# CONTENTS

A. **FACULTY OF EDUCATION** ................................................................................................................................. 2
   Abstract A1.1 - A1.8 .................................................................................................................................................. 3-8
   Abstract A2.1 - A2.10 ............................................................................................................................................... 9-17

B. **FACULTY OF HEALTH SCIENCES** .................................................................................................................. 18
   Abstract B1 – B14 .................................................................................................................................................. 19-31

C. **FACULTY OF MANAGEMENT AND COMMERCE** .......................................................................................... 32
   Abstract C1 - C14 .................................................................................................................................................. 33-44

D. **FACULTY OF SCIENCE AND AGRICULTURE** ............................................................................................... 45
   Abstract D1 - D14 .................................................................................................................................................. 46-56

E. **FACULTY OF SOCIAL SCIENCES & HUMANITIES** ....................................................................................... 57
   Abstract E1 - E12 .................................................................................................................................................. 58-66

**POSTGRADUATE STUDIES (PGS)** ....................................................................................................................... 67
   Abstract PGSA1 - PGSA12 ...................................................................................................................................... 68-76
   Abstract PGSB1 - PGSB11 ...................................................................................................................................... 77-84
   Abstract PGSC1 - PGSC10 ...................................................................................................................................... 84-92
A. FACULTY OF EDUCATION
Abstract A1.1

ANALYSIS OF GRADE 6 MISCONCEPTIONS AND ERRORS IN PERIMETER AND AREA IN SOME SELECTED PRIMARY SCHOOLS IN KING WILLIAM’S TOWN.

Bambiso, N.

Misconceptions and errors in mathematics have long been a source of concern around the world. Furthermore, research on misconceptions and errors in perimeter and area has been conducted globally. However, limited studies on misconceptions and errors in perimeter and area for Grade 6 learners have been performed in South Africa. As a result, this paper examines the misconceptions and errors displayed by Grade 6 students in King William’s Town. The purpose of this paper is to investigate (i) how Grade 6 learners describe the concepts of perimeter and area, (ii) how Grade 6 learners solve problems involving the relationship between perimeter and area, (iii) the types of misconceptions and errors, (iv) the possible causes of these misconceptions and errors, and (v) teachers' strategies for eliminating perimeter and area misconceptions and errors using a Mathematics Achievement Test (MAT), semi-structured interviews, and a structured questionnaire as measurement tools.

Keywords: Area, error, grade 6, misconceptions, perimeter.

Abstract A1.2

Transforming Economics towards Tackling Teachers’ Challenges in Teaching Economics: Case of Selected Schools in Buffalo City Metropolitan South Africa

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Economics is a dynamic subject whose recipients use the contents to solve real-life problems. As important as the subject is, it is bedevilled with some pedagogical challenges. Therefore, this paper examines the transformation of Economics to tackle teachers’ challenges in the teaching of Economics. The paper adopted a qualitative research approach of phenomenological research design to elicit information from the teachers. A purposive sampling technique was used to select 12 teachers of Economics in 6 selected
schools in Buffalo City. A semi-structured interview was used to elicit information from the respondents and the data were analysed using a thematic approach. The paper finds out among others some striking challenges, especially the imprecise Economics curriculum contents and the inability of the learners to show interest in the subject due to some statistics and data components of the subject. Some strategies proposed to address these challenges include teachers' attendance at professional development like seminars, in-service training and workshops for a knowledge update and the teacher's use of appropriate pedagogy based on the learners' entry knowledge of the subject matter. This paper uses only 12 Economics teachers from Buffalo City Metropolitan Municipality. Larger samples can be used in another municipality. A quantitative approach can also be used to accommodate representative samples. The teachers are expected to be at the forefront of disseminating the contents of the subject appropriately because a teacher can only give what he or she has. Teachers should be proactive and current with the recent development in the nation and be technologically compliant. The paper contributes to the literature by highlighting practical solutions to the challenges teachers face while teaching Economics.

