleni. The researcher will measure the impact on midwives' knowledge, skills, and competency to provide quality care and the contribution to reducing maternal and infant mortality. The study employs a quasi-experimental research approach. A quantitative pre-test and post-test design will be used to establish a causal relationship. The study's population will be midwives working in antenatal clinics in Ekurhuleni. Purposive and convenience sampling techniques will be used to recruit study participants. The study will provide recommendations to promote the integration of digital technology in midwifery practice to allow midwives to manage pre-eclampsia in antenatal clinics better. It is envisioned that these recommendations provide early evidence of the effectiveness of mobile applications in improving midwifery knowledge, competency, and skills in South Africa. The mobile application is intended to facilitate the empowerment of midwives.

Keywords: midwifery, pre-eclampsia, mobile applications, skills, knowledge, competency

Academic Integrity of Assessment Results in the Digital Space: The UEW Experience

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Abstract

The abrupt shift to digital space due to the onset of COVID-19 has challenged both faculty and students to rethink about the instructional delivery and assessment results of students. While numerous studies have been conducted on instructional delivery across various online platforms, the issues regarding academic integrity of assessment results remain debatable. This qualitative study examined the phenomenon of academic integrity among mathematics and science students of the University of Education, Winneba (UEW) with regards to digital space assessments. The authors used interviews to solicit mathematics and science students' awareness and practices of academic dishonesty, cheating and plagiarism in digital space. The interviews also sought to establish the factors which influenced the students' practices of academic dishonesty during online assessments, and the strategies they proposed to enhance academic integrity in the digital space. Ten volunteer students each from the departments of Mathematics Education and Integrated Science Education of the University were involved in the study. The findings from a thematic analysis revealed that students are largely aware of the value of integrity of their assessment results yet the practices of academic dishonesty, cheating and plagiarism are evident. Student, faculty and ICT system related factors were identified to influence students' involvement in academic dishonesty. The study concludes on an urgent need to provide orientation for faculty and students about the digital etiquettes and consequences of unreliable, invalid and dishonest assessment results. Faculty also need to consider the nature and kind of tasks used in assessing students' learning online. We believe a blended approach to assessments might help curtail the current practices and ensure quality assessment of mathematics and science students.

Keywords: academic integrity, UEW digital space assessment, science and mathematics students

An evaluation of the impact of student typing competency in online summative assessments

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Bronwyn Le-Ann Batchelor

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Abstract

Online course offerings increased significantly in 2020 and have continued to increase at universities nationwide, largely due to the COVID-19 pandemic. One of the implications of this development is the introduction of final summative assessments that require, almost exclusively, typed answers. An assessment is considered more valid if conducted in a comfortable and familiar format for the student. It is suggested that the incorporation of typed assessments has contributed to aligning assessment practice to the learning environment. However, the validity and reliability of an assessment is compromised where computer-typed assessments are introduced into a program in which students have customarily completed handwritten assessments. This research aims to determine the impact of student typing competency in online summative assessments. The research is conducted through surveys of first to final year law students at the University of Fort Hare in 2020 and 2021. The key findings of the surveys will provide the impetus for the recommendations. The limitation to fair online assessments due to student typing competency, based on the outcomes of the research, requires relevant interventions to limit the negative effects of such challenges. Few studies have investigated whether or not students are able to succeed in an online class due to limitations in typing competency. The lack of formal benchmarks for typing proficiency in national curricula needs to be urgently addressed as students who have significant difficulties in handwriting or typing should be entitled to access arrangements such as additional time or other interventions. In summary, the issue is whether typed, as opposed to handwritten assessments, may be a significant factor that impacts on a student's ability to demonstrate what they know and for the lecturer to assess and draw reasonable conclusions regarding what the student has learnt.

Keywords: online assessment, final summative assessment, typing competency, Blackboard

An evaluation of the impact of automation of the student plagiarism process on the administrative efficiency of the academic department of a Private Higher Education Institution

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Abstract

An increase in student plagiarism cases in recent years, accelerated by the academic COVID-19 policy adjustments has increased the administrative burden on academics. The complexity of the administrative process was tedious but manageable, however the recent influx of cases has highlighted weaknesses in the administration process. Student plagiarism contributes to the degradation of academic integrity, student academic performance and to higher dropout rates. As the student plagiarism process is prescribed by policy the application of each case can be codified into a system, supporting the administrative aspects of the process. By integrating an automated system into the academic administration framework, the process inefficiencies, labour resource re-allocation, standardization of policy application can be controlled and improved. Despite the widespread uptake in automation across industries, there are common drawbacks to which academics are not immune. A collaboration between multiple Microsoft applications were used to create a cohesive notification system, employing traceability to each case, centralised database, consistent deadline maintenance. The academics responsible for the administration of the system were interviewed to establish the benefits and challenges experienced by the automation of the previously labour-intensive process. The lessons learned from the automation of the student plagiarism process could lay the foundation for additional automation of other academic administrative processes.

Keywords: student plagiarism, automation

AlphaTUB: An innovative technological tool that promotes early literacy and parental involvement

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Abstract

Teaching and learning in the digital age have become quite challenging. Screen time has increased considerably among young children leading to extensive research between screen time and behaviour, cognitive functioning and thinning of the brain. AlphaTUB, an innovative technological tool is an award-winning product that promotes early and foundational literacy among all children, no child left behind. It is fun to use and allow parental involvement in the child's learning process. It comes with a mobile/web application that allows introduction of new learning content as children acquire new words and experiences in their environment. With its no screen policy, the controversy on screen time and brain or cognitive functions may come to an end if AlphaTUB is introduced in preschools and primary schools. The aim of this study is to explore the different ways the new technological tool AlphaTUB can positively contribute to early learning and parental involvement. A qualitative study was conducted using documentary analysis within an interpretive epistemology. The National Curriculum Frameworks of Pre-Primary and Primary in Mauritius were used to explore how AlphaTUB can be beneficial to young learners, their teachers and parents. It was found that the tool is developmentally appropriate for children between the ages of 3 to 8. It supports enhanced visual literacy, fosters decoding skills and the personal social and emotional development of children as well as storytelling, hence communication, language and literacy. AlphaTUB can actively engage stakeholders in education to build a strong foundation of lifelong learning, monitoring of progress of children's literacy thereby focusing on the smooth transition of children moving from one level of education to another. The AlphaTUB can also provide insightful monitoring for the achievement of SDG 4 and hence, quality in education. The way forward guides towards the implementation of AlphaTUB in school settings to confirm its relevance in line with the National Curriculum Frameworks in Mauritius and in other countries in the African continent to promote literacy.

Keywords: AlphaTUB, innovative technological tool, early literacy, parental involvement, SDG4

The impact of code plagiarism practices, used to pass an introductory programming course, on student progress

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Abstract

Copying code is a form of plagiarism, since it relies on unethical behaviour that some students participate in when completing academic work. Plagiarism has been an issue in the academic context from as early as the 1620s. Although there are arguments to be made for using code available on the Internet in producing complex scripts, the argument is not valid in the context of learning to program, since there is limited learning taking place when a simple script is copied in its entirety. According to literature the main reasons why students copy code are limited knowledge of plagiarism, no background knowledge of programming, and low motivation to learn programming. This interpretive study has two aims; first it aims to gain insight into why students copy code by looking at the opinions of computing students and comparing the categories to the ones identified in extant literature. In order for students to become good programmers, it is important for them to have sufficient programming practice. Opportunities to acquire basic programming skills are provided to students in their introductory programming course, however students do not acquire these skills when they copy code from their peers or other sources. For this reason, this research project also delves into how code plagiarism impacts the academic development of students as they progress to subsequent semesters of study – as a second aim of the study. From observations so far, one can deduce that those students identified as candidates who copied code can be divided into two major categories: (1) students copying code because they lack the skill to code and may struggle to progress in their future studies, and (2) students who share their code because they can code and may progress well in their future studies. The focus of the second aim of the study will thus be on the first category of students. Finally, the intention of this research project is to make recommendations based on the findings regarding the reasons students doing an introductory programming course copy code, and their progress - to address some of the challenges programming lecturers and their students face.

