Book of Abstracts

NOMSA21
Open Up & Connect
Education in a Digital Era
Online Conference | 6-7 December 2021

United Nations Educational, Scientific and Cultural Organization
UNESCO Chair on Multimodal Learning and Open Educational Resources
North-West University, South Africa
Conference Organising Committee

Amit Dhakulkar  
North-West University, South Africa
Karen Ferreira-Meyers  
University of Eswatini, Eswatini
Vandanah Gooria  
Open University of Mauritius
Sandhya Gunness  
University of Mauritius
Betty Kutukwa-Mutambanengwe  
Zimbabwe Open University
Pauline Ngimwa  
PASGR, Kenya
Jako Olivier  
North-West University, South Africa
Francis Simui  
University of Zambia

Proceedings Editorial Board

Prof. Joel S. Mtebe  
University of Dar es Salaam
Prof. Johannes Cronje  
CPUT
Prof. Mohammad Hasanzadeh  
Modares
Prof. Leonorah Nyaruwata  
Zimbabwe Open University
Prof. Ignatius Dambudzo  
Zimbabwe Open University
Dr. Francis Simui  
University of Zambia
Dr. Sameerchand Pudaruth  
University of Mauritius
Dr. Perienen Appavoo  
Open University of Mauritius
Dr. Dorothy Cooshna Naik  
University of Mauritius
Igor Lesko  
Open Education Global

NOMSA (2021)

The content in this conference publication is licensed under the terms of the Creative Commons BY SA 4.0 license. https://creativecommons.org/about/cclicenses/

To cite this publication, use:

Contents

1 About
   NOMSA21 Open-Up and Connect 9
   About NOMSA 9

2 Introduction 11

3 Keynote Speakers
   Prof. Asha S. Kanwar 14
   Prof. Maha Bali 15
   Prof. Moeketsi Letseka 16
   Dr. Kaviraj Sharma Sukon 17

4 Abstracts of Presentations 19
   1 Blended Learning: Is It The Future Model Of Education 20
   2 Curbing Exclusion: The Experiences Of Students With Visual Impairments And Their Lecturers On Distance And Online Learning During The Covid-19 Pandemic In Namibia 21
   3 Socio-cultural Context of Learners’ Identity Construction In Online and Distance Education: A Case from Nepal 23
4 The Technical Support Needs Of Distance Students To Participate In Open And Distance Learning Online Courses At The Centre Of Open And Lifelong Learning (COLL) 24
5 The Psychological Impacts Of Digital Learning On Student Performance - An Exploratory Approach 25
6 Virtual Resources For Teaching Learning: Boon For Indian Education System 27
7 Comparative Analysis Of Nigerian University Teachers’ Experiences Of Blended And Online Teaching During And After The Covid 19 Pandemic 28
8 Mobile Technologies For M-Learning As A Solution To Mitigate The Challenges Of The Online Learning In Ghana Post Covid-19 29
9 An Investigative Study Of Opinion Mining About E-Learning And Transformation Driven By Covid-19 30
10 Hybrid Learning For Sustainable Futures Of Education: Environmental, Technological, Social And Economic 32
11 Using Community Of Practice Theories To Understand The Perspectives Of e-Tutors And Lecturers In Student Support At The University Of South Africa 33
12 An Analysis Of The Impact Of Covid-19 Emergency Remote Learning On First-Year LLB Student Success Rates 34
13 e-Assessment For Multimodal Learning 35
14 An Investigation Into An An Information Communications Technology Based Chinese Studies Curriculum Design And Planning For School Certificate (Technical) Upper Secondary Schools In Mauritius 37
16 Compounding The Effects Of 4G And Covid-19 On Adoption And Use Of Online-Banking: A Perspective

17 Role Of Supervisory Management Styles In Shaping The Supervision Experiences Of Doctoral Students

18 Assessment Of Digitalised Learning And Teaching To Senior High School In Pampanga, Philippines

19 Overcoming Gender Imbalance In ICT-Related Jobs

20 Enhancing Learning Experiences From OER Initiatives: Lessons From Indian Higher Education Institutions (HEIs)

21 Student Plagiarism In Online/Distance Higher Education

22 Evaluation Of Digital Educational Initiative During The Covid-19 Pandemic Using Concern Based Adoption Model

23 Using E-Portfolios For Active Student Engagement In ODeL Environment During And Post The Covid-19 Pandemic

24 Face-To-Face Versus Remote Learning Student Behaviour Analysis Through Educational Data Mining

25 Learning Behind A Screen During Covid-19 Pandemic!!! Students’ Experiences At The Open University Of Mauritius

26 Using Academic E-Portfolio In Secondary Schools-Evaluating The Readiness Of Educators And Willingness Of Learners In Mauritius

27 The Value Of Multimodal Learning Tools To Engage Learners While Working Online

28 Distance, Blended And Online Natural Sciences Teacher Professional Development

29 Reinventing A Medical Elective Rotation In A Pandemic
30 A Study Of MOOC’S Learners Learning Expectations, Learning Engagement And Satisfaction

31 Lecturers’ Recommendations On Learning Management System Training And Support To Improve The Implementation Of Blended Learning In A Higher Education Institution

32 Self-Directed Learning: The Rule Of A New Learning Paradigm

33 Sharing Professional Place Based Teaching Experiences: Podcasting For Open Teacher Professional Development

34 Transdisciplinary Competencies And Values Through Open Pedagogy – Lessons Learnt

35 Assessing Online Learning Student Experiences Of First Year Students In The Department Of Higher Education And Lifelong Learning At The University Of Namibia

36 Conceptualisation Of OERs By Lecturers At Selected South African Universities

37 The Students’ Perspectives On Peer Assessment As Tools For Emotional And Academic Support During Remote Online Teaching And Learning

38 Educators’ Beliefs, Perceptions And Practices Regarding Open Education Resources And Assessment Models

39 Assessment Of E-Addiction And Online Learning Deception Among Students At Higher Education Institutions In Namibia

40 Reflective Teaching And Learners’ Performance: The Case Of A Selected Region In Namibia

41 Make Learning Enjoyable By Gamifying Blended Learning Courses In Technical And Vocational Education And Training

42 How Can You Use Open Educational Resources (OER) To Design Alternative Assessment In Engineering Courses
43 The Influence Of Distance And Online Learning During Covid-19 Lockdown On Student-Lecturer Interaction In Namibia 76
44 A Review Of OER Research In Southern Africa 78
45 Flipped Classroom Approach In The Digital Post-Covid Era: An EFL Blended Learning Scenario That Promotes Healthy Eating Habits 79
46 The Fellowship Of The OER Ring: How To Tackle The Dark Lord Of Copyright 80
47 The Relationship Between Online Professional Learning Communities And Online Presence 81
48 A Qualitative Analysis of Challenges to Open Distance Learning in Gabon 82
49 Introducing A Hybrid Science Learning Model In Local Communities Through Inquiry And Self Directed Learning 83
50 How To Create Commons: An Overview Of Assorted Libre Creation Tools 84
51 Puzzle Based Learning For An Online Teaching And Learning Environment 85
52 The Open Science Framework As A Pathway To Improved Teacher Education 86

5 Name Index 89
1 About

NOMSA21 Open-Up and Connect
– Education in a Digital Era Conference

The Network of OER and Multimodal Self-Directed Learning in Southern Africa (NOMSA) (http://nomsa.org) has hosted the Open Up and Connect 21: Education in a Digital Era conference. With the increase in the use of technology in education and specifically in the context of the COVID-19 pandemic the realities of access to enabling technologies and online learning have been emphasised. This conference has papers based on empirical research as well as conceptual papers with a specific focus on open education and/or the wider field of digital and online education.

About NOMSA

The aim of the Network of OER and Multimodal Self-Directed Learning in Southern Africa is to create a space to research and build capacities regarding OER and Multimodal Learning in the Southern African region. The Network focuses mainly on the Southern African Development Community region and consequently covers

The word Nomsa is a shortened form of Nomusa and is a commonly used name in the Nguni language group from Southern Africa. This name means with grace or with kindness.
the following countries: Angola, Botswana, Comoros, Democratic Republic of the Congo, Eswatini, Lesotho, Madagascar, Malawi, Mauritius, Mozambique, Namibia, Seychelles, South Africa, Tanzania, Zambia and Zimbabwe.

The Network of OER and Multimodal Self-Directed Learning in Southern Africa is hosted by the North–West Universitys UNESCO Chair on Multimodal Learning and OER.

The Network is administered by the UNESCO Chairs Executive Committee as well as an advisory board consisting of members from countries in the Southern Africa.
2 Introduction

On behalf of the UNESCO Chair on Multimodal Learning and Open Educational Resources (OER) (North-West University, South Africa) and the Network of OER and Multimodal Self-Directed Learning in Southern Africa (NOMSA), it is a privilege to host the NOMSA21 Open Up and Connect: Education in a Digital Era online conference.

This conference was envisaged by the NOMSA advisory board as a means to promote a wider South-South and North-South discourse on both open education and multimodal self-directed learning. These two aspects are increasingly becoming important in an educational sphere where costs of educational resources are rising and there is a need for relevant and localized content. Moreover, the role of technology is also indisputable as delivery and learning is conducted through different modalities.

The UNESCO Chair is the main sponsor of the conference and the conference focus is aligned with the work of the Chair. The aims of the Chair relate to UNESCO’s Sustainable Development Goals: Goal 4 (Quality Education) in terms of exploring quality with regard to the implementation of OER in support of multimodal self-directed learning as well as Goal 10 (Reduced Inequalities) by supporting open and distance learning initiatives within Southern Africa.

This conference will include 4 keynote presentations, 2 workshops and 51 conference papers. Furthermore, the presenters come from 16 different countries: Canada, China, Eswatini, Gabon, Greece, India, Indonesia, Mauritius, Namibia, Nepal, Nigeria, Pakistan,
Philippines, South Africa, Sri Lanka and Thailand. This makes this a truly international event.

We hope that the conference will act as a productive space for academic engagement around open and multimodal education.

Prof. Jako Olivier  jako.olivier@nwu.ac.za
and the NOMSA21 Organising Committee
3 Keynote Speakers
Prof. Asha S. Kanwar

Commonwealth of Learning

Title: Open education in a digital era: the COL experience

BIOGRAPHY

Professor Asha Singh Kanwar, one of the world’s leading advocates of learning for sustainable development, is the President and Chief Executive Officer of the Commonwealth of Learning. Throughout a career spanning over 35 years, she has made outstanding contributions in the areas of teaching, research and international development.

Professor Kanwar received her undergraduate, Master’s and MPhil degrees from the Panjab University in India and a DPhil from the University of Sussex, UK. Her areas of expertise include open distance and technology-enabled learning, open educational resources, quality assurance, gender and organizational development. Professor Kanwar has written and edited a dozen books, published over 100 papers and articles, and delivered numerous keynotes at prestigious international conferences.

Prior to joining COL, Professor Kanwar was a senior consultant in open and distance learning at UNESCO’s Regional Office for Education in Africa (BREDA). She was a Fulbright Fellow for post-doctoral research at Iowa State University in the US, where she was later invited to teach. Currently, she serves on the boards of several organizations, including the Governing Board of the UNESCO Institute for Information Technologies and Education (IITE).

Professor Kanwar won several international awards, including the International Council for Open and Distance Education (ICDE) Prize of Excellence, and the Meritorious Service Award for outstanding contributions in open and distance education from the Asian Association of Open Universities. She has been conferred eight honorary doctorates from Universities in Asia, Africa, Europe and North America.
Prof. Maha Bali

American University in Cairo, Egypt

Title: Compassionate Open Education with Intentionally Equitable Hospitality

BIOGRAPHY

Maha Bali is Associate Professor of Practice at the Center for Learning and Teaching at the American University in Cairo. She has a PhD in Education from the University of Sheffield, UK. She is co-founder of virtuallyconnecting.org (a grassroots movement that challenges academic gatekeeping at conferences) and co-facilitator of *Equity Unbound* (an equity-focused, open, connected intercultural learning curriculum, which has also branched into academic community activities Continuity with Care and Socially Just Academia and a collaboration with OneHE: Community-building Resources. She writes and speaks frequently about social justice, critical pedagogy, and open and online education. She blogs regularly at [http://blog.mahabali.me](http://blog.mahabali.me) and tweets at @bali_maha.
Prof. Moeketsi Letseka

UNISA, South Africa

Title: Accelerating digitality to consolidate the African intellectual program in times of crises

Biography

Moeketsi Letseka is a professor of philosophy of education, and holder of the endowed UNESCO Chair on Open Distance Learning at UNISA. He is also:

- A member of South Africa’s National Commission for UNESCO for the term 2021–2024;
- A member of the Department of Higher Education and Training (DHET)’s National Coordination Committee for the National Framework for Enhancing Academics as University Teachers;
- A Member of the Council on Higher Education (CHE)’s Peer Advisory Group on the Reconceptualising Learning and Teaching (RELATE) Project;
- Chairperson of the Task Force on Distance Education in the World Council of Comparative Education Societies (WCCES).
- Co-Chairperson of the Finance Standing Committee (WC-CES).
- Editor-in-Chief: Africa Education Review, an international scholarly education journal that is jointly published by UNISA Press and Taylor & Francis in the United Kingdom (UK), and indexed by the DHET, the International Bibliography of the Social Sciences (IBSS), and SCOPUS.