**Keywords:** Curriculum, Economics, Pedagogy, Teachers, Teachers' Challenges, Transformation.

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**Abstract**

Integrating ICTs across the curriculum (with special reference to the teaching of Geography)

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The purpose of this article is to draw on the notion of ICT integration across the curriculum. Based on this notion, ICT integration in education should be expected to play a decisive role in shaping learners to acquire the 21st-century ICT skills required in the 4IR and 5IR era. TPCAK-SAMR model, which proved to be a reliable model to measure the integration ICTs across the curriculum, employed the qualitative approach to gather participants' lived experiences. The purposive sampling technique was employed to reach relevant participants in this study. The findings revealed that ICT integration in education facilitates learner understanding of challenging concepts, using virtual reality, and improve their communication and research skills, while at the same time improving self-paced learning. The findings also revealed that through ICT integration, teachers can groom learners who are information seekers, critical thinkers, and life-long and inquiry-based learners who are resilient and adapt to change in this ever-changing world,
characterized by complexities and uncertainties. This gives learners a competitive advantage in terms of preparing for real-life challenges while they are still in the classroom setting, and also enables teachers to use ICTs in implementing a learner-centered teaching approach, without compromising learner academic performance.

**Keywords:** blended-learning, cloud infrastructure; digital citizenship; google maps; You Tube videos; video-flipped learning.

**Abstract A1.4**

**School principals’ support for the implementation of sustainable education: A case of climate change education**

**Kafu-Quvane, B**, **Mavuso, M**  and  **Olawumi, K**

This paper discusses the role school leaders play in supporting sustainable education in their schools. The focus is on climate change, another critical aspect of education for sustainable development. The impact of climate change on the environment has become alarming over time, and governments worldwide have strived to find long-term solutions. Environmental organizations have conducted discussions on several platforms to debate solutions to the impact of climate change on the environment. However, the literature suggests that there needs to be more efforts by school leaders to support the implementation of climate change in schools. Most empirical research has focused on the significance and function of school management in implementing sustainability and education for sustainable development. This includes environmental sustainability in schools with little focus on how school leaders support implementing climate change education. The qualitative literature review approach was, therefore, utilized to establish how school leaders support the implementation of climate change education in their schools. This approach entails thoroughly reading articles selected for the paper, analyzing them, and sorting them to identify relevant materials. The literature revealed that for schools to implement sustainable education, they must be led by sustainable leaders who encourage a culture of participation and collaboration. This paper, therefore, recommends that education departments capacitate their school leaders along the lines of sustainable leadership theory.

**Keywords:** Climate Change, Environmental Sustainability, Sustainable Education, Implementation.
Economics Teachers' Content Knowledge and Teaching Strategies Used to Teach Economics in Selected South African Schools

Emmanuel Olusola Adu

Economics is a subject offered at the Further Education and Training (FET) section in South Africa, the subject has recorded performance that is not impressive, and the low enrolment and statistics of pass rate are of major concern. Therefore, this paper explores the teachers' content knowledge and strategies used to teach Economics in some selected schools in South Africa. The paper adopts a qualitative approach to phenomenological research design. Purposive sampling techniques were used to select 18 teachers from six schools, three teachers from each school in Buffalo City Municipality in East London, South Africa. A semi-structured interview was used to elicit information from the respondents. The findings among others revealed that Economics is very useful to be a better citizen and to make rational life decisions, the use of the right pedagogy can improve performance, and the content knowledge with adequate on-the-job training will be a match in delivering the content of the subject. It is concluded that a low level of understanding of the basic Economics concepts could be attributed, to less professional development training of Economics teachers in content knowledge and pedagogy. It is recommended among others that the Economics teacher have to strike a balance between theory and practice. Teachers should be innovative and improvise by using technological skills, they should move towards the use of technology as a tool to enable learners to become creative, empathetic and high-order thinkers in this digital world.

Keywords: content knowledge, economics, pedagogy, professional development technology.

The Disparities in Rural Universities Transformation: A Review from a South African Perspective

Damoah, B and Khalo, X
The South African government has placed a greater emphasis on transforming rural universities. This has been driven by a desire to increase access to higher education and improve the quality of education in rural areas. However, this process has been challenging, among which is the fact that rural areas tend to be less developed than urban areas. This study is located with an asset-based community development approach toward transforming rural universities in South Africa. A systematic review approach was employed to investigate the problem, which enabled the researchers to draw logical conclusions from the findings of exhaustive literature to address the problem of the paper. Inclusion and exclusion criteria were operationalized by limiting to 8 relevant articles after systematic scrutiny. Findings revealed that Inequality, Poor physical infrastructure, and Lack of Information and Communication Technology (ICT) infrastructure and training support in Rural Universities were dimensions against rural university transformation in Africa. The paper, therefore, concludes that rural universities (RUs) are grappling with several challenges thwarting their efforts in delivering quality teaching and learning with the recommendation that adequate infrastructure, policy change, and provision of academic support for students should be provided.