Keywords: code plagiarism, academic progress, reasons for copying code

The new dawn of teaching and learning: Exploring opportunities, challenges, and experiences in digital approaches in modern era

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Abstract

Teaching and learning which involves imparting knowledge to individuals are done through orthodox, informal, and formal approaches, usually assuming the form of traditional meetings, and conventional and face-to-face processes. Despite, numerous attempts to digitization of teaching approaches over decades, the rate was at snail's pace, however, the digital approaches become ubiquitous during COVID-19 pandemic. What are the opportunities, challenges, and experiences for digitization teaching and learning? The study adopts the desktop sampling of research in which relevant review journals were selected for the write-up and encyclopaedia was also read for the supplement. Challenges revealed that there was a high level of computer illiteracy skills among teachers and students, incapability of university electronic system to enhance the networks and supports, appropriate methods to use for teaching, and missing physical contacts as the traditional way. Yet, the opportunities presented are adequate training for digital skills competency, technological, methodological, and psychological measures, and support for the teachers and students to equip themselves for professional development now and in future endeavours. The experiences made the teachers and students believe that the future is bright for their careers since they will acquire skills and training in technology and enhancement of infrastructural which will overcome the challenges. Moreover, teaching and learning can take place anywhere, anyplace, and anytime, as a result of borderless and crisscross classes unlike the orthodox and traditional way of face-to-face. Based on the aforementioned the paper suggests that infrastructural development and skills development should be enhanced across the various universities and countries to accommodate the digitization processes of teaching and learning in the modern era.

Keywords: face-to-face teaching, digitization approaches, challenges, opportunities, borderless classes.

Investigating the Value Big Data Analytics Can Bring to African Public Healthcare Facilities

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Abstract

Big data analytics (BDA) has had a revolutionary impact in almost every business sector in the world, such as aviation, banking and healthcare. Healthcare systems in developed parts of the world are generating massive amounts of data and are gaining significant insights through the application of big data analytics. However, due to the many challenges that plague the African healthcare system, it is behind when it comes to technological innovations when compared to those in the rest of the world. The purpose of this study is to investigate the value big data analytics can bring to African public healthcare facilities. This study focuses on developing a conceptual framework based on the challenges faced by African healthcare facilities and how BDA can be adopted to combat these challenges. A qualitative research approach is utilised in this study by making use of desktop research to gather previous scholarly work on healthcare BDA. The scoping review method was then implemented in the comprehensive analysis of the data gathered for this study. It was discovered that the main challenges that hinder the adoption of new innovations and stunt the adoption of BDA within African public healthcare facilities are inadequate fiscal allocations to healthcare sectors, the shortage of experienced medical personnel and the high initial investment required for the adoption of healthcare BDA. It is understood that from a theoretical perspective, BDA can bring much value due to its numerous benefits and its stellar performance in other nations. However, from a practical point of view, healthcare BDA can bring minimal value to African public healthcare facilities due to the deep-seated challenges faced by the African healthcare sector as a whole, as well as the challenges that come with healthcare BDA itself.

Keywords: big data analytics, African healthcare, framework

Interdisciplinary Collaboration: Using SDGs and Digital Social Innovations in Response to Local Community Challenges

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Abstract

There is an urgent need to embed Education for Sustainable Development with a special focus on community, within the university context. To achieve this, we combine Information Systems and Urban Planning students in an interdisciplinary collaborative student project that engages with local community challenges. We reflect on this student project from a pedagogical perspective to draw lessons for future curriculum interventions that can respond to our main research question: How can the SDGs be embedded in an IS curriculum to develop responsive digital social innovations? Findings stem from a longitudinal Design-Based Research (DBR) study that draws on data from student reflections and project artefacts. The application of design thinking that incorporates the value of local knowledge, diverse collaborative teams, embracing ambiguity and the potential of iteration and failure is recommended. Further recommendations to instil IS for sustainable development and societal good within the curriculum include shifting from Industry 4.0 to Society 5.0, multi-disciplinary to transdisciplinary learning, traditional critical thinking to design thinking and problem-solving to problem-engagement. In conclusion, we argue for bold shifts in the way students engage with complex, wicked societal problems to develop future thinkers that can act as agents of change in society.

Keywords: digital social innovation, design thinking, education for sustainable development, local lived knowledge, Sustainable Development Goals

COVID-19 forced online e-learning, a tertiary student's perspective

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Abstract

In April 2020 in New Zealand, during the COVID-19 pandemic, students experienced a profound transition from face-to-face to remote, digital, online learning, requiring them to incorporate new knowledge, skills, and behaviours. While many of our student population are familiar with accessing social media and entertainment platforms, the digital skills required for online learning can be more challenging. In this context, digital literacy reaches beyond technical skills to include suitable online behaviours, critical thinking skills, and information management. The rapid adoption of this new mindset was essential if students were to keep learning and maintain their journey toward a qualification. Mindful of what this massive change to the study environment might mean for students, our research team - comprising members of three different higher education providers - designed a survey to explore students' experiences of living and studying in the 'lockdown bubble'. A quantitative cross-sectional online survey using Survey Monkey investigated the challenges faced, how well the educational institutes did, and the capacity of students to move immediately from face-to-face learning to 100% online study. A key finding was that while around 60% of the students felt confident, they could still pass their course, over 40% were very worried about completing their studies. Within these numbers, there were some distinct demographic differences: for example, overall, older students coped better with studying online in the COVID-19 restricted environment and were more confident about completing qualification(s); whereas international and Māori students were more worried than other students about course completion. Academic and support staff were meeting the needs of over 60% of the students, who reported they found their teachers easy to get hold of, and understanding of the extra pressure that students were facing. A surprising result was that over one-third of the vocational students in our sample were 'essential workers' and felt that COVID-19 affected their time to study negatively, and yet were still more confident in their ability to pass their course than non-essential service workers ($p=0.05$). This paper considers the implications and learnings from the study regarding the systems that vocational institutes need to have in place, and the transferable skills they need to be embedding, to ensure online learning capacity in case of future events - local or global.

Keywords: Tertiary education, student perspective, e-learning, online environment, digital literacy

An Evaluation of Online Pedagogic Transition at a South African University of Technology during COVID-19 Lockdown Period

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Abstract

Globally, the COVID-19 pandemic has resulted in governments imposing lockdowns to prevent the spread of the virus. This has resulted in substantial academic program disruptions at higher education institutions (HEI) with universities shutting their doors to the traditional educational norms. For HEIs to complete their programs, it was compulsory to make the abrupt transition from face-to-face teaching and learning to an online pedagogical approach. This sudden shift introduced numerous challenges to HEI processes. This research is therefore aimed at uncovering the challenges of online teaching and learning during the pandemic at the Department of Electronic and Computer Engineering (DECE) at the Durban University of Technology (DUT) in South Africa. A mixed research methodology was applied to the study as quantitative and qualitative data were collected from an online survey conducted in the department. The survey results of this research reveal that the staff is constrained by many challenges during the transition to online pedagogy. These range from a lack of formal approaches to addressing critical issues such as uncertain e-learning policies, compromised integrity of online assessments, staff digital skills training, and their mental health. These challenges were further exacerbated by limited internet speed, the high cost of data, and electricity supply problems. The results of this study can be used by HEI management and policymakers in developing countries to implement effective preventative strategies to circumvent the issues raised and to stimulate avenues for further topic discussion.

Keywords: COVID-19 impact, higher education institutions, online learning, Learning Management System (LMS)

Exploring academic-related challenges faced by students in the pursuit of online learning during COVID-19

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Abstract

The advent of the coronavirus disease (COVID-19) in late 2019 has devastated many sectors in South Africa, and the educational sector is no exception. This study was carried out in a private higher education institution in South Africa to investigate the academic difficulties that students encountered while studying during the COVID-19 pandemic. Many challenges were identified and classified under some specific constructs. This includes independent constructs such as Learning engagement, Social Issues, Economic Issues, Students' perceptions about technology, and the Use of Online learning as a dependent construct. A quantitative method was deployed in this study, with a sample size of 90 students. The Cronbach's alpha coefficient was applied to measure the internal consistency of the constructs and their variables. The Cronbach's alpha coefficients results confirmed the reliability, where all the constructs of this study were greater than 0.713. Pearson's correlation was also used to measure the correlation between the constructs of this study, and the results showed a positive correlation among the constructs, whether independent or dependent. The study concluded data analysis by pursuing factor analysis to identify which observed constructs measure underlying constructs. For the KMO value, all the constructs were above 0.6, and as for Bartlett's value, the constructs were less than 0.005, which indicates their significance. The principal components Matrix results suggest that most of the values extracted are high, signifying a good representation of constructs.