Prof. Letseka has published in excess of 100 peer reviewed scholarly pieces in the areas of philosophy of education, higher education research and open distance e-learning.
Dr. Kaviraj Sharma Sukon

Open University of Mauritius, Mauritius

Title: Shifting to e-learning successfully

Biography

Dr. K. S. Sukon, Principal Fellow of the Higher Education Academy (UK), is the Founder Director-General of Open University of Mauritius - the first local ISO Certified public university in Mauritius. After nearly nine years of operation, the Open University of Mauritius has over 9,000 learners and is financially independent. He is also the Chairman of the Mauritius Research and Innovation Council. He has been the Chairman of the Board of the Mauritius College of the Air and Mauritius Museums Council. He has previously worked at University of Mauritius, Mauritius Examination Syndicate and Human Resource Development Council.

Dr. Sukon has developed a new method called the Two-parameter Alternative Group Explicit (TAGE) Iterative Method for the Solution of a Tridiagonal Linear System of Equations. He has coined the term “blearning” for blended learning in order to consider this method of learning as an integrated approach rather than a mix. In 2021, he has developed the new model: A Practical (blended) Teaching and “Blearning” Model.

He has led the (a) development of the first National Human Resource Development Plan for Mauritius; (b) marking of the first International CIE Mathematics paper in Mauritius; and (c) establishment of the Open University of Mauritius. He has been a consultant for several organisations including UNESCO, ILO, UNDP and ADEA. He has published research papers and supervised several master’s and doctoral theses. He has been a member of the Senate of University of Mauritius, and Academic Council of University of Technology, Mauritius. He also holds an honorary position at Imperial College London, UK.
4 Abstracts of Presentations

The abstracts are ordered as per their occurrence in the conference schedule.
Blended Learning: Is It The Future Model Of Education

John Stevenson Patra

SRM Institute of Science & Technology, India

Abstract: The unprecedented COVID-19 pandemic and the consequential lockdowns have had serious impact on every walk of life of human beings. Almost every sector has undergone drastic changes. Education sector is no exemption to this. As the much chanted and much revered slogan “Stay Home–Stay Safe” gained momentum, students/learners/teachers and all stake holders in the field of education had to adapt to the novel practice of teaching/learning i.e., E-education or E-learning. The global crisis has made everyone realize the need to change: change in lifestyle, change in attitude, change in working conditions and change in education system. Based on the analysis that was made during some of the studies by the author and his interactions with the stakeholders, it is predicted there are 3 possible scenarios that would emerge in the field of Education Post-COVID. The author pens them down as 3 different schools of thought or in other words, the 3C schools of thought:

1. The ‘Conventional’ school of thought – which professes that the Traditional class room learning will retain its position Post-COVID.
2. The ‘Coalescent’ school of thought – which professes that Blended/Flipped learning will evolve as the most preferred mode of learning Post-COVID
3. The ‘Contemporary’ school of thought – which professes that e-learning will gradually replace traditional class room learning.

This conceptual paper analyses as to how the second school i.e., The ‘Coalescent’ school of thought or blended learning would evolve as the most preferred method of learning in the future.
Curbing Exclusion: The Experiences Of Students With Visual Impairments And Their Lecturers On Distance And Online Learning During The Covid-19 Pandemic In Namibia

Mirjam Sheyapo
University of Namibia, Namibia

Isobel Green
Namibia University of Science and Technology, Namibia

Abstract: Due to the Coronavirus outbreak (COVID-19) in late 2019, Higher Education Institutions (HEIs) had to change from traditional teaching to remote teaching and learning. The shift did not only impact the lecturers; it also tested the readiness of Open and Distance Learning (ODL) centres of various HEIs, particularly the Students with Visual Impairments (SVI), who mainly depended on face-to-face lectures. The move to distance learning, particularly online learning, required lecturers to invest ample time creating and uploading content on the various online learning platforms and preparing recorded lessons to ensure that the semester continued uninterrupted. However, the practice of using technology in learning was new to many lecturers and students.

Furthermore, students had to source for technological devices, acquaint themselves with the e-learning applications, relocate to gain access to the internet and adapt to the new learning modes. The abrupt transition from the traditional face-to-face teaching method to online had several shortcomings, even though there are many success stories. Notwithstanding a notable increase in students with disabilities in Higher Education, particularly SVI, it is also sad to note that this group of students remain excluded and thus are less visible in the Open and Distance Learning (ODL) programme. This paper used a phenomenological design to presents the experiences of lecturers and students during the COVID-19 pandemic distance and online teaching and learning in selected HEIs in Namibia. In a focus group discussion with six (6) lecturers who included SVI during the distance learning.
learning and interviews with two (2) SVI, they narrated their accounts and revealed various challenges and opportunities. Among others, the lecturers pointed out that lack of technological devices, instructional materials, and lack of preparedness, knowledge, and skills were the barriers to inclusion. However, lecturers underscored that support received during the remote teaching and the positive attitudes from the students contributed to their success. The paper concludes that most institutions remain reluctant to prepare and be proactive to include SVI in the ODL programme. Consequently, this results in the exclusion of SVI during an unforeseen situation such as that of the COVID-19 pandemic. The paper calls for policy transformation at the national, ministerial, and institutional, to facilitate the move toward inclusive education through all learning modes, including the ODL programme.
3 Socio-cultural Context of Learners’ Identity Construction In Online and Distance Education: A Case from Nepal

Lina Gurung

School of Education, Kathmandu University, Nepal

Abstract: In Nepal online and distance learning culture in higher education is gradually emerging. It has been only a decade where the three universities of Nepal have conducted online and distance learning (ODL) programs. However, the learners’ perspectives were less included in the university programs at this early phase. In addition, the society in Nepal seemed less aware and prepared about the ODL programs and their functioning. So this paper aims to highlight the socio-cultural context of the online and distant learners as they construct their identity through this alternative mode of learning. The stories of two adult students enrolled for the first time in an online and distance graduate program are presented. The research participants had the experience of rare peer interaction in classroom discussion, less support from the university administration, and was completely asynchronous learning. Their challenges throughout the self-directed learning couldn’t bring a very positive experience. As suggested by Stryker’s Salience Hierarchy, these learners struggled to maintain their higher hierarchy which was challenged after being enrolled in the ODL program. So the interaction is of utmost importance in ODL for better identity construction.

Keywords: online and distance education, socio-cultural context, saliency hierarchy, identity construction
The Technical Support Needs Of Distance Students To Participate In Open And Distance Learning Online Courses At The Centre Of Open And Lifelong Learning (COLL)

Aletta Mweneni Hautemo & Mildred Besser

Namibia University Of Science And Technology, Namibia

Abstract: The premise of this study was to investigate the technical support needs of online students at the Centre of Open and Lifelong Learning (COLL) in the Namibia University Of Science And Technology. This was done with the aim of establishing effective ways to resolve the technical support needs for the students and to enable the students’ optimal participation in online distance education. A descriptive case study design was used for this investigation which relied on a quantitative research approach. Sixty-eight participants were sampled employing random sampling. This includes 60 online students, three online instructors, and five student support officers who participated in two online courses at COLL. Data were collected using questionnaires and was analysed thematically. The study found that sufficient technical support could reduce the failure rate of ODL learners, but it is hampered by the absence of a technical support team to attend to technical issues on time. A lack of orientation course to introduce the students to the online platform cripples the students’ knowledge and skills to navigate and use the MOODLE platform effectively. This study recommends that online institutions should consider technical support training for both lecturers and students and an operative communication channel between the COLL and online learners should be established. The traditional mindset of online learners should be changed to create an appreciation for online learning. Lastly, the provision of affordable and easy payments structures of data and online devices can decrease the technical problems of online learners.

Keywords: constructivism, technical support, open and distance learning, cognitivism theory, online learning, learner support
5 The Psychological Impacts Of Digital Learning On Student Performance - An Exploratory Approach

Doorgeshee Dabeesingh & Dr. Jayraj Roodurmun
Open University, Mauritius

Abstract: Purpose – The purpose of this paper is to assess the psychological impacts of digital learning on students’ academic performance. Basically, the emergence of the uninvited guest, COVID19, during the late 2019, forcing schools, colleges as well as universities to remain close, has thrown human life into disarray. This unfortunately resulted into far-reaching implications and consequences for students. It is posited that this situation may have substantial influences on the psyche of students. The specific purpose of this research work is to identify the psychological factors impacting on students’ academic performance.

Design/methodology/approach – The research design for this study comprises of a comprehensive literature review, three focus groups targeted to the three different categories of students in the Mauritian context. Data will be gathered from eight participants from the different groups. This study will take the form of a qualitative approach. It will be mostly exploratory by nature, building ground for subsequent empirical analyses.

Findings – This research paper revealed that there are numerous psychological factors impacting on students’ academic performance among others the level of motivation, the stress level, the student’s personality and the degree of introversion and extroversion. Most of the respondents were of opinion that the new learning atmosphere is not conducive. The level of motivation is low as most participants got easily distracted and loses focus. In addition to these factors, environmental disruptors such as noise from family or neighbours, as well as a lack of adequate learning space, have an impact on the students’ level of stress and concentration. Participants revealed that they felt isolated as a result of a lack of engagement. The participants
also stated that their personality as well as their degree of extroversion were determinant factors in their degree of adaptation to this new learning approach.

*Research limitations/implications* – Many students do not have access to tablets or computers since they are exclusively available at school premises. The use of a smart phone is not recommended from an optical standpoint. In addition, teachers lack the essential technological abilities and are unable to adjust their teaching styles or appropriately connect with students in an online setting in a timely manner in order to maintain strong teaching standards. Furthermore, students perceive that the online setting makes learning and assimilation of knowledge difficult, which could result into lower learning outcomes.

*Practical implications* – This research will assist policymakers to identify the key psychological dimensions being affected and take correct measures to absorb the negative effects on students as well as their academic performance. *Originality/value* – To the best knowledge of the authors, to date, no such study has been attempted in the Mauritian context despite the fact that Mauritius has already witnessed two lockdowns.
6 Virtual Resources For Teaching Learning: Boon For Indian Education System

Amit Gautam and Anshula Dua

Faculty of Education, Dayalbagh Educational Institute, Agra, India

ABSTRACT: In 21st century era, at every level of education we can observe that web based education is becoming popular day by day. Web based education can be attained through various resources such as educational web portals, online websites. One can observe that there is rapid growth of internet technology, due to which universities around the world are investing heavily in e-learning systems so that they can support their traditional teaching and to improve their students’ knowledge, comprehension, learning experience and performance. However, the success of an e-learning system depends on various factors that influence the students’ acceptance and usage of such e-learning systems. Due to COVID-19 pandemic, our education system has been changed at all levels and in various ways. Institutions, colleges, learners and teacher educators had to quickly respond to an unexpected, ‘forced’ and dramatic transition from face-to-face to remote teaching. On one hand they also had to create learning environments for pupil teachers who are doing their preparation as per the requirements of teacher education programmes while on the other hand they have to improve conditions in which both universities and schools had to operate. The present study aims to provide a discussion of the current virtual resources for teaching learning including their characteristics, advantages and limitations.

KEYWORDS: web based education, educational web portals, e-learning systems, virtual resources
7 Comparative Analysis Of Nigerian University Teachers’ Experiences Of Blended And Online Teaching During And After The Covid 19 Pandemic

Felix Olakulehin

Federal University, Oye-Ekiti, Nigeria

Abstract: The Covid-19 pandemic highlighted the limitations of the teaching and learning process in higher education globally. However, the situation in Nigeria and other developing was quite abysmal, because many institutions lacked the wherewithal to transit from the face-to-face mode into blended and online teaching practice. Online teaching implies that pedagogical content are designed, organised and delivered using digital technologies. When it is blended, it means that a fraction of the interaction between the instructor and the learners continue to occur in the face-to-face mode as usual, while the remaining parts of the engagement is facilitated with the aid of digital technologies. This presentation reports the outcome of a primary investigation of the experiences of selected academics who teach strictly online or through the blended mode or both, during and after the COVID 19 pandemic at two Nigerian universities: the National Open University of Nigeria and the Federal University, Oye-Ekiti.