**Keywords:** Disparities, Disadvantaged Universities, Rural Universities, Transformation, Inequality, Higher Education, South Africa

### Abstract A1.7

**Teachers’ perceptions in teaching Natural Sciences and Technology concepts through English medium of instruction, in Grade 4**

Sodzeme, M.C.¹; Ngibe, N. C. P² & Nela, M.J.³

The Language of Learning and Teaching in the Foundation Phase is Home Language, and it switches to English in Intermediate Phase to Higher Education Institutions. This challenges learners whose Home Language is not English to understand Natural Sciences and Technology concepts in Grade 4. This study explored Grade 4 Natural Sciences and Technology teachers’ perceptions of teaching concepts through English. The reviewed literature reveals that transitioning from being taught in one’s home language to being taught in English is a key interval where learners face new and challenging tasks as they move from familiar to unknown and more complex settings. This transition can either promote positive development for learners, but, if not appropriately managed, can have a negative impact on their learning process. The teachers claim and note a decline in some learners’ marks and progress because of vocabulary in language learning, which then affects the learning of Natural Sciences and Technology. The literature also
reveals that resources carry value in determining how learners cope with the demands of learning Natural Science and Technology concepts in English. In this case, well-resourced schools are found in areas where people of higher socio-economic status are located. The language of learning and teaching plays a major role in the learning of any subject.

**Key Words:** Concepts, English medium of instruction, Teachers’ perceptions, Natural Science and Technology,

----------------------------------------------------------------------------------------------------------------------------- Abstract A1.8

**THE RELATIONSHIP BETWEEN ADVERSE CHILDHOOD EXPERIENCES AND ACADEMIC PERFORMANCE OF THE FIRST-YEAR LEVEL STUDENTS IN A SELECTED SOUTH AFRICAN UNIVERSITY**

_Pamella Maxakato_ and Emmanuel O. Adu

Academic performance is an essential determinant of university success for the university, students, government, and all the other stakeholders. Both educational institutions of higher learning and the government have initiated mechanisms to assist students to succeed. However, research shows that academic performance and graduation throughput could have been more positive, especially in historically disadvantaged universities. Therefore, the purpose of this study is to investigate the relationship between Adverse Childhood Experiences (ACES) and academic performance at the first-year level in a South African Eastern Cape Province University. The study also investigates the health problems experienced by first-year-level students. Using a structured questionnaire and semi-structured interviews, the study seeks to (i) explore childhood abuse (emotional, physical, and sexual) experienced by first-year students. (ii) To investigate childhood neglect (emotional and physical) issues experienced by first-year students. (iii) to examine the childhood home dysfunction issues experienced by first-year students. (iv) to investigate the health problems experienced by first-year students at university. (v) to examine how the ACEs affect the academic performance of first-year students and, lastly, to establish the framework that can be put in place to assist first-year level students affected by ACEs

**Keywords:** Adverse childhood experiences, health problems, academic performance, and first-year students.
SCHOOL-BASED WORK-INTEGRATED LEARNING: A NEXUS BETWEEN THEORY AND PRACTICE

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School-Based Work Integrated Learning (SBWIL) is organised to prepare student-teachers by providing skilled supervision, practical experience, mentoring and support, collaborative learning, and insightful practice. However, it has been found that when student teachers embark on teaching practice, they find it hard to put into practice the theoretical knowledge they have acquired in teacher training institutions. The study aimed at exploring how this program is organized to equip student-teachers with skills for handling learners with diverse needs in schools, what are the challenges encountered by student-teachers during teaching practice and possible solutions. For this interpretive, qualitative case study research, two universities were purposively sampled, and three university supervisors and four student teachers were selected from each of the universities. Semi-structured interviews and observations were used as data collection tools. The findings indicated that even though SBWIL is a well-organized programme and student-teachers demonstrated application of what they have learnt in universities. However, there were challenges noted. The findings indicated that to a certain degree, SBWIL appears to be futile and fragmented, thus ineffective in assisting student-teachers deal with learners’ diverse needs. Problems emerged with planning lessons that cater for learners’ needs due to their time-consuming nature. Moreover, overcrowded classrooms, dealing with misbehaving learners, unavailability of resources and load-sheding exacerbated the problem. It was also found that there was also no link between schools and teacher training institutions. Based on the findings, the study proposed possible solutions that could help eradicate challenges identified that would yield quality teaching and learning in schools.