Keywords: COVID-19, online learning, students, technology, education, higher learning institutions

Case-based learning as a pedagogical strategy to assist students explore the social embeddedness of trauma

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Abstract

Given the trauma inherent in first-response work, we assume that such experience may be a source of distress for emergency personnel. However, this assumption positions first-responders as passive objects, impacted by provocative events, rather than active agents, inseparable from their material, environmental, socio-economic, cultural, political, psychological, and ideological context. To avoid reductionism - especially in non-Western cultures within the Global North and Global South – students, educators, and clinicians need to develop awareness that psychiatric understandings of trauma emphasise exposure to causal forces, whilst neglecting trauma’s social embeddedness. To offer more nuanced postgraduate psychological and psychiatric training, and, thereby, facilitate more holistic psychotherapeutic practice, we need pedagogical strategies which acknowledge the impact of intertwined psychodynamic, socio-cultural, and political processes on the expression and experience of trauma. Case-based learning is put forward as one such approach, illustrated here via socio-politically rich clinical material with a first responder.

Keywords: case-based learning (CBL), critical constructivist pedagogy, first-responders, posttraumatic stress disorder (PTSD), postgraduate psychological and psychiatric training, social embeddedness

Non-accounting students in an accounting module – face to face versus online learning: reflections by academic facilitators

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Abstract

Prior to the COVID-19 pandemic, the implementation of technology within an accounting module was usually dependent on the preference of the academic facilitator even though promoted at Higher Education Institutions (HEI). However, the disruption of the pandemic has forced HEI to shift to an online learning and teaching approach since the 2020 academic year. Transitioning to online learning has required a radical change in attitude of academics, students and administrators. This study aims to address the differences in the learning and teaching journey for non-accounting students prior to the pandemic versus during online learning, as observed by academic facilitators. Reflections by academic facilitators will provide valuable insight as to the best practice for offering a service accounting module. The primary research objective of this study is to explore and describe the perceptions of academic facilitators regarding the attitudes of non-accounting students undertaking service accounting modules with the purpose of improving academic practice. To give effect to the primary objective, the secondary objectives have been formulated to determine, from an academic facilitator's perspective, the perceived attitude and perceptions of non-accounting students towards a service accounting module by comparing learning activities before and during online learning, the advantages and disadvantages of the shift to online learning as well as the change in overall performance of non-accounting students. A qualitative research approach is used with a focus group as the preferred method of data collection as the study aims to gain insight into the experiences and observations of academic facilitators of service accounting modules prior to and during online learning. A purposive sampling method of isolating the recruitment pool will be used to determine the academic facilitators who are staff within the School of Accounting at a university in the Eastern Cape Province of South Africa and who have lectured service accounting modules before and during the COVID-19 pandemic. Recommendations will be made for enhancing the learning experience for service accounting module students. Enhancing the learning experience of these students could result in a change of attitude and perception and therefore possibly improve performance in a service accounting module.

Keywords: service accounting module, non-accounting students, online learning

Embracing the 21st Century of Teaching and Learning: Digital Pedagogy

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Abstract

The ushering of the digital age in teaching and learning has led to a productive learning environment in virtual classrooms. Indeed, the COVID-19 pandemic shifted the teaching and learning modality, resulting in the adoption of digital pedagogy. The digital pedagogy utilises five key components: chaos, creation, correction, conversation, and curation. Embracing digital pedagogy provides students with knowledge, comprehension, application, analysis, synthesis, and evaluation. The higher education has changed significantly since the introduction of the digital age. The introduction of the Internet, smartphones, and other digital devices have revolutionized the way students learn and has led to breakthroughs in educational theory and practice. This paper is a reflective piece on adopting digital pedagogies in a 21st-century virtual classroom during a global pandemic. The teaching and learning environment was drastically impacted by external factors such as COVID-19, load shedding, and protest action shifted the modality to online teaching. Digital pedagogy is the use of technological tools and applications in teaching and learning it is found that adopting digital applications in a virtual classroom improves the morale, productivity, and interactivity with students. As students, feel inclusive in the teaching and learning process, embracing the VARK model as the learning style in an online classroom promotes diversity, equity, and inclusion in teaching and learning. The VARK model focuses on four key components: visual, auditory, reading/writing, and kinaesthetic. The adoption of the VARK model and digital technology creates a learning environment that changes how knowledge is delivered, received, and perceived. Digital technology blended with the teaching and learning practices that were visual, include YouTube, color-coding, diagrams, and graphic interchange format. In the form of auditory, the use of breakout rooms promotes working in groups and reading case studies and scenarios aloud. Thirdly, reading and writing using web-based applications, such as Kahoot, Sildo, and Mentimeter, promotes metacognition, creativity, risk-taking, communication, and critical thinking. In addition, students become more engaging, innovative, vocal, participative, and motivated to learn. Lastly, the kinaesthetic learning style in an online classroom allows students to be in their own environment that allows movement as it is not in a physical classroom setting. The application of digital pedagogies in online classrooms has indicated an increase in attention, retention, motor reproduction, and motivation. Therefore, it is time to embrace the 21st century of teaching and learning by adopting digital pedagogies in higher education.

Keywords: digital pedagogies, technology, higher education, online classroom, teaching and learning

Show, not tell: Using indigenous-based research methodologies to develop meaning around assessment

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Abstract

The affordances of the digital age, including the world wide web and other technologies, have opened the world of knowledge to learners. Today's academics are no longer the primary source of information – instead our role is empowering learners to understand and find meaning in the information that they have access to. This workshop explores how indigenous research methodologies can help to focus and engage learners as they apply new knowledge in authentic and real-world tasks. There are over 25 identified indigenous research methodologies relevant to the New Zealand context (Smith, 2019), that have been written about and published in peer-reviewed journals. Indigenous research is usually community-led, incorporates indigenous world-views, is purposeful, personal, and based on relationships. When these concepts are used in assessment design, placing a student at the centre, then assessments become meaningful and the student feels accountable for the amount of effort they contribute. This workshop selects and explores five distinct approaches to building assessments that can be done online in a digital space that will increase learner understanding and engagement. The indigenous methodologies: Networking, Democratizing, Restoring, Envisioning, and Storytelling, have been tested and formally evaluated through student-centred, semi-structured interviews and thematic analysis. Participants In this workshop will be encouraged to send in their current assessments before the workshop, allowing presenters to select examples that the group can work on together, applying appropriate indigenous method(s). We hope that those attending will find this interactive workshop thought-provoking and leave with tools for immediate use to produce assessments directly related to vocation and life. The ultimate objective is to empower the teachers who guide our students and help them produce work that shows, values, and applies new learning.

Keywords: indigenous, research methodologies, assessment, authenticity

Selecting code plagiarism detection software effective in deterring students studying introductory programming from copying code

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Abstract

In the world we live in today, almost everything is done electronically and because of this, studying computing is popular among students. Programming is one of the many skills a student learns during studies in computing, and it is not an easy skill to acquire. In addition, since 2020, COVID-19 had a massive impact on the way classes were presented and how students did their assignments and assessments. One of the main problems when it comes to learning to program, is that some of the students do not put in the time needed to succeed in becoming a programmer. These students may revert to using a peer's code. They would either use it like it is (copy & paste), or make some effort to change the spacing, commenting, and variable names – to attempt to make their program “look different” from the peer's. Good code plagiarism detection software should detect students' copied code. In the context of studying introductory programming, code copying is a major problem and needs to be stopped – to force these students to focus on learning the basic programming concepts needed in subsequent modules. Design Science Research is the methodological approach used to direct this study. A table with the key features and success rate of the different code plagiarism detection tools is the artefact of the study. The artefact design in this study may guide lecturers in choosing the most suitable code plagiarism detection tool to deter students copying code from peer students in introductory programming modules. In this study different code plagiarism detection tools are compared to identify the most suitable tool to deter first year students copying code from peer students. The different tools are compared based on the programming languages it covers, whether it is freeware or paid tools (with possibly some free access), and the different methods used by each tool to detect code plagiarism. Lastly, the three best tools identified in the context of the study are tested with student scripts – to allow the researchers to compare the features and effectiveness of the tools.

Keywords: code plagiarism, python programming, code plagiarism detection software

Why so silent during online sessions? and Nobody is talking!