The study compared the experience of academics at NOUN, who have a limited experience of blended teaching with those of academics at FUOYE, who had only previously taught strictly face-to-face. The purpose was to determine the reactions of both groups to the reality of teaching in blended and online modes which were the only options available during and after the COVID 19 pandemic. The findings point out that despite the suddenness with which they had to transit to blended and online teaching, academics at both institutions were enthusiastic about venturing into online teaching. It was further revealed that academics from each institution have different level of skills and capabilities for online engagements despite the uniformity of their enthusiasm. Finally, it was observed that within each institution academics understood online engagement framework differently and applied it differently in their teaching practices.
Mobile Technologies For M-Learning As A Solution To Mitigate The Challenges Of The Online Learning In Ghana Post Covid-19

Michael Agyemang Adarkwah
Southwest University, China

Abstract: Educators seem to dwell on the popular belief that mobile devices have a disruptive influence on education. In this COVID-19 pandemic crisis where the abrupt disruption of education forced many institutions to embrace online learning, those in developing countries such as Ghana are faced with unique challenges. A qualitative inquiry approach involving fifteen (15) tertiary students was used to problematize the online instruction in Ghana and a document analysis technique to present the integral role of mobile technologies in education. The major challenges of the online learning observed were: high cost of data bundle, glitches with the online platform, difficulty accessing study materials, limited ICT tools, lack of prior knowledge, poor internet access and power outages. The paper reinforces the need to adopt mobile technologies to mitigate the “challenge-ridden” online learning. The researcher reports that handheld mobile devices can be adopted as an effective learning tool both for online and offline instruction during and after the COVID-19 pandemic. Educators should integrate mobile technologies in education to aid struggling institutions with limited physical space to enroll more students and continue the online instruction if progressive and lifelong education is to be achieved.

Keywords: mobile technologies, online learning, e-learning, m-learning, covid-19
9 An Investigative Study Of Opinion Mining About E-Learning And Transformation Driven By Covid-19

Shubham Dubey

Doctoral School of Informatics, University of Debrecen, Hungary

Prasun Sharma

Eötvös Loránd University, Hungary

Abstract: Several innovations and strategies were executed during the period of COVID-19 resulting in a huge e-learning acceptance rate among learners. Numerous educational tools, platforms and products as a service came in contrast during COVID-19. Both teachers and students have accepted the electronic means of learning optimally. This study is investigating the level of acceptance and changes that took place during the pandemic. This includes the opinion mining about ICT in education and expected transformation in pedagogy. The data of a survey is used for opinion and association analysis among several factors that affect learners’ expectations in order to adopt a virtual mode of learning. The data was collected during the pandemic when the schools and colleges were shut down in India from 8392 respondents. Around 25% of total respondents have admitted that ICT has transformed their learning habit and countered the shortcomings of traditional learning setup. Out of 8392 respondents 7392 (88% of them) realized and stated that ICT supported learning can raise educational standards. 85% majority think that ICT enabled learning can be the supplements of classroom learning. The study is investigating the mutual relation among the opinion of respondents and the factors associated with e-learning and the transformation that took place during the pandemic. After analyzing the data one can say the learners have accepted the electronic mode of learning so well and this is so because of several handy tools, portals, resources and quality content. Of course people complained about less interaction with respect to face to face mode, stress and eye strain, addiction to technology etc. The study is using Apriori algorithm to find relations among several

Keywords: e-learning, opinion mining, association analysis, a priori algorithm, ICT in education
factors that need to be analyzed for e-learning. This research will be useful for the future researcher and policy makers when it comes to implement and plan ICT supported education on further level and for longer duration.
10 Hybrid Learning For Sustainable Futures Of Education: Environmental, Technological, Social And Economic

Nicolene Du Preez & Peter Philips
Open Flow Learning Centre, Indonesia

ABSTRACT: The research invites discussion on the advantages and disadvantages of the application of hybrid online learning to teaching/learning. It further explores which factors may allow educators and learners to boost the use and reach of hybrid online learning for future set goals. Access to education is a significant determinant in future success, not only for a country but equally for individuals. It motivated the importance of the modernization of education that is thus an integral part of the Sustainable Development Goals and vital in supporting human development. The objectives of this study: (1) exploring the development of hybrid online learning innovations based on blended learning for the interactive learning media renaissance era of education; and (2) questioning the sustainability of hybrid models being developed with focus on low connectivity communities; and (3) obtain an overview of ensuring engagement and relevance to students and educators in the learning process. This research is motivated by the importance of the modernization of the implementation of hybrid online learning in the education system within low-access communities. The study acknowledges various limitations of human resources, study space, connectivity, access to quality and compatible devices, and time to face-to-face causes the learning process to experience various obstacles to achieve optimal results.

KEYWORDS: hybrid learning, offline, e-learning, quality education, sustainability, connectivity
11 Using Community Of Practice Theories To Understand The Perspectives Of e-Tutors And Lecturers In Student Support At The University Of South Africa

Sizakele Danke, Patrick Ngulube, Themba Ralph Mkhize & Nkosinathi Masela

University of South Africa, South Africa

Abstract: The success of students in Online distance learning education depends on multiple factors. The aim of this paper is to discuss the different factors that e-tutors and lecturers at the University of South Africa use when supporting their students. There is a lot of debate about traditional way of teaching and the modern online ways of teaching which take place in different online learning platforms. This is a qualitative research, interpretivism paradigm was used to collect data from e-tutors and lecturers. Both the communication and the Community of Practice theory and the Community of Inquiry Theory were used in this study. Thematic analysis was used to analyse the results of this study. Two research questions on student support were answered by all the participants in this study. The findings of the study revealed that few students participate in the online discussion forums.

Keywords: open-learning, distance-education, student-support
12 An Analysis Of The Impact Of Covid-19 Emergency Remote Learning On First-Year LLB Student Success Rates

Sharna-Lee Clarke

Varsity College, South Africa

Fiona Kaplan

The Independent Institute of Education, South Africa

Abstract: In March 2020, the Covid-19 pandemic was declared a national disaster in South Africa and the country was placed under a strict lockdown. This led to emergency remote teaching and learning in the higher education sector. At the time, the 2020 first-year LLB cohort at a private higher education institution (PHEI) had just begun their first semester in higher education with traditional face-to-face learning. With the announcement of the national lockdown, these students were suddenly faced with a vastly different teaching and learning strategy. Many of whom, had no experience in online learning and were still transitioning into higher education. Traditionally, first-year students are most vulnerable to poor performance as they transition from secondary to higher education. Moreover, the LLB degree is historically one with high drop-out and low throughput rates. Emergency remote learning has exacerbated this position. Therefore, the purpose and significance of this paper is to determine whether emergency remote learning adversely impacted on the success rates of first-year LLB students at a PHEI. This will be done by an empirical analysis of qualitative primary data. The data to be analysed will predominantly be acquired from institutional records and statistical resources such as the PHEI’s system for academic management (SAM) and Kitso.
13 e-Assessment For Multimodal Learning

Mujiwa Akintola
National Open University of Nigeria, Nigeria

Felix Olakulehin
Federal University, Oye-Ekiti, Nigeria

Abstract: Multimodal learning refers to the process of teaching a concept in a way that draws on various sensations such as visual, auditory, reading, writing, and kinesthetic. While this strategy is regarded as an effective means of improving the quality of instruction by matching content delivery with the learners’ preferred mode of learning, there is no clear evidence that the uniform mode of assessment currently being used is suitable to all categories of learners. The notion that learners employ multiple learning styles is not accommodated within most assessment paradigms in higher education, especially in the context of open and distance learning.

Examinations and assessment are important because they are the means by which society judges the quality of the products of an educational system. Examinations and assessment part of evaluation aim at determining learners’ level of skill acquisition or intellectual competence and understanding after a given training using the multimodal learning system.

For assessment to be an effective measure of the what and how of instructional content, it must be structured such that the feedback adequately captures the whole ramifications of the students’ understanding. However, while much emphasis is placed on ensuring that students learn better through the use various teaching and learning strategies, the assessment process is often skewed to measure abilities and behaviours that the majority of students are able to exhibit.

Contemporary research findings have underscored the need for a systematic process of eAssessment that prioritizes issues such as assessment integrity; software and technology; Assessment for large classes and assessment for practical subjects. In this paper, the authors

Keywords: e-assessment, examinations, open distance and e-learning, evaluation, multimodal learning
explore the potentialities of advancing a framework for assessment of multimodal learning. That is an eAssessment framework that takes care of the various priorities and rubrics earlier mention and also caters for other special abilities and behaviours in an inclusive way. Recommendations are advanced as to the means and ways by which Assessment for Multimodal learning could be operationalized in the context of open, distance and e-learning.
14 An Investigation Into An Information Communications Technology Based Chinese Studies Curriculum Design And Planning For School Certificate (Technical) Upper Secondary Schools In Mauritius

Soobeeraj Parmessa


Abstract: In an era of upheaval caused by the never-ever imagined 21st century COVID-19 pandemic the groundings and foundations of educational progress and sustenance have challenged educational settings in all its domains across the globe. The African continent’s educational achievements at both primary and secondary schooling as well as university education in the 20th Century, having been positively dented by the UNESCO’s, E.F.A, M.D.G, and actually S.D. Goals have been challenged with schools/universities closures at a critical juncture. However, crises and challenges also tap on strengths as well as open up educational opportunities akin to the educational progress post 2nd World War and post-colonial sub-Saharan Africa. In this context, S.A.D.C countries have to review and prepare for the renewed education continuance and resilience strategies. One of the major strategies to hinge on is the application of 21st Century technologies which will cut across the curriculum delivery in education at all levels.

The Ph.D. research study concept paper entitled “An investigation into an Information Communications Technology-based Chinese Studies Curriculum Design and planning for School Certificate (Technical) Upper Secondary Schools in Mauritius” views the post-pandemic education which will have to further open up and ally with the emergence of technologies based curriculum. The research undertaken aligns with the new normal within a revisited educational parameter whereby the curriculum is cross-cutting and bringing subject area specialization, knowledge, and concepts through online, offline, and remote learning media within or even outside the schools’ contexts. The research intends to closely investigate ‘innovative pedagogies’ and curricular review at a particular point in time where there is a shift in

Keywords: Chinese studies curriculum, information communications and technology based, school certificate technical
the global context which off hinges on the post-colonial education’s traditional imposed curriculum content.

The research calls for multiple methods empirical investigation involving both Mixed Methods (Quantitative and Qualitative) as well as an auto-ethnography study undertaken in the Mauritian educational setting whereby the Ministry of Education, Tertiary Education, Science and Technology (Mauritius) has already started profound Educational Reform agenda since 2015 calling for technologies integration within the curricular delivery cutting across schooling levels as well as providing strategies and means such as the Early Digital Learning Programme (EDLP) and High-Speed Internet Connectivity (HSIC) in all educational institutions of the island.

The research is self-funded and is being co-supervised by Professor Zhang Kangfu of Zhejiang Science & Technology University (Zhejiang, Peoples’ Republic of China) under the aegis of Confucius Institute at the University of Mauritius
15 **Online Group Supervision As Pedagogy Under Emergency Conditions: Optimising Online Collaboration Towards Self-Directed Learning In A South African HEI**

*Brenda Van Wyk*

*The Independent Institute of Education, South Africa*

*Quraisha Dawood*

*IIEVarsity College, South Africa*

**Abstract:** The Higher Education Institution under study adopted a group supervision model for their Honours students doing research projects. Implemented correctly, group supervision pedagogy offers opportunities for collaborative learning, addressing the challenges posed by one-on-one supervision, in terms of improved peer learning and ensuring equity in delivery. It demands a specific skill set from supervisors in traditional face-to-face settings. In an emergency online environment, and compounded by an inherited unequal ecosystem, these skills and desired outcomes require an in-depth understanding of the nature of the learning continuum. Ideally, online supervision should guide students in a group setting to progress and build competencies required for self-directed learning, where the student actively takes responsibility for their learning. The goal is to instil self-determined learning competencies for future readiness and success in a connected world. The pandemic posed restrictions on movement and demanded an immediate shift from the existing approach to a fully online mode. The model reported in this study was implemented via the learning management system two years prior to lockdown. Subsequent lockdowns accelerated the roll-out inter alia to all supervisors and students as a compulsory mode of delivery. This mode change of delivery exposed shortcomings in existing supervisory skills, connectivity and technological accessibility, research and digital literacy competencies and inclusivity challenges faced by all students, but more particularly to students from disadvantaged backgrounds. Through a conceptual framework, drawing from a neo-Weberian and

**Keywords:** group supervision, online education, inclusive education, self-determined learning
Universal Design for Learning (UDL) approaches, it will illustrate that the pandemic posed significant inequality challenges. Established on qualitative data from interviews with supervisors, substantiated by documentary data, the paper explores the nature and transition of supervision pedagogy in an emergency remote ecosystem, to achieving self-directed competencies using online collaborative learning. The paper recommends key requirements for the future success of group supervision on the learning continuum.
16 Compounding The Effects Of 4G And Covid-19 On Adoption And Use Of Online-Banking: A Perspective

Victor Katoma
NUST, Namibia

Cosmas Mwanza

Dean Strickland CC, Namibia

Abstract: Online banking has been around for a long time, but its adoption by customers have been facing some reluctances. However, compounded with the fast emerging Fourth Industrial Revolution (4G) and the COVID-19 pandemic, adoption of online banking is no longer a choice but a necessity. This paper examines the factors causing laggards in adopting online banking as a medium of transactions. An online Technology Acceptance Model developed by Anouze and Alamro (2019), was employed to collect data using the convenience sampling method. Using a quantitative research design, a sample of 125 banking customers participated in the study. Initial results demonstrated that the lack of adoption of online banking largely borders on trust and security.