Keywords: School-based work integrated learning, teacher training institution, student teachers, teaching practice, university supervisors.
Towards leadership practices and policies that include learners with indigenous healing gifts (intwaso)

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Scholars in South Africa and elsewhere are engaged on debates on decolonisation of spaces, including amongst others, philosophies and debates on African culture and traditions especially in educational curriculum, governance, leadership, research. Amongst the current silences in most countries, is the issue of indigenous spiritual gifts, also known as African spiritual calling, especially as experienced by learners. There have been worldwide media reports about learners who have ancestral calling. Such reports, of which most report on bullying, rejection and isolation of learners in all aspects including indigenous spiritual gift, which in some instances have had adverse consequences wherein some of such learners pushed and or drop out of school, commit suicide. In some of these reported cases, there seems to be an emerging view that traditional healing is misunderstood and as a result sidelined in preference to the privilege positioning of western knowledge, spiritual and value systems. This is despite the commitment by the nation states, especially in the twenty-first century, that educational pedagogy should emphasize effective recognition and treatment of differences related to learners' biological, cultural, individual, and social features. Since learner inclusion in education is emancipatory approach to education, a critical theory of education is used a framework to understand leadership practices and policies that include learners with indigenous healing. This conceptual paper is aimed at arguing for the leadership practices and policies that accommodate and embrace learners with indigenous healing gifts (intwaso). It is hoped that an introspection and reposition of education that is inclusive appreciates the value of indigenous healing gifts learners bring. Furthermore, this paper might raise awareness on the importance of positioning inclusivity and diversity of sociocultural characteristics of all learners in the schooling system.

Keywords: Indigenous Healing Gifts, Culture, Indigenous Knowledge System, Decolonisation, Inclusive Education.
Mentorship Practices of in-service-teachers: Towards holistic development of pre-service teachers

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Teacher training education has evolved over the centuries globally to keep abreast of the 21st century technological advancement and make teacher training respond to the economic demands. South Africa is no exception to the changes in teacher training and grapples with the demands of a developing state. Mentorship is described as a process or an activity that promotes an ongoing symbiotic relationship between an experienced in-service teacher (mentor) and a less-experienced pre-service teacher (mentee) by providing personal and professional support, in preparation for the teaching profession in the school context. Literature stipulated that there is a gap in mentorship where pre-service teachers feel that they do not get effective mentorship that addresses both the subject content knowledge and the situational issues encountered; hence, this conceptual paper examines global mentorship practices applied in teaching in-service teachers to be fit for purpose. This paper is underpinned by social cultural theory that seeks to scaffold the learning process of learning. This theory is premised on the idea that the learners’ (pre-service teachers) environment plays an important role in learning development. As a qualitative research paper, it is located in the interpretivism paradigm. Local and global literature is reviewed to identify trending mentorship practices applied to in-service teachers. Following previous research studies, this paper implies that the success of pre-service teachers is hindered by the inability of in-service teachers to provide effective mentoring that promotes the holistic development of their mentees.

**Keywords:** mentorship, in-service teacher, practices, holistic development synergy, scaffold.
Role of Continuing Professional Teacher Development (CPTD) on Teachers’ and Learners’ Achievement in South Africa: A literature review

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Continuing Professional Teacher Development (CPTD) refers to teachers' ongoing learning and development throughout their careers. It involves various activities, programs, and initiatives designed to help teachers improve their knowledge, skills, and effectiveness in the classroom. CPTD programs can take many forms, such as workshops, seminars, mentoring programs, online courses, and peer networks. This desktop review paper examines the role of CPTD on teachers' and learners' achievement. The paper reviews among others the following: the nature and concept of CPTD, the importance of CPTD, South African teacher education policy framework and CPTD, the educational achievement and CPTD, school effectiveness and CPTD, learner and teacher learning and CPTD. The paper uses social learning theory as a theory that underpins the paper and makes some plausible recommendations.