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Abstract

The COVID-19 pandemic has forced educational institutions to review their mode of teaching and learning. In Mauritius, educational institutions ranging from primary to tertiary have shifted to online learning and teaching since 2020 and this mode is still pertaining. However, with this situation, many benefits have been observed, together with the challenges and one of them is the low level of participation during online classes. This study, being twofold, is undertaken on two public institutions to determine the reasons why students do not participate during online classes, therefore being passive participants and on the other side, the challenges faced by tutors to conduct the online classes. The study will also seek to identify the relationship between the tutors' skills and knowledge of online classes and the level of participation of learners during online classes. To achieve the set objectives, a quantitative survey method in the form of a questionnaire through Google form will be administered to the learners of both tertiary institutions while a focus group will be conducted among a group of tutors. Although online education is gaining momentum at all levels, educational practitioners are more interested in how to best deliver course content for online learners and arouse curiosity behind the silent screen. It is vital to contemplate ways of encouraging student engagement and this study aims to investigate those ways of effective teaching practices in which learners improve their quality of interactions in online learning. According to Dumford, Amber, Miller & Angie (2018), learners who have greater numbers of on-going online courses reported less exposure to effective teaching pedagogies, very low interactions but more likely to engage in quantitative reasoning. This study will provide recommendations for better management of online sessions. Interactions with more engaged online activities will hopefully help and prepare students in their well-being and in any forthcoming educational crisis. Future findings will be presented.

Keywords: COVID-19 pandemic, online education, student engagement

Podagogy and paradigms: Podcasts as a pedagogical tool for teaching and learning of postgraduate research in psychology

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Abstract

Teaching research to postgraduate students in the humanities and social sciences can, for various socio-political reasons be a complex and tedious task for both educator and student. Traditional methods of teaching and learning (often used in the teaching of psychology, within a positivist paradigm) leave the student vulnerable to attempting to engage with course material at a surface level, neglecting critical and independent thought. The research process is an endeavor that requires agency and authorial voice in ways that other modules may not yet have demanded from students. In an attempt to address this need in my own teaching practice, postgraduate students were tasked with creating podcasts throughout their research journey to engage in a deeper, more thoughtful way with their own research processes. In this paper, I outline the need for interactive and innovative technologies in order to refresh the ways in which we (students and educators) engage with the teaching and learning of research matters using a constructivist paradigm, rather than the traditional positivist paradigm that psychology as heavily relied on. I describe the practical ways in which this was facilitated with one postgraduate class at a private higher education institution in South Africa. Additionally, I reflect on the effectiveness of (and sometime resistance to) using podcasts as a teaching tool in a research module, drawing on anecdotal feedback from students and my own reflections as the educator.

Keywords: podcasts, podagogy, postgraduate research, constructivism

Designing an effective emergency online teaching and learning experience using the Conversational Framework approach

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Abstract

Design programmes have historically relied on face-to-face teaching and learning approaches necessitated by the technical and practical aspects embedded in the field as well as the discipline's pedagogical needs. The onset of COVID-19 enforced lockdowns was a watershed moment as it required an emergency transition from a face-to-face context to a fully online space. This provided opportunities previously unexplored, or only partially explored, in teaching design but, conversely, posed new challenges that needed urgent interventions. What became apparent during this transition was that the online teaching and learning experience could not be a "wholesale one-to-one" transition from a face-to-face approach. This transition needed adjustments and modifications in instructional design and approach in order to be effective in the Teaching and Learning experience. This article discusses some of the opportunities and challenges that emerged during the emergency transition from face-to-face to a fully online teaching as well as some solutions and insights gleaned in the teaching of design in a Multimedia Design department. The discussions are premised on the Conversational Framework principles, focusing on teaching strategies that are discursive, adaptive, interactive and reflective, during this emergency transition to online learning, with the intention of designing an effective emergency online teaching and learning experience.

Keywords: design education, instructional interventions, online learning experience, adaptive design, interactive teaching and learning

A Proposed Study on Diversity, Equity, and Inclusion for Online Education Institutions in South Africa

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Abstract

Studies on diversity, equity and inclusion in teaching in South Africa indicate that teacher-education programmes do not respond to the increased demand for newly qualified teachers to accommodate inclusive education. There are independent courses on diverse educational needs and learner support that are generally extended in teacher-education programmes. However, they do not accommodate the integration of contents with the broader pedagogical practices of teachers in mainstream classrooms. In addition, there is a huge gap between the theoretical and practical guidelines on inclusive participation, diversity, and equity. Which results in the ineffectiveness of these extended curriculums in teacher education programmes. In other research studies on enacting inclusion in diverse school contexts, researchers have also increasingly emphasised context-specific findings, by illustrating how individual school systems experience difficulties defining diversity within their own unique contexts. This proves there are already underlying issues concerning diversity, equity and inclusion for teaching and learning being experienced by teachers. Therefore, diversity, equity and inclusion are not applied subsequently. This means teachers are not able to accommodate learners with different learning disabilities and neither can they cater for the various special needs required for each learner. The main objective of this study is to establish ways of making diversity, equity and inclusion a norm in teaching, assessment and learning through the use of digital techniques for online education institutions. The proposed research methodology would be a systematic desktop review of past research concerning diversity, equity and inclusion in education in the digital age. The findings of this study will lead to proposed programme developments that can accommodate diversity, equity and inclusion for online education institutions.

Keywords: learning disabilities, digital learning techniques, online education

The Higher Education in South Africa: Developing a Sense of Belonging through Selective Learning

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Abstract

The South African higher learning institutions are failing to retain students en masse and many first-time entering students' dropout due to a myriad of factors including poor mental preparedness of students, overall workload, adjustment problems, wrong choices of programmes and uncertain goals, among others. This study uses a Selective Learning approach, as a subset of multiple intelligences theory to enquire on the adequacy of transitional processes including the quality of the curriculum to prepare learners for higher education. The study explores how Selective Learning enables students to develop a sense of belonging for students soon after transitioning to higher education. A qualitative approach as well as the grounded theory design were utilized for this study. Participants were purposively selected from Motheo District, Free State Province in South Africa. Semi-structured interviews were used as a data collection instrument. purposively selected from two high school at. Participants were teachers from both rural and urban based schools. This study analysed data through the use of thematic analysis. Findings highlighted that a sense of belonging in higher education can be developed with a Selective Learning Approach in preparing students for higher education. This includes a deliberate focus on basic education-high school vertical articulation, higher education programme choices, and workload management. This study concludes that a sense of belonging in higher education can be developed for students through Selective Learning as a transitional tool between basic education to higher education.

Keywords: selective learning process, multiple intelligence theory, basic education, higher education, students' preparedness

The potential use of virtual reality to address community service nurses' experiential knowledge gaps

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Abstract

The study is to describe the experiential knowledge gaps experienced by community service nurses' (CSN's) entering their community service year and exploring whether virtual reality (VR) can improve CSN's clinical reasoning, critical thinking, clinical judgement, and decision-making skills. VR will assist in replicating the clinical environment, encouraging CSN's to integrate theoretical knowledge with clinical practice. This will allow CSN's to develop and practice their clinical reasoning skills to assess, implement, and evaluate nursing interventions when treating hypertensive patients within a safe environment. The clinical placement of CSNs in hospitals is perceived as beneficial and encourages the development of clinical skills, namely clinical reasoning, and critical thinking. Literature recognises several challenges related to clinical practice as a functioning learning environment. Consequently, there is a sense of uncertainty and a lack of confidence in clinical skills and judgement among CSN's. The literature has extensively acknowledged the potential of VR technologies to address these challenges. The study will consist of three phases, the first phase is a qualitative, exploratory design which will explore the knowledge gaps experienced by CSN's using focus groups. The second phase, a design science methodology will be used to develop a VR prototype addressing the identified gaps. Unobstructed observation will be used to observe participants verbal and non-verbal reactions whilst interacting with the prototype. The third phase, focus groups will be conducted to describe participants experiences of the VR prototype in addressing these gaps. At present, a 3D patient avatar has been developed and is able to follow and respond to instructions verbalised by the controller. Such instructions are: "Hello what is your name?", "sit" and "stand". The scripts for both patient and CSN have been developed and include general questions and answers regarding patient history. The study's findings will be used to formulate recommendations to develop and improve CSN's critical thinking and clinical reasoning skills when treating and managing hypertension as it affects 50% of the South African population.