A chronology outlay showed that TIBS (Trust in the internet banking system) was the highest predictor and influencer of internet banking adoption with a beta value of 0.373 followed by PU (Perceived usefulness) with a beta value of 0.289, PEU (Perceived ease of use) with a beta value of 0.269, PSE (Perceived self-efficacy) with a beta value of 0.211 and AIBS (Awareness of internet banking services) with a beta value of 0.188.

This paper explains that it is through establishing swift Awareness (AWRN) programs of internet banking services that can assist bank managers in decision making concerning the development of strategies that might accelerate and expand the adoption of online banking in the wake of the Covid-19 pandemic and emerging 4G technology.
17 Role Of Supervisory Management Styles In Shaping The Supervision Experiences Of Doctoral Students

Tooba Saleem

Allama Iqbal Open University, Islamabad, Pakistan

Abstract: Quality in research supervision is one of the main concerns among the institutions and stakeholders today especially those involved in open and distance learning (ODL). This research examined the supervision experiences of \( n = 109 \) doctoral students during different stages of research at the largest open and distance learning institution of Pakistan. The study was based on mixed-method approach using sequential design (Quan → qual). Survey was conducted from the doctoral students enrolled under the four faculties of Allama Iqbal Open University, Pakistan. An adapted version of Supervisor-Supervisee Relationship Questionnaire (Saleem, 2014) was administered along with autobiographical accounts of the research candidates selected through a multi-stage sampling design. The analyzed data were used to identify the supervision related experiences of research candidates with respect to the different personal and institutional factors. Further, to explore region specific supervision issues, their reasons with respect to the ethnic and cultural aspects focused group discussion was conducted at Provincial Head Quarters (PHQs) of the university. The findings of the study highlighted the need of supervision support and monitoring in the initial stages of research. Supervisors can support their supervisees more satisfactorily when their specialization area match with their research project as reported by students. Students reported better supervision experiences when they work with the supervisor of their own choice. Moreover, gender wise comparison revealed that male students were found more satisfied than female about their research support related experiences with their supervisors. The findings implicated valuable academic and administrative adaptations for improving the quality of research supervision practices for open and distance learning institutions.

Keywords: research supervision experiences, distance learning, supervisory relationship, doctoral research
18 Assessment Of Digitalised Learning And Teaching To Senior High School In Pampanga, Philippines

Jennifer Operio

Holy Angel University, Philippines

This research assessed the value of digital technology to students’ learning particularly in a private high school in the province of Pampanga. It examined the redefinition of the approach to teaching through integrating various forms of teaching methodologies to add value to classroom learning.

This study is significant to the subject private school owners, administrators, students, teaching and non-teaching staff in redefining teaching approach to new breed of students. The researcher utilized descriptive-quantitative research. The paradigm of the study depicts the independent, dependent and mediating variables. Subjects, teachers and students as the subject respondents are the independent variables, and the digital technology integration is the mediating variable. The dependent variables are the level of effectiveness of utilizing technology to students’ engagement and learning satisfaction.

The respondents of the study were all administrators, senior high school students, teaching and non-teaching staff in the school. The researcher utilized a self-made survey questionnaire in getting accurate information. It was validated by asking a group of similar respondents who are not participants. Taking ethical considerations, the proponent did not have a direct hand in distributing the survey form. Also, identity of respondents; specifically of the student were withheld.

This study in effect awakens the teaching community particularly in the high school level on the great value of digital technology. The contribution to the body of knowledge of this study is additional approach in teaching a millennial.
19 Overcoming Gender Imbalance In ICT-Related Jobs

Takesh Luckho, Perienen Appavoo, Rubeena Doomun, Preetamsingh Dookhun, Yudhansing Boodhun & Teenah Jutton

Open University of Mauritius, Mauritius

**Abstract:** According to a report by the United Nations, women worldwide are at high risk of losing out compared to their male counterparts when talking about tomorrow’s Science, Technology, Engineering and Mathematics (STEM) jobs. For every 20 jobs lost in competing industries, only one woman is expected to be hired in the STEM field while out of every four jobs lost in competing industries, one man is expected to be employed in the STEM field. This gender bias is also being observed in the Mauritian Information, Communication and Technology (ICT) sector. As such, there is an urgent need to understand the origin of this bias and how education can be the bridge to this employment gap. This study was carried out across the ICT industry in Mauritius. The main objectives were to compare the number of girls and boys opting for Computer Science at School Certificate level over the last four years and assess the perception of women on the working conditions prevailing in the sector, identifying the challenges faced by them. A quantitative research design was adopted. In the first instance, secondary data was extracted from the Mauritian Examinations Syndicate (MES) reports from 2015-2019. The second phase of data collection was done via a questionnaire survey administered to women already working in the ICT sector. The main observations from the survey were that working in the Mauritian ICT sector was tedious, sometimes to the detriment of their work-life balance. However, most respondents believed that working in that sector offers promotional prospects and is associated with high socioeconomic status. Nevertheless, they insisted on the need for more incentives to encourage women to opt for an ICT career as they felt that the sector is mostly male-dominated.

**Keywords:** gender bias, stem jobs, ICT career, Mauritius
20 Enhancing Learning Experiences From OER Initiatives: Lessons From Indian Higher Education Institutions (HEIs)

D. Raja Jebasingh
St. Joseph’s College of Commerce (Autonomous), India

Abstract: Open Educational Resources (OER) are rapidly gaining impetus in higher education sector globally. While the usage of OER serves as an effective strategy to address the access and cost related issues of education in general and higher education in particular, Information Communication Technology (ICT) have offered powerful instrument for dissemination of knowledge over a wide spectrum. The revolution movement of OER intentions to provide quality content available for free use to enhance knowledge and educational opportunities for yet unreached segments of the society hence leading to quality and excellence in higher education. Digital education using e-Learning resources by using MOOCs and Open Education Resources (OERs) is a step towards making Indian higher education affordable, reachable and inclusive. The role of OER and MOOCs as a tool to bridge existing demographic, economic gaps and geographic barrier. India’s higher education sector is one of the largest and the fastest growing in the world. In a recently published report, MoE-GoI says that India has 1043 Universities, 42,343 Colleges and 11,779 standalone Institutions. 3,38 Cores Students enrolled in programmes at undergraduate and postgraduate levels. Given the explosive pace of technological development, it is certain that technology influences higher education sector in multiple ways. Skill development has become an integral part of learning process.

According to the latest All India Higher Education Survey (AISHE) 2019-20 released by the Ministry of Education, India’s gross enrolment ratio (GER) enhanced to 27.1 per cent in 2019-20 as against 26.3 per cent in 2018-19. OER, according to the Organization for Economic Cooperation and Development or OECD (2007) are “digitized materials offered freely and openly for educators, students and selflearners to use and reuse for teaching, learning and research”.

Keywords: higher education institutions (HEIs), information communication technology (ICT), open educational resources (OER)
The Indian Government specially Ministry of Education (MoE), University Grants Commission (UGC) and the Consortium for Educational Communication (CEC) had initiated various programs and policies that addressed the needs of Indian Higher Education through the use of electronic and new media along with appropriate use of Information and Communication Technology (ICT). As per the data from Consortium for Education Communication (CEC) digital educational content repository is now enriched with 23,441 e-content modules.

The proposed paper would discuss the various initiatives of Indian Government towards Open Education Resources (OER) especially with reference to Higher Education Sector. The effective use of OER in teaching and learning at Higher Education Institutions (HEIs) would enhance through the adoption of well-structured course curriculum design process. The Open Education Resources (OER) should lead sustainable learning revolution more vibrant to constantly improve the quality access in Higher Education Institutions (HEIs) in India.
21 Student Plagiarism In Online/Distance Higher Education

BooyseS Sabeho Tubulingane

Namibia University of Science and Technology, Namibia

Abstract: Students are usually cautioned by their universities to refrain from practicing plagiarism when completing their academic work. However, plagiarism is still a serious problem experienced by private, public universities in developed and developing countries. The emergence of modern information technologies such as the internet have made the control, managing, and elimination of plagiarism very difficult. Students who have fear of failure to cope with their academic work or are unable to understand academic materials are more likely to take risks that include plagiarizing. Although, an effective anti-plagiarism programme can reduce the number of incidents of plagiarism among university students. Evidence is accumulating on how to make online or distance learning effective, concerns are growing about problems that distance/e-learning poses for students’ academic integrity. This has led to a high rate of academic dishonesty in the online/distance learning environment to point that it is now a standing issue that is challenging higher education institutions.

Thus a need to determine if the internet accelerate plagiarism among distance/online students at the Namibia University of Science and Technology (NUST). Distance/online students who do not understand their academic materials are they more likely to practice academic dishonest. The research will also establish why NUST online /distance student engage in plagiarism. The study results will assist educators to come up with effective and efficient way to combat plagiarism aided by the internet. The university will be encouraged to come up with additional education programmes aimed at assisting students to understand their academic materials for them to easily complete their academic work. The study can be used as a benchmark for researchers who want to conduct similar studies at their universities.

Keywords: university student, internet, modern information technology, student performance, academic dishonesty
**22 Evaluation Of Digital Educational Initiative During The Covid-19 Pandemic Using Concern Based Adoption Model**

**Divya Chandrasenan, Seenathmol N. & Jayapraveen Jayachandran**

*University of Kerala, India*

**Abstract:** The World Health Organization (WHO) has referred the COVID-19 pandemic as the most challenging health crisis the world has ever faced (UN Policy Brief, 2020). It has affected all sectors of the society very badly. The pandemic has forced the education sectors to shift dramatically to virtual and blended modes of teaching and learning with the help of various ICT tools. The crisis has resulted in the stimulation of innovation in the field of education. India has also seen various innovative approaches and solutions of ICT led educational initiatives to reach out to everyone, including the most marginalized populations who may lack access to education, digital devices, and connectivity. Kerala, the most literate state in India, have paved the path in effectively using technology to ensure continuous learning by enabling universal access to ICT infrastructure for remote learning. Government of Kerala launched a digital educational initiative named “First Bell” and was broadcasted through VICTERS Educational Channel, an educational television channel launched in 2005 with the vision of taking the benefits. The team effort of Director of General Education, State Council of Education Research and Training (SCERT), Samagra Shiksha Kerala (SSK), State Institute of Educational technology (SIET) and Kerala Infrastructure and Technology for Education (KITE) ensured the successful implementation of the new culture of learning. Apart from the television, the sessions were made available on the web page of KITE and Facebook, and YouTube. This paper uses the Concerns-Based Adoption Model, collecting survey and qualitative interview data, to inform the implementation of the “First Bell” program. In specific, the article presents data collected through CBAM and the analysis that identified and interpreted both the concerns and extent of the digital program. Data is used to determine further modifications necessary to sustain usage of the new pedagogical practice.

**Keywords:** digital educational initiative, pandemic, covid-19, concern-based adoption model, first bell program
23 Using E-Portfolios For Active Student Engagement In ODeL Environment During And Post The Covid-19 Pandemic

Patience Mudau & Mphoentle Modise
University of South Africa, South Africa

Abstract: Although e-portfolios are still a relatively new trend in developing countries, however, they are becoming an alternative teaching and learning tool in distance education and online environments. Research has arguably placed e-portfolios as channels through which important skills such as self-directed learning, critical thinking and lifelong learning can be infused. Most research has focused on students’ perceptions of e-portfolios and/or implementation and adoption thereof, and not on how lecturers can design learning objects that fosters active student engagement with the e-portfolios. This study aims at exploring how lecturers in ODeL university in South Africa employs e-portfolios to encourage and improve students’ active interaction with the content and with other students during the Covid-19 pandemic. Within an interpretive paradigm, the research followed a qualitative approach. Document analysis and semi structured interviews were used to collect data. Thematic approach was employed to analyse data. The study purposefully selected six lecturers in the College of Education (CEDU) and College of Human Sciences (CHS) in a South African ODeL university. The undergraduate and postgraduate e-portfolio modules were studied. The findings of this study revealed that e-portfolios can promote active student engagement in ODeL spaces during and post Covid-19 pandemic. However, the study recommends that lecturers should design learning objects with high impact level student engagement in e-portfolios. The study also recommends that higher education institutions (HEIs) provide lecturers with appropriate technical support and relevant continuous training on the design and development of learning objects in e-portfolios.