Keywords: CPTD, Education Achievement, School Effectiveness, Teacher achievement, Learner achievement,

THE STUDENT TEACHERS’ PERCEPTIONS ON DIVERSIFYING SCHOOL-BASED WORK INTEGRATED LEARNING PROGRAMS AND LESSON PLANNING ISSUES IN HOST SCHOOLS

Dr. Y. Mpu and Prof. E.O.Adu

In recent years, there has been an increasing recognition of the need to create inclusive and empowering learning environments that cater to the diverse needs of students in South Africa. However, implementing and sustaining such inclusive practices poses
numerous challenges for educators, particularly regarding lesson planning. Recurriculation, to describe the intentional process of rethinking and reorganizing the curriculum, provides a framework to address these challenges. By restructuring the curriculum in a way that acknowledges and celebrates diversity, and recurriculation, the study aims to find out what is the student teacher’s understanding of inclusive education, how they are exposed to lesson planning strategies for teaching learners in an inclusive classroom, and how is the SBW program implemented for effective teaching in an inclusive classroom. This study is a case study design and intends to employ a qualitative research approach using focus group interviews for student teachers. This design was used to present concrete evidence of the best strategies other universities employ during SBW. The findings indicated that student teachers had a satisfactory understanding of inclusive education. However, there was a gap in its implementation in lesson planning. The study recommends that SBW implementation should incorporate issues pertaining to recurriculation and lesson planning issues accommodating diversity.

Keywords: Diversity, Learning barriers, Lesson plan, Student teachers, School-Based Integrated learning.

Abstract A2.6

REINVIGORATING CLIMATE CHANGE EDUCATION IN UNIVERSITIES A SOCIAL TRANSFORMATIVE AGENDA

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The global community is faced with environmental threats due to climate change. The difficult process of societal transformation involved in responding to climate change. Reviving climate change education in educational institutions can provide a strong impetus for societal change. Future leaders, professionals, and citizens are significantly shaped by the knowledge, attitudes, and abilities they acquire in universities. This paper then sought to unpack strategies employed by universities to advance climate change education. Transformational paradigm and social change theory are the underlying philosophical view for this paper. Curriculum integration, a holistic approach, experiential learning, community engagement, faculty development, campus sustainability, policy advocacy, developing student leadership, partnerships, and collaborations are some of the approaches to reviving climate change education.
education that came to light from the paper. By implementing these approaches, universities may position themselves as hubs for climate change education, research, and action, raising a generation of conscious, involved, and equipped individuals who are ready to lead societal transformation in the direction of a sustainable future.

**Keywords:** Climate Change Education, Social transformation, Strategies, Universities.

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**Abstract A2.7**

**Assessment Practices Implemented by Early Childhood Development Practitioners during Curriculum Implementation.**

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Several studies reveal that observing and documenting a child’s work and performance over a year allows an educator to accumulate a record of the child’s growth and development. Using observations, interviews, and questionnaires selected from ECD Centres in Chris Hani District, this study seeks to understand assessment documenting practices/approaches that are used by practitioners with the aim of determining their effectiveness and consistency in conveying children’s development and competencies. Findings reflect that all practitioners understand the importance of documenting children’s learning and development. However, most practitioners do not record each child’s competencies in all areas of development. If records are available, the data is sporadic.

Secondly, many practitioners demonstrated deficient levels of assessment literacy. Thirdly, practitioners who studied assessment theory in ECD training institutions are not implementing the knowledge and skills learned. Lastly, the majority of ECD Centres issue reports that are not guided by documented continuous assessment. The study recommends that ECD Qualification modules on assessment be compulsory and incorporate various opportunities for practice in their composition. ECD in-service teachers need to be provided with continuous professional development training to guide and mentor them on using assessment guidelines and assessment tools that align with the content areas and aims of the curriculum.

**Keywords:** Practitioner, Assessment, Center-based ECD programmes, Early Childhood Care and Education, Early childhood development.
Abstract A2.8

Perspectives on self-development in higher education

Dlaza, Z., Klaas, A., Gavaza, B., Mfazi, S., Chigori, D., Townes, J.