Keywords: nursing, clinical, education, practice development, research development, virtual reality

Vocational learner experience increases the authenticity of the assessments

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Abstract

As digital technologies are being increasingly used within vocational education within New Zealand, remaining connected and engaged with the learners is more important than ever before. Digital technologies allow students to study at a time that suits them, and from anywhere. In New Zealand, the New Zealand Qualifications Authority (NZQA) requires students to meet learning outcomes within courses of study that lead to the learner meeting the graduate profile, therefore gaining the qualification. To do this these learners must submit authentic assessments that clearly meet the learning outcomes within the course. In a digital world where learners can study anytime from anywhere, can become focused on using inappropriate digital technologies to develop and submit assessments that are not authentic. A case study methodology has been used to investigate successful strategies that lead to the submission of authentic assessments from learners. Assessment instructions and rubric development is analysed to clearly identify mechanisms to encourage authentic submissions. Using digital technologies to support student learning and building capabilities throughout this process, allows students to feel comfortable submitting authentic work. Some of these methods include developing the ability to video record themselves and therefore highlighting that the individual is meeting one or more learning outcomes. The scaffolding for written online tasks, while Turnitin has traditionally been used to minimize the similarity to others' work, authentic work is more usually developed by learners who are given specific vocational tasks that they can take ownership of. Lastly, with exams, students can be monitored using institutional software that can limit the use of online searching tools, however this case study highlights that, exams can be structured to assess learning outcomes in specific vocational settings, therefore increasing the chances of authentic work being produced. In conclusion, learners that are empowered and can see clear linkages to learning outcomes, the ability to understand how their learning and assessments a directly related to their vocation are more likely to be encouraged to produce authentic assessments even within a digital world.

Keywords: authentic assessment, vocational education, digital

Chartering unchartered territory: A case study of managing digital learning during COVID – a Nelson Mandela University case study

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Abstract

The case study shares the experience of the Faculty of Business and Economic Sciences during the COVID pandemic in delivering sophisticated online learning in a space that was, at the time of the start of the pandemic, an unchartered space. The case study will show how the Faculty traversed the space in ensuring that each academic as well as administrative staff member, was fully prepared to engage online as South Africa entered Lockdown Level 5. The experience will share with the audience various digital platforms, as well as strategies used, to ensure there was no interruption to the academic program, and that no student would be marginalised. The case study will provide a road map for future use and serve as a model for use by other institutions which might find themselves manoeuvring within this difficult space.

Keywords: digital learning, COVID, case study

Paper-Based vs. Computer-Based Examination post COVID-19: an analysis of Mauritian Learners' Perceptions

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Abstract

COVID-19 pandemic and lockdown have brought some obstacles, which affected the Higher Education sector. Universities were closed, and face-to-face teaching and learning as well as the assessments had to be conducted online at a speed and scale which might have been unbelievable under usual conditions. This study provides an insight whether Mauritian undergraduate learners favor paper-based or computer-based exams. In fact, a thorough study on understanding learners' perception towards exams was not conducted before in Mauritius. Thus, it was important to study the perception of assessment from the perspective of the experience of the higher education learners' who have experienced both computer-based and paper-based exams. Learning from the learners' experiences will help to gauge and design other effective assessment in the future so that it best fits Mauritian students. The main purpose of this study is to investigate the undergraduate learners' perceptions of computer-based and paper-based exams. The research also attempts to ascertain if there are considerable differences in these perceptions based on the moderating variables of gender, economic condition, field of study, and ICTs skills. A questionnaire was administered to 250 third year undergraduate students enrolled in the Mauritian Higher Education Institutions. 242 learners completed the online survey, which included closed and open-ended questions. SPSS was used to analyze the data. Findings from this study confirmed the different benefits of computer-based exams. It was found that a majority of students reported positive experiences with computer-based exams and the majority would accept this mode in the future. Most learners asserted that they had no technical issues while conducting the computer-based exams. Furthermore, the results also showed that the degree of acceptance of computer-based exams differed according to economic condition, field of study, and ICTs skills. However, there was no statistical significance according to gender variable.

Keywords: paper-based exams, computer-based exams, perception, post COVID-19, undergraduate learners', Mauritius

A human development perspective on student module evaluation in digital education

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Abstract

A plethora of research exists focusing on student module evaluation in southern Africa. Recent scholarship explores challenges, opportunities and reimagining quality assurance in higher education amidst the digital disruptions. Little is known about module evaluation meeting the human well-being and the agency of the students within its scope. The purpose of this paper is to systematically review human development perspective on student module evaluation in digital education. This paper is a literature-based opinion examining the problem of module evaluation activity failing to meet the students voice and needs as a quality assurance tool. Module evaluation is good to test if the module is attuned to the practice and industry. It seems students have been accused of apathy. This problem points at the need for assessing student ME activities against a human development. This paper acknowledges impediments from student's apathy when it comes to module evaluations. It then climaxes necessary research requirements for positioning a human development perspective which focuses on opportunities and reimagining student module evaluation in digital education. The creation of student module evaluation should, in one way or the other, enable quality enhancement in higher education institutions. This should generate more idea of an education method that considers and recognizes the voices students in quality enhancement processes. This takes into consideration the fact that in southern Africa, as is the case globally, advancing educational digital spaces, platforms and technologies is enhancing the quality of student's voice in learning experiences, assessment and feedbacks. The paper is purely original because it delves into human development perspective on quality enhancement in higher education. It expands this knowledge in view of technology advancement in higher education and how institutions in southern Africa are now seeking competitive advantage through the empowering and inspiring of students. The student voice in ME does contribute towards national higher education policy on quality enhancement.

Keywords: digital education, higher education, human development, module evaluation, quality enhancement

Riddel: An assessment tool that simulates the paper-based assessment process

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Abstract

Riddel (Riddel.co.za) is an offline or network-based assessment tool which renders it flexible to use even in circumstances where sustained power and stable internet connections are not guaranteed. Tests compiled in Riddel are arranged in pages similar to a PowerPoint presentation, resulting in an interface that is flexible to suit the user. Each page design can be adapted to have an individual time limit or different mark allocation per question on the page. Pages can be individually shuffled, or up to fifty questions on the same topic can be grouped together on a page. Various question types are available such as single or multiple answer questions, cross word puzzles, free form hotspot, type-in questions or longer essay questions. At the end of the assessment, a text file, similar to an answering script, for each user, is generated. The various marking tools make it possible to mark a large number of scripts quickly. The text files generated by the test, one for each user, are imported into a file where the marking and statistical analyses are performed. This code can also be obtained off-line, such as home-work or self-study assignments. Additional functionalities include various methods of feedback, information retrieval as well as statistical analyses. Riddel is not only an assessment tool but can also be used to create learning material containing information and questions for self-assessment. The Riddel software is an easy-to-use program that can truly lighten the load of assessments and its subsequent marking.

Keywords: assessment software, computer-based testing, offline-assessment

The efficacy of a face-to-face student engagement programme delivered in an online environment: A case study of a private higher education institution

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Abstract

Changing from high school to college/university is a significant milestone in a learner's academic life. The tertiary education environment is very different from the schooling environment, with many learners unaware of its unique culture, complexity, requirements, expectations and different teaching and learning strategies compared to school. Thus, to assist learners' transition from high school to tertiary education, the South African private higher education institution (PHEI) under study created a student engagement programme (SEP) aimed to connect first-year students to the qualification for which they had enrolled, unpack the content they would be learning that year, and expose them to the higher education environment and culture as well as the tools needed for student success. The programme was designed to be delivered over a three-week period in a classroom setting but was ultimately delivered via contact, blended, and online modes. Three hundred and eighty-one first-year students enrolled for a commerce B-degree, diploma, or higher certificate at the PHEI and who attended the three-week SEP completed an online semi-structured questionnaire administered via MSForms in April 2022. This study aimed to evaluate students' perceptions of the SEP as well as the impactfulness of the activities designed to cover the essential academic skills and lessons required to succeed in higher education. Further, the study aimed to provide insight into any key differences reported by students who attended the programme in a contact, online, or blended mode and the efficacy of that mode of delivery. Recommendations for improvements in respect of this programme will be tabled.

Keywords: COVID-19, first-year higher education students, lessons learnt, online learning, private higher education, student engagement programme

Evaluating the Effectiveness of E-learning Platforms used by institutions during the period of COVID-19

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Abstract

E-learning is one of the most powerful responses to education's growing needs. In the academic sector, many educational institutions either extended or canceled their academic year due to not having the required platforms to support teaching and learning. On the other hand, other educational institutions that have thrived in this pandemic have relied heavily on E-learning platforms to overcome teaching and learning challenges. Various learning institutions have adopted E-learning platforms such as WhatsApp, Zoom, Moodle, etc to continue their academic activities. However, the big question is, therefore, to evaluate whether these E-learning platforms are effective. This study evaluated the effectiveness of E-learning platforms used by Richfield Graduate Institute of Technology in teaching and learning. In pursuing this aim, a comprehensive literature review was conducted to identify some factors used to facilitate E-learning. These factors were later used to construct the variables of this study. A questionnaire-based survey through google forms was distributed to the students to collect the data for this study. The data were analysed using Statistical Package for the Social Sciences (SPSS). The results indicated that all the independent variable (ease of use of E-learning platforms, usability of E-learning platforms, satisfaction of E-learning platforms, reliability of E-learning platforms) have a positive correlation with the dependent variable (effectiveness of E-learning).