Keywords: Covid-19, e-portfolios, learning objects, online leaning, ODeL, student engagement
24 Face-To-Face Versus Remote Learning Student Behaviour Analysis Through Educational Data Mining

Martha Mosha

University of Namibia, Namibia

Abstract: At the University of Namibia (UNAM), courses were taught as face-to-face using the blended learning approach through a Learning Management System (LMS) Moodle. Due to Covid 19, the courses were forced to be offered via remote teaching which meant adopting and adjusting to the online learning approach. Since the introduction of LMSes there has been new opportunities to the use of Big Data mining for education also known as Educational Data Mining (EDM) to harvest a wealth of information. The study uses EDM to unearth and compare student behavior patterns during the face-to-face and remote learning of two of the same courses offered at two different years. The one was during times of Covid 19 and the other was the year prior to that. Analytics from log-in details, learning resources, discussion forums, chats, assessments and use of plug-ins such as the plagiarism software, are used to map out the student behavior. Key findings include the fact that students increased their participation in forums and chats, there was not much of a difference in the cases of plagiarism, and more students accessed Moodle though their mobile phones after moving from face-to-face to remote teaching.

Keywords: educational data mining, e-learning, learning management system
Learning Behind A Screen During Covid-19 Pandemic!! Students’ Experiences At The Open University Of Mauritius

Abheenaye Chauhan Gokhool, Vandanah Gooria & Upasna Bhunjun

Open University of Mauritius, Mauritius

Rajesh Gunesh


ABSTRACT: We are living amidst what is potentially one of the greatest threats in our lifetime to global education due to the Covid-19 pandemic. The Covid-19 pandemic has caused more than 1.6 billion students to be out of school in 161 countries accounting to 80% of the world students’ population (UNESCO, 2020). As a response to this crisis, most of the Higher Education Institutions (HEIs) migrate from traditional learning to a digital learning environment with immediate effect. At an early stage of the spread of the coronavirus, there was a heavy pressure to intensify the use of social media and any other alternative technological tools to re-stabilise the educational system for students. In a matter of days, academics started to teach behind a computer screen and students have to follow the courses through the internet. The aim of this study is to determine students’ learning experiences with the sudden shift to online education at the Open University of Mauritius and investigate the impact of the pandemic on students. The data was collected using an online survey with nine hundred and eight nine students. The outcomes indicate that female students are more satisfied than male students with online learning tools and married students are more satisfied than single students with online learning tools, students aged 18-30 are less satisfied than students aged more than 30 with online learning tools and finally students doing foundations courses are less satisfied than undergraduates and postgraduate students with online learning tools. Majority of the students experienced (57.8 %) internet connection problems, (44.3%) lack of interaction with tutors and their peers. Other minor problems faced by students during their online sessions were (18.4%) lack of

KEYWORDS: Covid-19, Open University, online learning, students

self-motivation to learn, (16.6%) isolation, (11.9%) accessibility to online tools, (9.8%) security and privacy issues, (7.5%) resistance to shift to online delivery mode and (3.7%) computer literacy. (41.5%) students managed to work with their tutors virtually, (31.9%) moderately difficult, (26.7%) very difficult to work together and (8%) found it very easy. This study will help university students and HEIs to better understand and prepare for online learning.
26 Using Academic E-Portfolio In Secondary Schools-Evaluating The Readiness Of Educators And Willingness Of Learners In Mauritius

Ritesh Rao Poliah

Open University of Mauritius, Mauritius

Abstract: The paper presents an insight behind introducing an e-portfolio in secondary schools intending to investigate the readiness of educators and aptitude of learners to e-platform in Mauritius. The digital age and the e-platforms developed by the internet offer hefty opportunities and facilities to e-education resulting to improvements of daily activities of learners, educators and the society as large. It is to be noted that since recent years, The Chalk and Talk traditional approach has been a commodity tool for learning and teaching. However, within the recent innovation in the digital world, the educational field has been volume to the World Wide Web. For Dr. Dilnutt (2018), the digital technology have advanced the educational models to make learning and teaching more effective in the modern era.

According to the Draft Policy (2018), in Mauritius, within the introduction of the Nine Years Continuous Basic Education, the local government is opened to a wide range of discussions to promote a digital teaching and learning environment. Therefore, this paper aims to investigate on the possibilities to introduce an e-portfolio platform in the Mauritian secondary education allowing educators and learners to document, assess, monitor and track their learning processes to enhance their self-understanding.

This study tries to investigate the readiness and willingness of educators and learners to use academic e-platform in secondary schools. The proposal aims to present to what extent educators are ready and learners are willing to integrate digital platform in their teaching and learning strategies. In addition, this discussion tests the possibilities whether blending teaching in secondary schools can be a reality in Mauritius. At last, this study also extant the possibilities of using e-platform in the secondary curriculum in Mauritius.
27 The Value Of Multimodal Learning Tools To Engage Learners While Working Online

Karen Walstra
Karen Walstra Consulting EvolveSchool, South Africa

Abstract: During this presentation we will explore the need to incorporate effective learning activities from a range of digital learning modalities. Consciously incorporating pedagogy into teaching with digital tools. Digital tools can assist teachers to engage in real time with their learners, providing instant feedback. Digital tools can save time, and allow for personalised learning. Lessons should be interactive, engaging and relevant to the learning required to complete and solve problems. Building a base-knowledge so that learners can analyse and evaluate the content they are learning. Examples of easily accessible digital resources, examples of quizzes (forms), interactive (Puzzel.org, Loru Games) and engaging (augmented reality, AI and chrome experiments) tools will be demonstrated.

Keywords: multimodal learning tools, pedagogy, teaching with digital tools
28 Distance, Blended And Online Natural Sciences Teacher Professional Development

*Kathryn Kure, Nomvuyo Mgoqi, Sofiah Essop*

*STEAM Foundation NPC, South Africa*

*Patisizwe Mahlabela & Henré Benson*

*CASME, South Africa*

**Abstract:** The paper will document how two foundations pivoted from face-to-face training as a result of the Covid Pandemic and was able successfully to work using distance, blended and online learning using an inquiry-based pedagogical approach with over 200 teachers across three Provinces working with the DBE and funded by BMZ, Schmitz Stiftungen and Siemens Stiftung.

There is a reason why ‘box cakes’ – all-in-one kits for baking – work. Everything from ingredients to instructions are included ensuring success even for the most inexperienced baker. The STEAM Foundation and CASME approach to training Energy in the Natural Sciences Senior Phase takes such an approach and takes context into account, including the following:

- Too few schools have specialist scientific educational materials hence this is not just a course, but also a kit.
- There is a relative lack of openly available educational materials that address not only what curriculum-aligned experiments to do but also how hence educational teaching materials were licensed under an appropriate Creative Commons license as Open Education Resources to enable impact at scale. They were edited to be accessible for learners and teachers for whom English is an Additional Language and further edited for cultural relevance and inclusivity.
- Cost and accessibility were addressed via a blended learning approach allowing for both offline and online activities, working closely with teacher learning centres. High-quality but low data and ink scientific drawings and videos were generated so even those...
teachers who had never studied sciences can achieve success and confidence.

• The approach exposes teachers to specialist learning in the form of pedagogical models such as inquiry-based and co-operative learning as well as classroom management principles and includes these within the design of the workbooks, as an add-in rather than an add-on to the materials, providing a scaffolded approach.
Reinventing A Medical Elective Rotation In A Pandemic

Astrid Turner, Irene Lubbe & Walther Ross
University of Pretoria, South Africa

Abstract: Introduction: The COVID-19 environment has disrupted and challenged higher education institutions (HEI) to offer teaching and learning in alternative ways without jeopardising the safety of learners and staff (The Lancet, 2020). At the Faculty of Health Sciences (FHS) at the University of Pretoria, it created the opportunity to review a one-month elective rotation for third year medical students. Prior to the pandemic, students would use the rotation to explore a future area of specialisation and gain practical experience. In light of concerns about risks of transmission in an overstretched healthcare environment, a decision was made to implement a virtual online elective for 300 medical students in October 2020.

Purpose: The aim of the innovation was to redesign the elective rotation in a pandemic.

Method: In June 2020, after brief but focused consultations with FHS staff, there was consensus to present an online bouquet of massive open online courses (MOOC). The courses centred around roles from the 2014 HPCSA competency framework (Health Professions Council of South Africa, 2014). The quality of the MOOCs were evaluated using dimensions such as pedagogical perspective and functional and technological features (Alemán de la Garza, Sancho-Vinuesa, & Gómez Zermeño, 2015). Courses were sourced from a private HEI, an online provider, and the LinkedIn Learning platform.

The elective course bouquet consisted of one compulsory leadership and management course, two courses related to any of the identified roles and finally, any two courses from LinkedIn Learning. The assessment challenged the metacognition of students as well as alluding them to gaps in role development, which they would need to strengthen in the remaining years of their studies. Students were required to submit their course certificates with an interactive Microsoft Excel template.
The template consisted of a sunburst graphic that updated in real-time and provide a colourful illustration of the attained and outstanding HPCSA roles and competencies of the student.

**Results and Discussion:** 99% completed the elective. This was significant as not only were these students adjusting to asynchronised classes but they were never before exposed to MOOCs as part of their qualification. Despite the limited evidence where few studies have demonstrated significant benefits of MOOCs (Rowe, Osadnik, Pritchard, & Maloney, 2019), based on the circumstances under which the elective was redesigned and preliminary evaluation findings, there is some evidence of successful use of MOOCs in this elective. It was envisaged with the virtual elective that students would engage in self-directed learning and emerge with new knowledge and skills (Zimmerman, 1990). Student differences in home environments, technology skills, and access to connectivity appeared to hamper this self-regulation.

**Conclusion:** This elective redesign required substantial resources in a difficult environment. The current model can be adapted for future electives although a hybrid rotation would be ideal; where the authentic experience is offered alongside MOOCs. Finally, the sunburst graphic innovation - if adapted and used systematically each year - could be the mechanism for health sciences students to reflect while also graphically see their progress in the HPCSA roles that they are expected to attain.
30 A Study Of MOOC’S Learners Learning Expectations, Learning Engagement And Satisfaction

Mahesh Koltame
SNDT Women’s University, Mumbai, India

Abstract: In this pandemic, the whole world is engaged in remote learning practices, among these practices online modalities are very popular but there are also ongoing debates about online and blended learning from the perspective of learners learning expectations, learning engagement and satisfaction. In this study, the researcher has analyzed student’s expectations from MOOC’s, their learning engagement and satisfaction and report the findings of a study of the relationships between learners learning engagement and their satisfaction in an online course with their overall performances.

This study has been conducted on 224 participants of 90 hours, 4 credit School Leadership Capacity Building (SLCB) MOOC, First offering 1-28 March 2020. For this study, the researcher has collected data by the pre-course survey, learning engagement analytics, and post-course learner’s satisfaction survey. Data were coded and analyzed both from a quantitative and qualitative perspective. Learners learning engagement was assessed mainly through LMS statistics like time spent on LMS, number of posts or replays in discussion forums, number of submissions for assignments, number of peer assessments done by a learner, engagement in interactive content, participation in synchronous discussion sessions, and their reflective learning diaries and continuous observation of learners learning pattern in course learning activities which were designed with a learn-reflect-practice-share pedagogical approach.

After the data analysis with descriptive statistics, the researcher has found most MOOC learners expecting simple but more interactive learning activities and reading material in small chunks. Also, research has found there is a significant correlation between learners’ confidence in their pre-ICT skills and their learning engagement and the associ-
tion between satisfaction and engagement was significant and positively correlated. Furthermore, there was a weak but positive significant correlation between satisfaction and engagement with their overall performances. In this course, the researcher has found such evidence regarding that those learners who are connected with each other in their small groups may be the groups are based on country or institute they engage more and performed well in the course. The blending of a few synchronous interaction’ sessions boost learners’ confidence and interest in the MOOC and it helps to sustain learners’ motivation in the course.
31 Lecturers’ Recommendations On Learning Management System Training And Support To Improve The Implementation Of Blended Learning In A Higher Education Institution

Jackalyn Appalsami
IIE Varsity College, South Africa

Abstract: Since the start of the 2020 Covid-19 pandemic disrupted people’s everyday lives. Businesses and educational institutions were forced to shut down so that the spread of the virus could be limited. To save the academic year, many higher education institutions made the switch to online learning. The sudden shift to online learning did put immense pressure on the IT infrastructure and more importantly the lecturers and students. Many lecturers were not equipped to teach online as well as how to use a learning management system to facilitate online learning. In 2018 a study conducted on lecturers’ teaching strategies in the use of learning management at a higher education institution revealed recommendations on how system training and support can improve teaching strategies for the implementation of blended learning approach. A qualitative exploratory single case study design was undertaken by conducting semi-standardised interviews, observations, and the analysis of log files. For this article, the focus is on the responses from the interviews as the lecturers provided recommendations on training and support which is still beneficial to this day. The results that listening to what lecturers require in training and support is important so that blended learning in higher education will be better implemented which will lead to an improvement of student success.