The rise of innovation and a knowledge-based economy has introduced new challenges that require institutions of higher learning to keep abreast with changes presented by innovation. Industry is increasingly looking for a new breed of students who can stand out from their peers by being able to engage the community, the institution, and the world. In higher education, self-development is seen as crucial for holistic student growth. Higher learning institutions should build an understanding of these challenges and further provide a supportive transition into the workplace and the world at large. The study aims to review the complex idea of self-development in higher education. The study contributes to the body of research on self-development by exploring the perspectives of the higher education student body on the phenomenon of self-development within higher education. The study will employ a quantitative approach with an online survey being conducted via SurveyMonkey. Convenience sampling will be used on the registered student body of 16,500. A minimum sample of 376 students is expected. The study's findings will contribute to the ongoing discourse on the important role that higher education plays in building student's personal growth. With this understanding, higher learning institutions can provide better support structures for students in their pursuit of self-development. The study can inform educators, administrators, policymakers, and students about the transformative potential of self-development efforts. A comprehensive understanding of self-development can inform the design of courses, support services, and campus environments.

Keywords: Emotional intelligence, self-development, education, higher education.

Abstract A2.9

The appetite for entrepreneurial education amongst South African university students

Pike-Bowles, A., Chigori, D., Donga, G., Gavaza, B., Muchineripi, J., Townes, J.
Entrepreneurship is a significant source of creativity and job creation. However, there is a scarcity of young entrepreneurs and a lack of entrepreneurial culture among South African graduates. Entrepreneurial stagnation is inextricably linked to the failure of its education system, particularly at higher education levels. Entrepreneurship education is the most effective method of establishing an entrepreneurial culture in higher education by encouraging students' entrepreneurial mindsets. The higher education environment needs to ensure it is aiding the future of the country’s students by enhancing their entrepreneurial mindset. There have been many calls to improve entrepreneurship education. Many studies have been conducted in a non-African context, with an inadequate amount reflecting on the South African context. This research seeks to conceptualise learners' perspectives of entrepreneurship education in higher education. Thus, the study aims to determine the appetite for entrepreneurial education at a selected South African university. A quantitative approach will be applied, with participants recruited through an online survey at a South African university. Convenience sampling will be used on the registered student body of 16,500. A minimum sample of 376 students is expected. The research will provide valuable insights to policymakers and higher education decision-makers on how to support and nurture entrepreneurial ecosystems in higher education settings. Results from the study are expected to have a significant impact in gauging the future of entrepreneurial education at higher education levels and have the potential to increase the supply of future graduate entrepreneurs in South Africa.

**Keywords:** Entrepreneurship, education, entrepreneurial culture, higher education.

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**Emerging entrepreneurs' personal factors: Unpacking expectations vs realities in the early stage**

Nheta, D., Shambare, R.

The concept of company failure entails various complex consequences for entrepreneurs, spanning both the individual and organizational aspects. Despite being often perceived in a negative light, the occurrence of company failure presents entrepreneurs with a substantial opportunity to acquire useful insights and expertise. This enables individuals to engage in a critical evaluation of their plans and implement essential revisions in order to enhance their positioning for future endeavors. The primary objective of this study is to examine the complex union between individual characteristics and the expansion of entrepreneurial ventures. This includes an investigation of entrepreneurs' self-efficacy, risk-taking capacity, personal optimism, overconfidence, escalation of
commitment, planning abilities, freedom, and sense of achievement, on the trajectory of the entrepreneurs’ ventures. Through a comprehensive exploration of these variables, our aim is to gain a deeper comprehension of the underlying mechanisms that contribute to the achievement of entrepreneurial endeavors. Drawing upon a wide range of scholarly sources, this study highlights the significant role that personal characteristics play in shaping the expectations and responses of entrepreneurs when faced with diverse problems. Understanding the dynamic relationship between individual attributes and entrepreneurial prospects yields valuable insights for entrepreneurs, governments, and support networks. This comprehension has the potential to augment the formulation of well-informed tactics aimed at fostering entrepreneurial achievement.

**Keywords:** Business Failure, Entrepreneurship Gaps, Expectations, Personal Factors, Risk, South Africa.
B. FACULTY OF HEALTH SCIENCES
Addressing risk factors of non-communicable diseases (NCDs) through physical activity and psycho-education interventions in adolescents of the Eastern Cape