Keywords: e-learning platforms, technology, COVID-19, e-learning

Potentialities of Using Short Learning Programmes in Art and Design Education to Develop Students' Digital Literacies

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Abstract

Global socioeconomic events and ever-increasing technological advances in art and design education emphasize the need for lifelong learning. However, a persistent gap exists between role competencies, personal ambition, and workplace expectations. The job market is overwhelmed with creatives who are comfortable with new tools but lack adequate work experience. As a result, outside of Global entities geared at aiding the upgrade of software skills, few higher learning institutions in South Africa provide Short Learning Programmes (SLP) in Art and Design Education. Art & Design education is traditionally offered via face to face through a hands-on method that encompasses practice and theory. Consequently, educators have a long-held belief that design instruction is unsuitable for online delivery. In many ways, multiple design education programs still rely on an out-of-date set of design foundation courses tailored after the Bauhaus movement. However, several universities' core curricula have evolved to include design thinking, collaboration, and visual culture alongside the traditional fine arts-oriented model. The lack of SLPs in art and design education significantly disadvantages the skill growth of professionals within the industry and the discipline. Students and businesses in other sectors, such as inter alia management and logistics, generally emphasize the SLP strategy. SLPs effectively generate revenue for universities to support basic academic programs by attracting potential students to pursue higher education studies. The gap we have identified is the translation of art and design studio methodology into SLPs that provide high-quality, flexible education delivered through a blended learning paradigm. Our paper presents a conceptual framework for analyzing existing research on SLPs in arts and design education based on secondary research. We propose a conceptual framework to start a conversation on the potentialities of using SLPs in art and design education to develop students' digital literacies. In this exploratory paper, we draw on McKenney et al. (2005) findings, which suggest that design-based research is more than just a practical, systematic approach to planning and implementing arts and design education curricula. We argue that SLPs have the potential to add a new dimension to the process of conceptualizing, developing, and marketing short-term learning that draws on a design-based research approach as a road map to combine theory and practice. With the common goal of providing context-based solutions to educational problems.

Keywords: Short Learning Programme (SLP), digital literacies, multiliteracies, design-based research (DBR), art and design education, lifelong learning

The value of the Measure of Software Similarity tool in the assessment of introductory programming - making sense of a changing world

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Abstract

In a COVID-19 restricted academic environment, the rules of the game have changed. Contact classes were restricted, especially during the periods when lockdown levels were high. This is not always conducive to learning – especially for those students who need contact, rely on university infrastructure, and chose to attend a contact university for this purpose. With online assessments, it is difficult to ensure that students do their own work. On the Vanderbijlpark Campus of the North-West University, we have two distinct groups of students; those with a thorough background in programming, and those with no background. Plagiarism is a challenge because it is running rampant among students, and especially those students with no programming background are vulnerable to its lure. Making sense of this changed environment is crucial to ensure that students are obtaining the knowledge and skills they need to build onto in subsequent subject modules, necessary to reach the outcomes of a computing course. To make sense of this situation, and to learn from mistakes made, the 2021 first semester offering on introduction to programming in Python is reflected upon. It is done from the dual perspective of the lecturer and the group of students caught in the act of plagiarising Python scripts. To facilitate the penalisation of scripts, students identified were encouraged to start a conversation with the lecturer. The results obtained from analysing these conversations are the focus of this paper.

Keywords: continuous assessment, source-code plagiarism, introductory programming, measure of software similarity (MOSS)

Professional growth through online professional networking: case studies from Primary school cadres in Mauritius

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Abstract

Professional growth for practitioners (Teachers, Headmasters, and other supervision cadres) in the field of education could be dependent on irregularly spread events over a career; such as a workshop, an attachment, refresher, or upgrading courses. Each event would (hopefully) cause a growth spurt in the knowledge base, and instructional strategies or increase practitioners' chances for professional advancement. This situation refers more to the pre-digital age, the twentieth-century possibilities available to education cadres. However, in the digital age, opportunities for professional growth and development abound. Indeed, numerous online offerings ranging from Massive Open Online Courses (MOOCs), professional networking sites, and micro-credential platforms enable education cadres to access learning ubiquitously. This paper is about a learning journey of primary education practitioners that were sensitised to the possibilities of growing professionally through professional networking. The practitioners, selected through convenience sampling, describe their experiences through a focus group interviews that were part of a netnographic methodology. More insights into the professional growth of the participants were gained through non-participant online observation; the participants were observed in the context of their interactions on the professional networking site. These two data sets have enabled the researchers to delve into digital age professional development possibilities and limitations as well. The outcome of the study reveals that the educational practitioners could enlarge their professional network locally, regionally and internationally. The practitioners could share knowledge and experiences as well as enhance and extend their professional practices. The study is highly relevant to teacher education professionals as professional networking sites open a myriad of possibilities for designing up-to-date curricula, resonating with the demands of an increasingly volatile, uncertain, complex and ambiguous world.

Keywords: professional development, networking, primary school, Mauritius, professional growth online professional network, primary education, autoethnography

Communication for All: A Universal Design Approach

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Abstract

The number of students with disabilities continues to increase in institutions of Higher Education. The White Paper on the Rights of Persons with Disabilities in South Africa stipulates that all public and private institutions must ensure that all students have equal access to information and communication platforms. This position paper argues the need for a Universal Design approach to Communication in order to increase the accessibility of web-based academic information for students with disabilities in institutions of Higher Education. Universal Design is founded on seven principles, and it focuses on creating designs that are barrier-free and simultaneously meet the needs of all users. These principles have been applied to various contexts such as Education, Engineering and Architecture; and will be applied to Communication for the purposes of this paper. Innovations in Information and Communications Technology (ICT) create opportunities for students with disabilities to access web-based academic information through the use of various assistive, adaptive and accessible technologies. This paper is empirical in nature, drawing on the researcher's lived experiences as an educator and findings produced by other researchers on the topic. It practically demonstrates the various measures that can be taken to create equity in educational opportunities through communicating information effectively and accommodating a wide range of individual abilities, preferences and language skills. The findings of this paper prove that providing information in formats that are accessible to students with disabilities will help create inclusive learning environments, which will benefit all students, regardless of their physical, cognitive or sensory abilities.

Keywords: universal design, accessibility, communication, information communications technology, higher education

Proctoring tools as a human substitution for online examination in a comprehensive open distance e-learning institution: Opportunities and obstacles

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Abstract

The outbreak of the COVID-19 pandemic impacted extensively on expanding virtual learning in higher education. Within a distance education university in South Africa, the provision of teaching, and learning practices were expanded during and post COVID-19 to create a comprehensive open distance e-learning institution (CoDEL+) founded on innovation as part of its curriculum execution. Related to its assessment practices, the utilisation of online assessment completion requires alternative considerations to secure the authenticity of assessment results. Where human invigilators were used pre COVID-19, especially during summative assessment practices to monitor the quality of assessment activity executions, the implementation of online assessment practices after COVID-19 required a revision of this invigilator practice. Innovative proctoring methods were applied to secure the authenticity and quality of online summative assessments. However, the application of proctoring tools to quality assure the ethical behaviour of students during summative assessments, remain questionable. In as much as proctoring tools offer opportunities to monitor quality of assessment practices, these tools are not infallible and do not constrain the execution of unethical behaviour during summative assessments. Towards exploring ways in which online proctoring tools can contribute towards quality assurance in education, the research follows a qualitative approach within the context of an interpretive perspective. The emphasis was on reconnoitre the perceptions of educators within an academic department to assess the extent to which online proctoring tools support quality of summative assessment practices. Through the application of auto-ethnography, the researchers obtained insight on opportunities and obstacles that may influence the effective use of online proctoring tools to support quality summative assessment activities. Findings indicated that irrespective of the proctoring methods used, there are students who would go to great lengths to consult unauthorised material and share answers during assessment practices. Therefore, alternative proctoring methods should be considered. The findings recommend the expansion of ethical principles through extended training and guidance with revolutionised proctoring technologies to enhance perceptions of ethical conduct in higher education.