Keywords: learning management system, Covid-19, blended learning
32 Self-Directed Learning: The Rule Of A New Learning Paradigm

Vandanah Gooria, Perienen Appavoo, Abheenaye Chauhan Gokhool & Upasna Bhunjun

Open University of Mauritius, Mauritius

Abstract: Technology is catapulting the world of education to new horizons and the COVID–19 pandemic is intensifying this process to the extent that students have to negotiate their learning with new skills. The education process is becoming more learner-centred, with learners taking greater control of their studies. With the advent of online learning, self-directed learning (SDL) skills have drawn the attention of many researchers in the field. Garrison (1993) states that SDL is related to the learners’ learning style, personality traits, motivation and readiness to accept responsibility and these characteristics emphasize on the individuality of the learners in any learning environment. While students are ready to avail themselves of the affordances of technology to redirect their learning, they might not be sufficiently skilled to maximize on the benefits of an evolving learning paradigm, whereby autonomy is becoming the new rule of the game. A study was carried out in Mauritian schools among hundred and eight boys and girls of varying learning performance to assess their level of SDL. Using a validated questionnaire, primary data was collected about SDL awareness, self-discipline, self-management, self-motivation and collaboration. Moreover, two focus group discussions were held to triangulate the data. Analysis revealed that the mastery of SDL skills was not gender biased and did not depend on the learning performance of students, but was found to be significantly dependent on their level of computer skills, thus purporting that those who were proficient users of computing tools were well-poised to embrace self-directed learning. Additionally, students with higher learning performance and those who had prior exposure to online courses demonstrated high collaborative skills. These students were found to be more apt and motivated to adopt self-directed learning.

Keywords: self-directed learning readiness, young students, Mauritius

33 Sharing Professional Place Based Teaching Experiences: Podcating For Open Teacher Professional Development

Peter Philips & Nicolene Du Preez
Open Flow Learning Centre, Indonesia

Abstract: A local to global solution towards connection, professional development and sharing. Bridging time and space between educators by providing a platform with stories and solutions towards improving educational practices. With a total number of 17,508 islands of which about 6000 are inhabited and a population estimated at 273,523,615 people. As a third world country Indonesia and South Africa share similar challenges in terms of education and professional educator development. This development of podcasts as educational media is based on local wisdom and aims to provide place based experiences to open up professional dialogue. Considering the accessible nature of podcasting and the uptake of various lo-fi internet based connectivity streams across the diversity of social structures, belief and religious societies throughout Indonesia and South Africa, podcasting opens up an inclusive and broad reaching opportunity to transmit an authentic blend of wisdom, knowledge, connection, professional development and rebirth of culture as sources of solutions. Through place based understanding of what unites and defines a healthy culture it is possible to harness, activate and unite existing unique social structures that traditionally possess a strong historical and generational basis of sharing story. Generally, social structures within third world countries, or the unique communities in which are found within developing countries have an underlying basis of social constructivism, that is, they function at optimal levels when healthy social relationships and interactions are utilised. Podcasting in the education space, rooted in place based application and experiences provides a platform for perspectives to be shared and engaged with, in addition to ensuring that unity in the online space continues to drive educational reform on the ground for the children, families, educators, private and public educational institutions that are so often functioning as independent and therefore inadvertently isolating in nature, rather than …
34 Transdisciplinary Competencies And Values Through Open Pedagogy – Lessons Learnt

Sandhya Gunness
University of Mauritius, Mauritius

Isabel Tarling
Two Oceans Graduate Institute, South Africa

Abstract: In today’s Volatile, Uncertain, Complex and Ambiguous (VUCA) world, it is important to integrate discipline-specific knowledge with more transversal skills, values, attitudes for equipping learners for a very unpredictable future. Social and emotional considerations such as empathy, cultural sensitivity, community involvement, collaborative networking, leadership, and concern for the environment need to be embedded within higher education courses. This paper aims at investigating graduate learners’ appreciation and understanding of transdisciplinary competencies gained through the LLC 1080 module on Transdisciplinary skills and competencies. Based on an Open pedagogy approach, this module is proposed to 1st year undergraduate students to enhance or develop increased autonomy in choices of learning resources and educational technologies through three main blocks of learning:

1. Collaborative networking – cultural awareness, personal branding, team playing, networking and trust building.
2. Communication Skills – Emotional intelligence, Technology enhanced communications, verbal and non-verbal skills and conflict management.

The assessment of these competencies is through a series of ill-structured open learning activities and eventually a compilation of evidence-based learning through an e-portfolio. The e-portfolio is in the format of a Pecha–Kucha audio–visual recorded presentation where the student will display and describe the different learning modes.
approaches adopted (metacognitive learning), the artifacts co-created, and competencies gained while co-creating these artifacts.

In-depth Interviews with students who successfully complete the module will be conducted to qualitatively investigate how they experienced the module learning activities and assessment and whether, if at all, they found the openness of the module was able to provide for greater autonomy (Paskevicius and Irvine, 2019) and whether the module was able to equip the students with the skills and competencies necessary for navigating the VUCA world.

Results of this study will be important to showcase learning design approaches for developing transdisciplinary competencies and open educational practices.
**35 Assessing Online Learning Student Experiences Of First Year Students In The Department Of Higher Education And Lifelong Learning At The University Of Namibia**

*Helena Naituwe Amadhila*

*University of Namibia, Namibia*

**Abstract:** This paper shares findings of a phenomenological study that sought to uncover online learning during the Coronavirus pandemic (COVID-19) in particular deciphering experiences of first year students in the Department of Higher Education and Lifelong Learning at the University of Namibia. Online learning has become a buzz word intensified by the emerging of COVID-19 pandemic. As such, many institutions of higher learning were forced to implement online learning through various platforms to ensure continuity of learning amidst COVID-19 pandemic. The University of Namibia (UNAM) implemented the online learning through Modular Object-Oriented Dynamic Learning Environment (Moodle), a Learning Management System (LMS) to enable students to learning while at home. The system was implemented across board including first year students who joined the university in 2021. The system requires users to be connected to a network for them to be able to access the contents uploaded on the platform. First year students in the department of higher education and lifelong learning embraced the system. The study employed a qualitative method technique. The data were collected through mobile phone calls, Google forms and ethnographic observations with content analysis. Results showed a significant difference in experiences among first year students. These experiences are based on prior computer literate skill, strengths of network connectivity based on students’ residential location, possession of smart devices such as mobile phones and personal responsibility of one being new at the university. The findings also suggested intervention strategies to enhance students online learning to ensure effective online learning during the outbreak of pandemics and beyond.

**Keywords:** online learning, learning experiences, learning management system, higher education
36 Conceptualisation Of OERs By Lecturers At Selected South African Universities

Justinus Setshed

Department Of Higher Education And Training, South Africa

Michael Van Wyk

UNISA, South Africa

Abstract: Although there are research studies on the number of universities who are involved in the free and open sharing their teaching materials as Open Educational Resources (OER), there are some lecturers with little or no understanding on the concept of OER at some South African universities. OER are the teaching and learning resources like course materials and textbooks are openly available on the net at no cost. The university lecturers provides support the teaching and learning through the adaptation and sharing of these course materials and textbooks openly on the public net. This study aims to explore the conceptualisation of OERs by lecturers at the South African universities. The theory of Roger’s (2003) diffusion of innovation (DOI) underpins the study in order to assist to provide an understanding of the lecturers of universities regarding their OER conceptualisation. The study adopted qualitative face to face interview design and was informed by the pragmatist paradigm. A quota sampling of sixteen lecturers from the three universities were identified and selected for the semi-structured interviews. Methods of collecting data used was the semi-structured interviews. Thematic analysis was done in recognising, analysing, and describing themes within data. The study finding revealed that although the lecturers are aware of OERs and their benefits, their understanding and knowledge of OER was inadequate. In essence, lecturers have little or no understanding of the concept of OER.

Lectures were able to display their disposition towards the use of OER in their teaching and learning. The lecturers were found to be unable to draw from the benefits of OERs which, among others,
include the 5Rs of Openness. These 5Rs are retain, reuse, revise, remix and redistribute. The study recommends that South African universities should ensure that more emphasis is not on awareness of OER only but also on the lecturers having an understanding and knowledge of the use of OERs in teaching and learning.
37 The Students’ Perspectives On Peer Assessment As Tools For Emotional And Academic Support During Remote Online Teaching And Learning

Julia Ndapandula Indongo

Namibia University of Science and Technology, Namibia

Abstract: The outbreak of the pandemic (Covid-19) led to the introduction of emergency remote online teaching and learning in many universities. The introduction of remote online teaching and learning received mixed feelings from the students, parents and educators because it is the first time for most undergraduate students to learn remotely online. Also, the remote online learning separated many students making them learn in isolation without support from their peers. The purpose of this study is to investigate the students’ perspectives on the use of peer assessment as tools to render the students emotional and academic supports during remote online learning. The study was qualitative and it made use of twenty undergraduate first-year English service courses students at Namibia University of Science and technology who were purposively selected to participate in the study. The respondents admitted not comfortable finding their peers on their own online as they never met them before. However, peer assessment present an opportunity for the students to connect with other students as they learn remotely. The study revealed that students were able to learn from others and have discussions with their peers which led to deep learning. The approach also develops students’ confidence to study online and helped to maintain mental wellness for the students. The study concluded that the application of peer assessment in a remote online teaching and learning environment uplift the students’ academic spirit and willingness to excel as they engage with their peers even when they are far from one another.

Keywords: peer assessment, online learning, pandemic, remote teaching and learning
38 Educators’ Beliefs, Perceptions And Practices Regarding Open Education Resources And Assessment Models

Isabel Tarling

Two Oceans Graduate Institute, South Africa

Sandhya Gunness

University of Mauritius, Mauritius

ABSTRACT: This study explores the current practices, beliefs and perceptions of educators regarding the integration of technologies to support open education resources (OER) and assessment in/outside classrooms across Africa. The aim is to understand current teaching and learning practices in order to explore the potential for change to these. A literature review positioned the study to regard current practices, beliefs and perception towards OER and assessment practices of educators across Africa, and the influence of technologies on such practices. As part of a larger study, this sub-section of the study sought to uncover the extent to which there were any changes in the way educators perceived teaching and learning practices to encourage the development of OER and how assessments are used whether with technologies or without. Additionally, since assessment tends to drive teaching and learning, the study also investigated current assessment practices to inform how these can be adapted to support OER. 42 teachers from 5 different African countries responded to an online survey pertaining to the integration of technologies to support Open Educational Practices and assessment designs and priorities. Thematic analysis and the Concerns-based Adoption Model (CBAM) was applied to analyse the responses. Findings emphasize the need for change in educators’ beliefs, perceptions and practices related to assessment and open education practices. Educators often scored high on personal use of technologies, and were positive towards OER, however, this did not correlate to their adoption or use of OERs or digital and/or open assessment models. Insights from this study may inform the design of professional development of educators, and specifically to develop

KEYWORDS: open education resources, open education practices, assessment models, technology integration
learning activities where educators openly reflect, share and collaborate on pedagogical changes required for more relevant assessment models and the embedding of OER and practices.
39 Assessment Of E-Addiction And Online Learning Deception Among Students At Higher Education Institutions In Namibia

Sadrag Panduleni Shihomeka

University of Namibia, Namibia

Abstract: Online learning has emerged as an alternative teaching and learning avenue for university students around the globe due to the ever increasing number of COVID-19 cases in different parts of the world. Higher education institutions, diverted their teaching and learning offering from face to face to purely online learning supported by self-directed learning. As a result, even students who never had digital devices or being on social media, are now regular users for these services to search for information and supplementary articles for their learning activities. Claims are surfacing that some students tend to get chronically addicted to digital devices, social media and other online platform at the expense of spending quality time studying or learning through self-discovery. This paper aims at present the factors that contribute to e-addiction during online learning, signs of e-addicted students, effects of e-addiction of students’ performance and overall wellbeing, preventative strategies to avoid e-addiction, and lastly, revisiting the extent to which higher education students are likely to be deceived by the mushrooming online educational services offered by fly-by-night businesses. The paper serves as a premise to an under-researched area of online addition and deception among university students.

Keywords: social media, e-deception, e-addiction, online learning, self-directed learning
40 Reflective Teaching And Learners’ Performance: The Case Of A Selected Region In Namibia

Enock Simasiku

University of Namibia, Namibia

Abstract: This study was conducted in a selected region of Namibia. The purpose of study was to determine the teachers’ understanding and application of reflective teaching and how it influenced learners’ performance in the national examinations. Reflective teaching is a treasured teaching approach in which teachers gather information about their own classes and pay close attention to their behavior and teaching strategies critically. Hence, teachers can evaluate themselves find out their strength and weakness. Technology plays a critical role on the teachers’ ability to gather data on self-reflective teaching. Lately, the positive effects of reflective teaching on teachers’ performance are obvious to most of the teachers. In this study, the possible application of reflective teaching on different aspects of teaching were investigated. The study followed a mixed methods case study design. The target population was the teachers in all senior secondary school in a selected region (Namibia). A purposively selected sample of five senior secondary schools out of ten was considered for this study. Stratified purposive sampling was applied in selecting the fifteen teachers to participate in this study. The school principals automatically constituted the sample of the study which implied that the inclusive sample of this study was twenty participants (teachers and principals included). Instruments that were used to identify teachers’ reflective teaching skills were: Reflective Teaching Closed and Open Ended Questionnaire, Reflective Teaching Lesson Observation Checklist and the Reflective Teaching Interview Schedule for teachers and principals. In this study, common trends in the data collected were analysed by adapting the steps developed by Creswell and Clark (2018) for data analysis. The findings of the study revealed that teachers are not well equipped with skills and knowledge and digital resources necessary to effectively engage in reflective teaching. As argued earlier by Ferwana (2006), a good reflective disposition of a teacher can improve learners’ performance.