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The World Health Organisation (WHO) projects that by 2030, non-communicable diseases (NCDs) will have become the largest single cause of mortality on the African continent (WHO, 2022). 15–18-year-old adolescents (n=266) were selected through stratified random sampling from Buffalo City Metropolitan Municipality and Amatole districts in the Eastern Cape participated in this study. Two experimental groups and one control group were compiled through random selection. Two experimental groups were exposed to physical activity and psychoeducation intervention for 8 weeks each, while the control group had no intervention. Repeated measures ANOVA was done to determine the intervention’s main effect and interaction effect on the NCD risk factors at three time periods (T1; T2; T3). There were no significant interactions or main effects found for BMI, cholesterol, and systolic blood pressure (p > 0.05). However, significant interaction (Wilks Lambda = 0.907, p-value = 0.045) and a significant main effect (Wilks Lambda = 0.853, p = 0.006) were observed for random blood glucose. For diastolic blood pressure, the main effect was significant, while no significant interaction effect was identified. The interventions seem to have prevented the increase in some metabolic risk factors. However, the sustainability of the intervention seems to be inconclusive.

Title: “What’s in a name?” - “Qakamba” or “Iqakamba”: Towards a History of the Xhosa word for cricket

Nongogo Philani & Stephanie Victor
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The people of the Cape Colony (present-day Eastern Cape province) have long known and used the IsiXhosa word – *(i)Qakamba*, since the turn of the twentieth century. Only that the former, depending on where they were, geographically in the Colony; used the word – *(i)qakamba*, to mean different things. Using content analysis of pertinent documents and data from semi-structured questionnaire, this qualitative study seeks to understand the processes leading to the emergence of the phenomenon where: a word – while believed to have similar roots/origins; written and pronounced the same way; yet, carrying different meanings and uses, by IsiXhosa speakers. This paper therefore, focuses on the nuances surrounding the origins, meanings and the uses of the word “*(i)Qakamba,″ in the different parts of the Cape: the far-east-towards-central ((colonial) police) and the Border Region (cricket). Essentially, this paper attempts to trace the processes involved in the construction and reconstruction of these different meanings of the word *(i)qakamba*, both as a spoken word of the isiXhosa language in daily life and its use in practice. Research suggests that there is a need for a deliberate effort to effectuate and accelerate the process of language intellectualisation - and thus, develop strategies to achieve this goal. Intellectualising the African languages should be seen within the context of national development initiatives. South Africans consume the broadcast of game of cricket only in three languages: Afrikaans, English and IsiXhosa. These can be increased if issues of language practice in the workplace and sociolinguistics can be taken seriously.

Abstract B3

Profiling Some Selected Anthropometric, Biochemical and Physiological Parameters of Staff Members as Related to Their Occupational Health and Productivity: Case Study of Employees from University in the Eastern Cape, South Africa.

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Academic staff members in institutions of higher learning often face negative effects on their health because of the sedentary nature of their occupation. This study aimed to investigate the relationship between anthropometric, biochemical, and physiological parameters and the health and productivity of staff at the University of Fort Hare, Alice Campus. The study adopted a mixed-
methods approach, with 56% of participants being male (mean age: 43.49±11.597) and 37% being female (mean age: 41.15±9.029). The participants completed a questionnaire on physical fitness and underwent physical measurements for Anthropometric, Biochemical, and Physiological variables. The findings revealed lifestyle diseases among the staff members, highlighting their lack of physical activity. Specifically, 63% of male staff members and 37% of female staff members were hypertensive or prehypertensive. Furthermore, 25% of the participants exhibited abnormal waist-to-hip ratios, 24% were overweight, and 60% were obese. Additionally, 27% of the patients had an excessive accumulation of body fat. Only 6% had high blood glucose levels, while 18% had high cholesterol levels. The study also found a positive correlation between the waist-to-hip ratio and cholesterol levels, with higher physical activity levels associated with lower cholesterol levels. These findings highlight the importance of addressing lifestyle-related health issues among staff members to enhance their well-being and productivity. Future research should focus on implementing targeted interventions to promote physical activity and overall occupational well-being among staff members.

Abstract B4

The 12 to 18-year-old adolescents at risk for Non-Communicable Diseases (NCDs) according to Gender, School Quintiles and Perceived Stress in the Eastern Cape, South Africa.