Keywords: proctoring tools, COVID-19, summative assessment, comprehensive open distance e-learning, ethical behaviour

Compliance when curriculum development is dynamic

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Abstract

The unprecedented changes experienced globally in higher education due to the COVID-19 pandemic from year 2020 necessitated intervention strategies at national and institutional level aimed at sustaining the institutions' academic projects. One of these interventions in South Africa was the transition towards streamlined processes for programme accreditation through the online submission systems. This was manifested in the revision of the online accreditation forms as initiated in the Quality Assurance Framework (QAF) for Higher Education in South Africa. Institutionally, most institutions operated remotely in terms of teaching and learning and curriculum development, renewal and transformation. This was quite challenging as institutions had to quickly adjust to the change. At the same time, Higher Education institutions are mandated to comply with the major policy shift with a strong bearing on institutional processes despite the dynamic situation they find themselves in because of COVID-19. Against this background, this paper uses the experience of one South African Higher Education Institution to establish the effect of and the response to this policy development in terms of adjustments to align with the new accreditation process. Opportunities and challenges experienced by the curriculum developers in complying with the requirements of the streamlined accreditation process are also discussed in this paper. The analysis relies on a case study research design with open ended interviews with three key informants followed by a document analysis which looks at the differences between the pre and post QAF processes for the institution. Common and several aspects in the current version of the system, including the type of forms, questions, and approaches have been established from the existing policy documents. University academics have experienced these aspects particularly in terms of structure as the new system now requires a lot of information on university facilities such as libraries, laboratories, and lecturer halls amongst others. Information was repeatedly required from the university policies in some of the sections prompting a dissection of the policy in some cases. Notably and in addition, there was insufficient time to prepare for the change as the institutions were given three months only to migrate to the recent version of the system. Notwithstanding this preparatory challenge, CHE however promised to support the Higher Education Institutions during this transition. Key informants reported a positive change regarding the preparation of institutions for self-accreditation and limiting the number of forms as the new forms combined CHE and South African Qualifications Authority (SAQA). However, it was noted that the experiences are in progress as there has been no new completed submission in the recent version of the system.

Keywords: accreditation. curriculum developers, HEQC, CHE, COVID-19, online, intervention

Opportunities, Challenges and Experiences with Digital Teaching

Exploring the association between student resilience, digital competence and student success during COVID-19: Perspectives from a private Higher Education Institution

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Abstract

Traditionally, students' success is seen as an academic achievement with the end goal being in the possession of a university qualification. During COVID-19 transition from face-to-face lecturing had to change to online learning. Students were impacted by multiple facets and their digital competencies influenced their success. In this research, the focus will be to explore the association between student resilience, digital competence and student success during COVID-19. To contribute to the literature and debates about the effect of the change in traditional learning environments to digital classrooms. Furthermore, the study examines students' digital competencies that could be developed to ensure they are equipped digitally to be successful students in Higher Education. A cross-sectional, quantitative methodology design were used, and data were collected using online questionnaires distributed to students of all years and programmes at a Private Higher Education Institution. Unexpectedly, the majority of respondents could be categorized as Generation Z. The inferential data analysis used the Pearson correlation to determine that there is a relationship between student resilience, digital competence and student success. Generation Z typically has an aptitude for technology, and it could contribute to the fact that they were able to still receive students' success in the online space.

Keywords: student resilience, digital competency, student success, COVID-19, Private Higher Education

Creation of Meta-Assessment Questions for Automated Self-Study

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Abstract

A significant challenge to student progression is the lack of timely feedback to students in the form of assessment results. Due to the workloads involved in setting, administering and grading assessments, they are often applied merely for the sake of evaluation rather than being integrated into the pedagogy. In this study, the creation of "Meta-Questions" are proposed to leverage automation and hence reduce the workload challenges of assessment. It is demonstrated that by introducing a defined set of variable types, which can be used to generate question as well as solution text, it becomes possible to generate a large number of assessments from a relatively small set of meta data. Application of Natural Language Processing for processing of narrative submissions is outlined. During the presentation, the audience is invited to participate in the creation of meta questions and a poll conducted to gauge the level of proficiency and willingness to engage with the approach. The creation of a national database of assessments is discussed. While supporting the Open Educational Resources initiative, the paper probes some of the practical issues of effectively distributing content.

Keywords: assessment, automation, open education

Lessons Learnt from the Digital Transformation of a Practical Discipline

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Abstract

The purpose of this paper is to reflect on the experience of using virtual laboratory activities in the practical field of Biotechnology during the COVID-19 pandemic and its value in future learning. Over the period of 2020 – 2022, teaching and learning in the Diploma of Biotechnology at the University of Johannesburg (UJ), South Africa transitioned rapidly from traditionalist contact teaching to emergency remote teaching (ERT) to a blended learning approach. To ensure continuity in Biochemistry at second year undergraduate level, hands-on experiments and training in the use of equipment were substituted (ERT) or supplemented (blended learning) with laboratory simulations, YouTube videos and digital labs. Student learning was assessed by way of written laboratory reports, assignments and online discussion groups. Benefits of virtual laboratory activities included easier management of large classes, self-paced learning and interactive tutor facilitation when compared to hands-on classes. Whilst continuity in learning was achieved, several challenges did arise. A key limitation of online learning activities was student accessibility to internet data due to a large number of UJ students belonging to a low to middle income demographic group. This was somewhat alleviated by the provision of data packages by UJ and the zero rating of UJ's websites. There was no real-time evaluation of student learning or feedback opportunities which was reflected in the structure of the laboratory reports. It was also evident that students were lacking in hands-on skills and required re-training on working with laboratory equipment. This resulted in the reduction of time available to introduce new skills training during vertical articulation into the third year of study. There is no substitution for hands-on laboratory training. However, it is apparent that digital transformation of laboratory activities is an important process for technology enhanced learning in Biotechnology. Virtual laboratory activities can be used for pre-lab training and review of experiments performed in the laboratory. More importantly they can be used for online training on large and expensive equipment not commonly found in university laboratories and enabling students to access and analyse large data sets that would typically be found in the working world.

Keywords: biotechnology, blended learning, virtual laboratory activities

Increasing student engagement and interaction in live Microsoft Teams classes

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Abstract

The Study University, a private distance education provider and member of the Honoris United Universities, like many other institutions transitioned to online teaching and learning due to recent disruptions. The preferred online teaching and learning method was Microsoft Teams. Student engagement and interaction with academics is significant to knowledge acquisition. The purpose of this study was to explore live Microsoft Teams classes to increase student engagement and interaction. This was accomplished by means of facilitator preparation for and delivery of scheduled online lessons. We present the best practices and digital interactive tools applied to improve student engagement and interaction during online classes. However, to date little research has been conducted on the factors influencing student engagement during online learning. To encourage student engagement in an online learning environment remains a challenge experienced by most academics. This study intends to contribute towards filling the current knowledge gap. Reflective practice was used to answer the question posed: How was student engagement and interaction increased during Microsoft Teams live classes? We demonstrate the best applied practices during live online classes to foster engagement among the students. On reflection of practice, it was found that lesson plans provided confidence, self-assurance and a sense of professionalism to facilitators in presenting the lesson. In addition, the use of multifarious digital interactive tools during live online classes succeeded to effectively encourage student engagement and interaction. It is recommended that institutions of higher learning develop its academic staff in the use of interactive digital tools.