Keywords: reflective teaching, metacognition, reflection
41 Make Learning Enjoyable By Gamifying Blended Learning Courses In Technical And Vocational Education And Training

Janaka Jayalath & Vatcharaporn Esichaikul
Asian Institute of Technology, Thailand

ABSTRACT: The physical education model has come to a standstill globally due to the COVID-19 pandemic since mid-2019. It has a short-term impact on livelihoods as well as long-term social, economic, and, particularly, educational consequences. The use of distance and online learning has increased during pandemic times due to physical isolation requirements to avoid the spreading of the virus. The Technical and Vocational Education and Training (TVET) sector has deployed a blended learning model to support the practical aspects of holistic learning. Although online education addresses the issue of distance, learner motivation has been identified as a critical component of an effective and efficient learning process. Therefore, this study suggests gamification as an innovative solution to motivation and engagement issues in distance and blended learning using game thinking in non-game situations such as education. Game dynamics borrowed from the gaming world have been effectively used to motivate learners using various game mechanics and game components. The study reveals the deployment of game dynamics using an operational model for optimal learning performance by embedding the game components into learning content. The proposed gamification model is effective in motivating learners to achieve higher grades and competencies than poorly linked traditional distance mode of learning. Structural and content gamifications improve courses more enjoyable and appealing to learners, make them feel that learning while gaming. The proposed gamification model enhances online or blended learners’ immersive learning experiences, particularly in the TVET context, by creating a meaningful virtual learning environment.
42 How Can You Use Open Educational Resources (OER) To Design Alternative Assessment In Engineering Courses

_Eliana Elkhoury_
_Athabasca University, Canada_

_Amir Hamedzadeh_
_University of Calgary, Canada_

**Abstract:** The move to remote learning highlighted the need for alternative ways of assessing students. Soon after everyone was teaching online, it became clear that the face-to-face one-time exams don’t capture the student learning. As a result, there is a need to find alternative ways of assessments that engage the learners, support their learning and allows instructors to provide constructive feedback. Of the many forms of alternative assessments, we chose the use of open educational resources to create assessments. There are multiple ways to use OER for alternative assessments including creating OER, reviewing OER to even creating open access books. We argue that this approach to assessment is engaging, authentic, and experiential. In particular we will examine how OER can be used as alternative assessment in engineering courses. We will explain how using this type of assessment requires creativity to design assessments. For example, instructors can use principles of storytelling and history of science as well as an interdisciplinary approach to design creative assessments. Similarly, we will explain how OER help students develop their collaboration and presentation skills.

In this session we will explain the principles behind using OER as alternative assessments, the different forms that might take, and examples of applications. This session is both theoretical and practical and offers specific examples to engineering instructors.
The Influence Of Distance And Online Learning During Covid-19 Lockdown On Student-Lecturer Interaction In Namibia

Mirjam Sheyapo, Laimi Iyambo, Faustina Neshila & Klementine Kapikara
University of Namibia, Namibia

ABSTRACT: Coronavirus disease (COVID-19) is highly infectious, which resulted in many countries worldwide lockdown. In an attempt to contain the virus, Namibia had no choice but to close schools and institutions of higher learning. Academic institutions opted for online classes to ensure students’ continued learning. Thus, bringing great opportunity for the digital revolution in education and transformation in the roles of lecturers and students. The transition from face-to-face interaction to distance and online-based learning had greatly influenced student-lecturer relations. The lockdown measures have immensely affected students’ lives as there were limited and untimely interactions with their lecturers. Inevitably, students found it challenging to comprehend course contents without physical classroom environments and lecturer presence.

Furthermore, the home environment is different from the school environment and may be challenging to adjust to and less conducive for learning. Equally important, the lecturers cannot predict the effectiveness of online learning and no measure to determine whether learning took place, this situation is accentuated by limited student lecturer interaction. Consequently, lecturers teach in a vacuum devoid of students’ questioning opportunities or timely feedback and discussion that usually enhances the students’ understanding. Moreover, an abrupt shift to distance and online teaching and learning impacted the workloads of lecturers. Hence, there was little to no time to develop interactive learning materials on the various online learning platforms. In addition to that, most students and lecturers were conversant with the traditional ways of teaching and learning (face-to-face); thus, the practice of using technology for teaching and learning was new to many lecturers and students. While some students and lecturers had no access to technological devices, internet and network access, others had

KEYWORDS: interactions, online and distance learning, student-lecturer interaction, digital revolution
to learn how to use the devices and the online learning applications. Given the importance of online-based learning and its prevalence in academic institutions, this paper presents a theoretical discussion on the impact of the prevailing synchronous and asynchronous online teaching and learning platforms during the distance and online learning due to COVID-19 lockdown. Tapping from Terry Anderson’s online learning model, the paper focuses more on student-lecturer interaction and its implications on students’ comprehension of course content.
**44 A Review Of OER Research In Southern Africa**

*Amit Dhakulkar & Jako Olivier*

*North-West University, South Africa*

**Abstract:** Open Educational Resources (OER) and the teaching-learning practices based on them have potential to address several outstanding issues in education and are particularly important for the global south. Equally important is to know the successes, challenges and other aspects of OER. But what kind of research is being done on the OER? In this work, we present a systematic review of research on OER with a focus on the Southern African region. This review analyses research done in and on the Southern African region and provides a bibliographic database of the outcome. Various trends of the research done on OER such as the thematic categories, methodologies, participants, subjects, content types emerged from the analysis. The research also brings to focus the projects, institutions and countries which have successful OER programmes, and also highlight the underrepresented regions. Also, potential future research opportunities, challenges and recommendations from the research that are pertinent at various levels are summarised as a part of the review. The outcome of this research is a publicly available and annotated bibliography of research in the Southern African region. This bibliography will be updated regularly to keep a track of latest research. We hope that this resource would be a valuable tool to the scholars in the Southern African region to further research in the field.

**Keywords:** OER, open pedagogy, Southern Africa
**45 Flipped Classroom Approach In The Digital Post-Covid Era: An EFL Blended Learning Scenario That Promotes Healthy Eating Habits**

*Athanasia Kakali*

*Junior High School of Dionysos, Attica, Greece*

**Abstract:** Covid-19 crisis has had a substantial effect on teenagers’ dietary profiles, since adolescents are prone to acquiring unhealthy eating habits that can further lead to diseases such as obesity and diabetes (Ruiz–Roso et al., 2020). The main objective of this article is to address this problem through formal education in an EFL context. A flipped classroom approach is proposed with the aim to promote healthy eating habits in the post-covid era. First, the key concept of flipped classroom is elucidated. The article builds on previous research regarding flipped classroom approach and its impact published in relevant conferences and journals. The next part of the article focuses on a blended learning scenario which favors flipped classroom and is developed in an attempt to satisfy students’ needs. The scenario fosters 21st century skills (critical thinking, collaboration, communication and creativity) by exploiting technology and a wide range of Web 2.0 tools. It consists of three parts phases. Initially, students access new knowledge while studying nutrition vocabulary in an asynchronous mode (Phase I). Then, they deal synchronously with tasks that provide practice and consolidation of the new knowledge (Phase II). Not only do they reflect on teenagers’ eating disorders giving advice, but they work in teams to create healthy menus according to the needs of certain teenagers. The scenario culminates asynchronously (Phase III). In the last phase students undertake tasks and writing assignments so as to apply the newly acquired knowledge. They come up with their own ideal healthy menu and then evaluate the whole learning process. Finally, the article concludes by suggesting that teachers should move beyond traditional teaching practices integrating flipped classroom approach into the EFL classroom in order to adapt to the needs of the constantly changing 21st century and reap rewards.

**Keywords:** flipped classroom, blended learning, educational technology, EFL learning & teaching, 21st century skills, Web 2.0 tools, learning scenario, healthy eating habits
The Fellowship Of The OER Ring: How To Tackle The Dark Lord Of Copyright

Jako Olivier, Byron Bunt & Amit Dhakulkar
North-West University, South Africa

Abstract: Despite increased interest in open education worldwide, not all institutions have seen widespread uptake of open educational resources (OER). For the sake of effective implementation and learning, this paper proposes that lecturers should become self-directed in terms of the learning of aspects required for successful open education.

The focus of this presentation is a South African university that decided to establish a Fellowship programme to empower lecturers in order to adapt or create OER for their classrooms. Pedagogical and technical support was provided to the fellows to facilitate the process creation, adoption and adaption of OERs. The Fellowship programme also involved a research component which involved fellows researching and aspect of their choice regarding the development process or use of OER.

This research involved qualitative collection of data based on reflections by the OER Fellows as well as the facilitators of the programme. Data was collected by means of written reflections and individual interviews. The study also provides insight into the overall process of envisioning, designing and executing the fellowship. The opportunities and challenges during the process from the viewpoint of different stakeholders with special focus on aspects of self-directedness are discussed. The shift in pedagogical (or teaching-learning?) stances, some using the blended learning approach, that resulted from the switch to OERs are also discussed. Avenues for student involvement, guided by open pedagogy, in this context are also explored in different content areas. Finally, we discuss the need and future prospects of such an incentive driven fellowship for OERs and its implications.
The Relationship Between Online Professional Learning Communities And Online Presence

Vusi Maseko
South West Gauteng College, South Africa

Abstract: The COVID-19’s pandemic has forced all TVET colleges in South Africa to close abruptly. Because of COVID-19’s disruptive aspect, educators could not meet and discuss the student’s educational challenges. Implementing the social distancing protocols forced educators to stop large group instructions. As a result, lecturers have ultimately lost hundreds of collaborative learning hours. Continuing professional development (CPD) for educators through Professional Learning Communities (PLCs) is a well-researched and well-established technique that transforms much-needed training. PLCs support continuous, job-embedded learning by bringing together a group of lecturers who often interact to ensure continued school success. The PLC group gathers to share and critically analyse their practices and learn new and more effective techniques to improve learning and networking with other educators. COVID-19 stopped all collaborative activity, despite being an excellent collaborative period. Because of COVID-19, educators and students must start learning in a new normal. Educators should start using Online Professional Learning Communities to transform learning from brick and mortar to clicks using Online Professional Learning Communities (OPLCs). The study discusses how supporting OPLCs can significantly assist CPD. OPLCs allow teachers to collaborate online to exchange information and skills, raising the level of professional development. OPLCs facilitate collaboration, especially in professional development, focusing heavily on the learning consequences of this collaboration. This study shows the link between online presence and the development of OPLCs. Based on the findings of this paper, open learning communities (OPLCs) are reasonably easy to build and have the potential to significantly improve student retention, certification rates, teacher turnover and understanding of subjects.

Keywords: online professional learning communities, Covid-19, online presence
48 A Qualitative Analysis of Challenges to Open Distance Learning in Gabon

Jean-Louis Ndoutoume Mendene
Ecole Polytechnique de Masuku, Campus de Libreville, Gabon
Hugues Steve Ndinga-Koumba-Binza
University of the Western Cape, South Africa

Abstract: Since the States-General on Education in May 2010, Gabon – a French-speaking sub-Saharan country on the Atlantic coast – has been contemplating to introduce open distance learning (ODL) for the training of teachers. This initiative intends to contribute to offering sufficient opportunity for teachers to enhance their pedagogical knowledge and skills through a teacher professional development programme. However, the Gabonese education system does not have any guidelines or policies for the system-wide implementation. In fact, since the advent of the independence, the Gabonese education system, which is modelled from the French system, has been based upon traditional teaching and learning methods. At the same time, the evolution of technology, and more specifically the Internet, increasingly produces new innovations to communicate information which impacts on all sectors of society. Furthermore, the COVID-19 pandemic of the past two years has seen a number of tertiary and higher education institutions moving towards online and mostly distance learning. The situation in Gabon was particularly chaotic as no Gabonese higher education institution was prepared for such a move. Unfortunately, no institution is Gabonese was able to make the move to the so-called “new normal” teaching in higher education. All this posits the question whether Gabon will ever be ready for open distance learning as wished in May 2010. This study aims to describe and understand the challenges of initiating ODL in Gabon with the use of ICT in the training of Gabonese in-service teachers. Using grounded theory and various sources of data (namely semi-structured open-ended individual interviews, semi-structured open-ended focus group interviews and photographs), the study two major challenges. The description of these challenges focuses on English teachers as a case of illustration.

Keywords: open distance learning, challenges, teachers’ training, professional development programme
Introducing A Hybrid Science Learning Model In Local Communities Through Inquiry And Self Directed Learning

Suta I Wayan Suta Wirabawa & Nicolene Du Preez
Open Flow Learning Centre, Indonesia

Abstract: Science education has been evolving for more than 100 years. Leaning into the possibilities created by the pandemic, science education has the potential of reimagining possibilities beyond the traditional educational scope and sequence. The purpose of this proposal is to share an experiential model of science, integrated with deep cultural understanding and local wisdom viewed and experienced through the eyes of children’s curiosity, imagination and deeply reverent observation for the natural world and the magical mysteries held within. The scientific process is multi-modal and ensures the aesthetic nature of science education is explored, experienced and celebrated through language, the arts, mathematics and exploration into deeply wild natural ecosystems teeming with the interplay of organisms sustaining and regenerating life in a magical dance of symbiosis and parasitism. Reimagining and reinvigorating science as a deeply experiential and phenomenological approach to scientific inquiry in order to nurture a holistic connection to nature becomes a true possibility to realign modern science from an abstract, factual based genre of understanding and connecting to the world, to an experiential expression of natural phenomena.

Keywords: science education, sustainability, hybrid education, experiential learning, inquiry, phenomenological approach
How To Create Commons: An Overview Of Assorted Libre Creation Tools

Amit Dhakulkar & Jako Olivier

North-West University, South Africa

Abstract: Tools of production in the form of software applications are crucial to create and edit digital resources. But what type of tools of production should educators learn and use to create their own resources? If we truly want the commons in education to prosper, the tools of production should be available and accessible to everyone. Any restriction on the tools of production, whether it is about the restrictions of use, or financial aspects, or restrictions on distribution will be detrimental to the participation of the potential creators. These aspects have acute implications for the Global South where both educators and learners are lacking resources. Given both the push and a need for creating and adapting open educational resources (OERs), at least a working knowledge of such software applications becomes a vital skill for the educators. We argue that the philosophy behind Free and Libre Open Source Software (FLOSS) presents a compelling case for use in this context. The FLOSS is also aligned with the Ubuntu philosophy in which the software is not owned by any single entity but by the community of users such that anyone can use, access, modify and (re)distribute them. Community owned tools of production can potentially create a much larger pool of commons as anyone can be a producer and not be only a consumer. In this talk, we will look at a few tools which enable their users to create and edit some of the common media formats such as text, images, audio and video to help create OERs. We argue based on pedagogical, social and political dimensions to make a strong case for the use of free/libre software as tools of production in educational contexts.

Keywords: open educational resources, open access software, libre creation tools
51 Puzzle Based Learning For An Online Teaching And Learning Environment

Kathryn Malherbe
University of Pretoria, South Africa

Abstract: All undergraduate Radiography students require training in image interpretation and evaluation of x-ray images in their second year of studies. The method of teaching pedagogy influences the student’s learning process and recall ability during examinations. If the teaching process moves to a student-centred approach, they become responsible for their own learning allowing active engagement and construction of their knowledge systems. Active teaching methodologies refer to educational games such as puzzles, providing challenges and situations to improve overall integration of learning contents. The use of interactive crossword and jigsaw puzzles allow an increased interest in a topic of study as well as improvement in problem solving skills. The aim of the study was to implement and evaluate the use of puzzle-based learning in the teaching and learning process of undergraduate studies. The objectives of the study included:

• To determine the efficacy of crossword and jigsaw puzzles as a novel teaching tool for medical imaging education
• To increase student's interest and involvement with image interpretation topics
• The results from this study proved a promising role for use of puzzles in the undergraduate module of Radiography students.

In the current health science working environment, graduates require development of problem-solving skills, alongside their clinical and theoretical knowledge. The conventional teaching methods limit student’s problem thinking skills by limiting their concentration to questions in a textbook to solve after having discussed the content of a chapter. The issue with this method, is when students enter their professional roles, they soon realize that the problems they face in the working environment are not limited to textbooks or study guides.

Keywords: puzzles based learning, undergraduate, teaching and learning, memory and recall
52 The Open Science Framework As A Pathway To Improved Teacher Education

Amit Dhakulkar
North-West University, South Africa

Karen Ferreira-Meyers
Institute of Distance Education, University of Eswatini, Eswatini

Abstract: Teacher education poses a formidable challenge to the global south. The lack of qualified teachers and relevant and local teaching-learning resources are two of the major problems identified in Africa. Though these problems have been identified long ago, scalable and replicable programmes to address these are lacking. In this workshop we present a novel community-based approach to tackle this dual challenge by innovative use of technology. Our approach is based on the principles embedded in the Open Science Framework (OSF) and envisions creation of grassroot-level communities of practices via networking of teachers and students. We propose to share a model through which the principle of openness can be put into practice for teacher education. To do so, we first examine some international and continental challenges related to science education and science teacher training. These are systemic (lack of resources, outdated curriculum, curricular change, policy reform) and classroom-related (class size, teacher pedagogical content knowledge, skills, assessments). The model makes use of different OSF aspects to create a teacher-student community of practice with a peer network of “critical friends”. It offers the opportunity to extend “openness” to teachers and students by fostering sharing, collaboration while also focusing on self-directed learning and constructionist pedagogy. The workshops main learning objectives include discussing teacher education challenges in Africa, understanding OS as a concept and its principles, presenting communities of practice and applying OS principles to teacher education. You will be able to list the requirements for successful implementation and examine how to craft a way forward for teacher education.

Keywords: science education, open science, teacher education, open education
education in Africa. In order to attain those objectives, the workshop combines data from a pre-workshop survey (Google Form), live polls undertaken during the workshop, short presentations and the co-construction of a way forward.
# Name Index

<table>
<thead>
<tr>
<th>Name</th>
<th>Page</th>
</tr>
</thead>
<tbody>
<tr>
<td>Adarkwah, Michael Agyemang</td>
<td>29</td>
</tr>
<tr>
<td>Akintola, Muyiwa</td>
<td>35</td>
</tr>
<tr>
<td>Amadhila, Helena Naitsuwe</td>
<td>66</td>
</tr>
<tr>
<td>Appalsami, Jackalyn</td>
<td>61</td>
</tr>
<tr>
<td>Appavoo, Perienen</td>
<td>44, 62</td>
</tr>
<tr>
<td>Bali, Maha</td>
<td>15</td>
</tr>
<tr>
<td>Benson, Henré</td>
<td>55</td>
</tr>
<tr>
<td>Besser, Mildred</td>
<td>24</td>
</tr>
<tr>
<td>Bhunjun, Upasna</td>
<td>51, 62</td>
</tr>
<tr>
<td>Boodhun, Yudhansing</td>
<td>44</td>
</tr>
<tr>
<td>Bunt, Byron</td>
<td>80</td>
</tr>
<tr>
<td>Chandrasenan, Divya</td>
<td>48</td>
</tr>
<tr>
<td>Clarke, Sharna-Lee</td>
<td>34</td>
</tr>
<tr>
<td>Dabee Singh, Doorgeshree</td>
<td>25</td>
</tr>
<tr>
<td>Danke, Sizakele</td>
<td>33</td>
</tr>
<tr>
<td>Dawood, Quraisha</td>
<td>39</td>
</tr>
<tr>
<td>Dhakulkar, Amit</td>
<td>78, 80, 84, 86</td>
</tr>
<tr>
<td>Dookhun, Rajiv</td>
<td>44</td>
</tr>
<tr>
<td>Doo mun, Rudeena</td>
<td>44</td>
</tr>
<tr>
<td>Du Preez, Nicolene</td>
<td>32, 63, 83</td>
</tr>
<tr>
<td>Dua, Anshula</td>
<td>27</td>
</tr>
<tr>
<td>Dubey, Shubham</td>
<td>30</td>
</tr>
<tr>
<td>Elhoury, Eliana</td>
<td>75</td>
</tr>
<tr>
<td>Esichaikul, Vatcharaporn</td>
<td>74</td>
</tr>
<tr>
<td>Essop, Sofiah</td>
<td>55</td>
</tr>
<tr>
<td>Ferreira-Meyers, Karen</td>
<td>86</td>
</tr>
<tr>
<td>Gautam, Amit</td>
<td>27</td>
</tr>
<tr>
<td>Gokhool, Abheenaye Chauhan</td>
<td>51, 62</td>
</tr>
<tr>
<td>Gooria, Vandanah</td>
<td>51, 62</td>
</tr>
<tr>
<td>Green, Isobel</td>
<td>21</td>
</tr>
<tr>
<td>Gunesh, Rajesh</td>
<td>51</td>
</tr>
<tr>
<td>Gunness, Sandhya</td>
<td>64, 70</td>
</tr>
<tr>
<td>Gurung, Lina</td>
<td>23</td>
</tr>
<tr>
<td>Hamedzadeh, Amir</td>
<td>75</td>
</tr>
<tr>
<td>Hautemo, Aletta Mweneni</td>
<td>24</td>
</tr>
<tr>
<td>Indongo, Julia Ndadandula</td>
<td>69</td>
</tr>
<tr>
<td>Iyambo, Laimi</td>
<td>76</td>
</tr>
<tr>
<td>Jayachandran, Jayapraveen</td>
<td>48</td>
</tr>
<tr>
<td>Jayalath, Janaka</td>
<td>74</td>
</tr>
<tr>
<td>Jebasingh, D. Raja</td>
<td>45</td>
</tr>
<tr>
<td>Kakali, Athanasia</td>
<td>79</td>
</tr>
<tr>
<td>Kanwar, Asha S.</td>
<td>14</td>
</tr>
<tr>
<td>Kapikara, Klementine</td>
<td>76</td>
</tr>
<tr>
<td>Kaplan, Fiona</td>
<td>34</td>
</tr>
<tr>
<td>Kathryn Malherbe</td>
<td>85</td>
</tr>
<tr>
<td>Katoma, Victor</td>
<td>41</td>
</tr>
<tr>
<td>Koltame, Mahesh</td>
<td>59</td>
</tr>
<tr>
<td>Kure, Kathryn</td>
<td>55</td>
</tr>
<tr>
<td>Letska, Moeketsi</td>
<td>16</td>
</tr>
<tr>
<td>Lubbe, Irene</td>
<td>57</td>
</tr>
<tr>
<td>Luckho, Takesh</td>
<td>44</td>
</tr>
<tr>
<td>Mahlabela, Patisizwe</td>
<td>55</td>
</tr>
<tr>
<td>Maseko, Vusi</td>
<td>81</td>
</tr>
<tr>
<td>Masela, Nkosinathi</td>
<td>33</td>
</tr>
<tr>
<td>Mendene, Jean-Louis Ndoutoume</td>
<td>82</td>
</tr>
<tr>
<td>Mgoqi, Nomvuyo</td>
<td>55</td>
</tr>
<tr>
<td>Mkhize, Themba Ralph</td>
<td>33</td>
</tr>
<tr>
<td>Modi, Mphoentle</td>
<td>49</td>
</tr>
<tr>
<td>Mosha, Martha</td>
<td>50</td>
</tr>
<tr>
<td>Mudau, Patience</td>
<td>49</td>
</tr>
<tr>
<td>Mwanga, Cosmas</td>
<td>41</td>
</tr>
<tr>
<td>N., Seenathmol</td>
<td>48</td>
</tr>
<tr>
<td>Ndung-Nkumbu-Binza, Hugues</td>
<td>82</td>
</tr>
<tr>
<td>Steve</td>
<td>82</td>
</tr>
<tr>
<td>Neshila, Faustina</td>
<td>76</td>
</tr>
<tr>
<td>Ngulube, Patrick</td>
<td>33</td>
</tr>
<tr>
<td>Olakulehin, Felix</td>
<td>28, 35</td>
</tr>
<tr>
<td>Olivier, Jako</td>
<td>78, 80, 84</td>
</tr>
</tbody>
</table>
Operio, Jennifer, 43

Parmessa, Soobeeraj, 37
Patra, John Stevenson, 20
Philips, Peter, 32, 63
Poliah, Ritesh Rao, 53

Roodurmun, Jayraj, 25
Ross, Walther, 57

Saleem, Tooba, 42
Setshed, Justinus, 67
Sharma Sukon, Kaviraj, 17
Sharma, Prasun, 30
Sheyapo, Mirjam, 21, 76
Shihomeka, Sadrag Panduleni, 72
Simasiku, Enock, 73

Tarling, Isabel, 64, 70
Tubulingane, Booyens Sabho, 47
Turner, Astrid, 57

Van Wyk, Brenda, 39
Van Wyk, Micheal, 67

Walstra, Karen, 54
Wibawa, Suta I Wayan Suta, 83
The Network of OER and Multimodal Self-Directed Learning in Southern Africa (NOMSA) (http://nomsa.org) has hosted the Open Up and Connect 21: Education in a Digital Era conference. With the increase in the use of technology in education and specifically in the context of the COVID-19 pandemic the realities of access to enabling technologies and online learning have been emphasised. This conference has papers based on empirical research as well as conceptual papers with a specific focus on open education and/or the wider field of digital and online education.

http://conference.nomsa.org