Keywords: student engagement, live interactive teaching, Microsoft Teams, higher education

Academic integrity in content design, delivery and assessment (CDA): compliance levels with higher education authority (HEA) by selected private universities in Zambia in the digital era

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Abstract

This paper is aimed at evaluating the academic integrity of selected private Universities in Zambia in terms of content design, delivery and assessment dubbed (CDA). The main focus of this paper will be academic integrity through compliance with Higher Education Authority (HEA) guidelines by selected private Universities. In attempting to thoroughly evaluate the academic integrity of the selected private Universities, other important regulatory bodies under HEA will also be discussed in the paper. For example, Health Professional Council of Zambia (HPCZ), Nursing and Midwifery Council of Zambia (NMCZ) as well as the Teaching Council of Zambia (TCZ). This evaluation will be done with special reference to the digital era in both the academic institutions under study and regulatory bodies. The research problem which compelled this proposed research is the popular public perception on the lack of academic integrity by many higher learning institutions especially private ones, not only in Zambia but throughout Africa and world over. The first specific objective in this paper will examine the establishment of localised academic quality assurance departments and policy guidelines in the Universities under study; In the second specific objective, the paper will investigate details of how content design, delivery and assessment (CDA) are done in the Universities under study, with reference to the quality assurance policy guidelines and digital platforms; Lastly, in the third specific objective, the paper will establish what the Higher Education Authority (HEA) and other regulatory bodies under it, have done in guiding, evaluating, accrediting and recognising the Universities under study with their academic programs. Therefore, this paper is significant in that it will bring out the academic integrity of the selected private Universities in Zambia. This is likely to be an inspiration or lesson to other higher learning institutions not only in Zambia but in Africa and world over. The Higher education Authority (HEA) and other regulatory bodies in Zambia will also benefit from this paper in that it is likely to highlight their efforts and compliance levels of the private Universities under study. The methodological approach that will be used in this paper is a qualitative survey of the three selected private Universities in Zambia, where data will be collected from University administrators, academic staff and students as well as officials of regulatory bodies. The main methods of data collection for the paper will include one to one interview, focus group discussions, document analysis and observations. Among the documents to be analysed will be 2 policy guidelines, reports, meeting minutes, letters and other relevant documents in line with academic quality assurance. Data analysis will also be done qualitatively and hence discussion of the findings will highly be descriptive. It's clear that the nature of this study is somewhat sensitive as it deals with academic integrity and compliance, where some Universities may have been tempted to compromise with quality education and compliance to regulatory bodies such as the Higher Education Authority (HEA).

Keywords: content design, content delivery, assessment

Knowledge of Blockchain Technology among Computing Graduates

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Abstract

Blockchain technology is a recent implementation in the field of Computing, and although the technology is established, it is accepted that it still develops regarding its implementations. With the blockchain being an emerging environment, one wishes it to be a prominent focus area in the training of future computing employees, but, for the same reason – it being recent – it may not be widely and extensively incorporated into existing educational syllabi. The focus of this study is to investigate the knowledge of recent computing graduates on blockchain technology. To do this, the knowledge of a group of recent graduates is compared to the information relayed by extant literature.

Blockchain technology, applied in the context of a blockchain as a digital ledger which is decentralized, distributed, and immutable, is new. Blockchain as a technology is essentially creating a peer-to-peer network of nodes, with the purpose to verify and store transactions. There are multiple application opportunities of this technology, such as finance, healthcare, voting, supply chain management, real estate, energy, government, and more; but it is a complex environment which requires expert knowledge in terms of the technological implementation, as well as its application environment. It is anticipated that the world will become more and more reliant on technology and that the blockchain will form an important part of this reliance. From an interpretivist perspective, open-ended questions were posed to participants. The extant literature was used to establish whether participants are knowledgeable in the subject field. From an academic perspective, multiple questions may arise, such as how the educational system may contribute to the progress made in this field and whether there is potential regarding the applicability of the blockchain in an educational and research context. The outcome of this study may provide guidance regarding one such question, namely the value and importance of including blockchain technology in future computing syllabi.

Keywords: computing syllabi, computing graduates, blockchain technology, peer-to-peer network

Digital transformation – How are we reshaping post COVID in engineering?

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Abstract

To be successful, all universities need a strategy. Digital transformation is unavoidable for all organisations to survive in contemporary times. The university where this research takes place has One Smart Vision 2030 strategy - but relationship is unclear if the One Smart Vision strategy supports digital transformation. Although the global pandemic eventually will come to an end, it will undoubtedly leave traces of its impact, on an unprecedented scale including the world's most developed educational institutions. Digital technologies have the power to transform existing products, services and work processes in engineering. One way of finding this can be through adapting at a particular University of Technology's seven focus areas of One Smart Vision 2030 strategy. The significance of this study does not only stem from the critical role of higher education in building the workforce and knowledge economy but also being a pioneer and leader in seeing through transformation around engineering curriculum. This is aligned with institution's vision 2030 and its goal to be ONE SMART Institution, however in addition, we are not only addressing to the institutional and faculty's transformation but also contributing towards internationalisation as well as sustainability of the curriculum post COVID-19. This two-stage study triangulates the findings of multiple research instruments, including survey, interviews, and direct observation. Stage one was an attempted census online survey which was sent to all teaching staff in the faculty. Some open-ended questions were posed at the end of each section of the survey which were qualitatively analysed, and emerging themes were used to develop the qualitative data collection instrument (interview schedule) which was used in stage two. Stage two involved online focus group sessions with semi-structured interviews which were an extension of the survey. This study found that successful digital transformation can only be accomplished if it is part of institutional strategy.

Keywords: digital transformation, focus areas, institutional strategy, COVID-19, engineering, curriculum

Assessment (integrity) practices in higher education: a necessity for forward thinking (in gearing students) towards industry preparedness

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Abstract

With the arrival of the Corona-19 Virus in 2019 and the wild spread thereafter in 2020, the world experienced a global phenomenon like never before. With world populations having to adapt to lifestyles, health, mental health, and work environments fast changing, so did the landscape of Higher Education (HE) had to adapt and fast redirect, realign and fast-track delivery of content in reaching student bodies across various platforms in utilising an array of modalities, not only for the dissemination of knowledge and subject content, but for practical execution too. This shift challenged higher education institutions to revisit their historically, archaic, and existing evaluation policies and subsequent strategies in an attempt to adapt to the immediate environment brought on by the Virus. Assessments are authentic when learner / student performance on intellectual tasks is examined directly. Because authentic assessment requires learners to perform realistic tasks, it can minimise the effects of some forms of bias, such as test-wiseness. Assessment is authentic when learner performance on worthy tasks is assessed. It requires learners to perform effectively using their acquired knowledge. Authentic assessments present the learner with tasks that simulate real-world tests of ability to determine whether they can present polished, thorough and justifiable answers, performances or products. Authentic tasks involve ill-structured challenges and roles that help learners prepare for the real world. Authentic assessment also has the advantage of providing parents and community members with directly observable products and understandable evidence concerning learners' performance (Wiggins, 1990). To gauge the ongoing debate around assessments in formats other than the known versions from the archaic past, this study will employ a cross-sectional qualitative design to understand lecturers' perceptions towards authentic assessments practices, especially in an online space, given the context of the pandemic. The researcher will utilise semi-structured, open-ended questions as part of the interview schedule to scope the perceptions held by lecturers. Thematic analysis, with a focus on a latent approach will be utilised as the most appropriate framework in steering the findings inductively. A study of this nature is deemed necessary and fitting for the current arguments in the higher education sector around assessment practices, especially the shift in doing away, or incorporating alternative methods of assessment, to test knowledge and skills of students at institutions of higher learning. It will most certainly contribute to the argument as to the perceptions of authentic assessments and moreover the integrity that is often challenged when examiners revert to alternative methods of assessing. The study could further contribute to our understanding of and concerns around alternative measures but steer the conversation further as to the various options available in assessing students outside of the norm. This notion will ultimately shed light on the 'shadow' of integrity, that is ever present and hangs over alternative measurement practices in higher education contexts.

Keywords: authentic assessment, traditional/historical assessment, assessment in higher education, virtual-reality assessment, assessment integrity

Academic Misconduct Through the Lens of the Fraud Diamond: Reflections from an Open Distance e-Learning Postgraduate Programme

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Abstract

With the prevalent use of the internet and internet-enabled technologies, academic misconduct has emerged as one of the major threats to academic quality in recent years. This paper explores the factors that motivate, as well as mitigate academic misconduct in postgraduate students. As instructors on a postgraduate diploma module at a graduate business school, we use collaborative autoethnography to reflect on our experiences with students who committed various forms of academic dishonesty. We found that postgraduate students do not necessarily have good academic writing skills or are familiar with issues of academic integrity even though they already have at least an undergraduate degree. Additionally, they face significant pressure on their time to balance work, school, and family commitments resulting in added pressure to perform. These factors may induce them to commit various forms of academic misconduct such as intentional and unintentional plagiarism, contract cheating, and ghostwriting. The responsibility is on the institution to create a culture of integrity by employing adequate internal controls and providing students with requisite training on academic integrity. On the strength of the findings, we develop a preliminary conceptual framework, based on the fraud diamond, of the factors that motivate and mitigate academic misconduct in postgraduate environments.

Keywords: academic integrity, academic misconduct, fraud diamond, open distance e-learning (ODEL), postgraduate students