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Recent data shows an increasing prevalence of Non-Communicable Diseases (NCDs) among adolescents. Various risk factors, including hypertension, high cholesterol, blood glucose levels, body mass index (BMI), poverty, and physical inactivity, make adolescents particularly susceptible to developing NCDs. Identifying NCDs and aligning associated risks is crucial in proposing effective and sustainable intervention measures, requiring an understanding of specific demographic and geographic risk factors. The present study aims to compare at-risk adolescents, aged 12 to 18 years, with those who are not at risk, considering gender, school quintiles, and perceived stress. A stratified random sampling approach was employed to select 266 adolescents aged 12–18 years from seven schools across two districts in the Eastern Cape. Anthropometric and physiological measurements were
conducted, along with an assessment of perceived stress. Descriptive statistics were used for data analysis, and comparisons were facilitated using chi-square analyses. Logistic regression analyses were used to assess the probability. The majority of physical and physiological assessments fell within normal ranges, except for females’ BMI (24.52 ± 6.11). Approximately 64.90% of female adolescents exhibited one or more NCD risk factors, with 72.10% of at-risk adolescents originating from disadvantaged (lower quintile) schools. Physiological NCD risks were more prevalent among females, rendering them four times more likely to develop NCDs. These findings underscore the elevated risk of NCD development among females and adolescents attending schools in the lower quintiles. Further research and interventions are necessary to address this issue and reduce the prevalence of NCDs among adolescents.

Comparing adolescents at risk and not at risk of non-communicable diseases in terms of body composition and physical activity.

Mvula Sisanda, van Gent Maya, van Niekerk Leon
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Noncommunicable diseases (NCDs) are a significant cause of death in South Africa, and their prevalence is increasing across all demographic groups. These diseases are largely attributed to modifiable risk factors such as high body mass index, unfavourable body composition, and low physical activity levels. To investigate these risk factors in adolescents in the Eastern Cape region of South Africa, a cross-sectional study was conducted. In this study, 257 adolescents aged 10-19 years were enrolled through stratified sampling. They were divided into two groups: those at risk, who had one or more metabolic risk factors, and those not at risk, who had no risk factors. Body mass index and body fat percentage were measured, and physical activity levels were assessed using the International Physical Activity Questionnaire (IPAQ). The results showed that among the participants, 131 had one or more metabolic risk factors. The at-risk group had a higher mean body mass index, indicating a higher risk for NCDs. Additionally, female participants had higher mean body fat percentages, highlighting the increased risk for NCDs among this demographic. Both groups met the minimum physical activity requirements recommended by the World Health Organization, suggesting that physical inactivity may not be the primary risk factor for NCDs in this population. Logistic regression analysis further demonstrated that adolescents with a higher sum of skinfolds were 1.13 times more likely to develop NCDs. This finding suggests that body fat plays
a prominent role in the development of NCDs among adolescents. The study provides important insights into the risk factors for NCDs among adolescents in Eastern Cape.

Abstract B6

Assessment of the current status of physical activity (PA) and physical fitness (PF) of intermediate-phase schoolchildren from marginalised communities in Port Elizabeth.

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Physical activity and physical fitness are important aspects of a child's overall health and well-being. This study aimed to examine these levels among intermediate-phase schoolchildren from marginalized communities in Port Elizabeth. This study aimed to examine the physical activity (PA) and physical fitness (PF) levels of intermediate-phase schoolchildren from marginalized communities in Port Elizabeth. The research involved 985 schoolchildren aged 8 to 16 years from eight quintile 3 government schools in the Township area and the Northern areas of Port Elizabeth. The study included tests such as PA (using Actigraph accelerometer), PF (20 m shuttle run test and grip strength), and body composition measurement (body mass index and body fat percentage). The results indicated that girls had higher body mass index (BMI) and body fat percentage (BF%), lower VO2max, less time spent on moderate to vigorous physical activity (MVPA), and lower grip strength (GS) compared to boys. However, when considering confounding variables, there were no significant differences between the genders regarding BMI and GS. Similarly, there were no significant differences between the two geographic areas in terms of VO2max, GS, BMI, and BF%. However, when controlling for confounding variables, there were significant differences in BMI, BF%, and GS between children from the two geographic areas. The study revealed significant negative correlations between VO2max and BMI, as well as MVPA and BMI. Additionally, there was a positive correlation between VO2max and MVPA. Overall, these findings suggest that girls from marginalized communities may be at higher risk for non-communicable diseases in the future.
Association between drinking water disinfection by-products exposure and the risk of delivering premature infants.

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There are contradictory data concerning the risk of adverse pregnancy outcomes related to maternal exposure to disinfection by-products (DBPs). We examine the association between maternal exposure to total trihalomethanes (TTHMs) in drinking water and premature birth. In total, 1,167 pregnant women over the age of 18 were enrolled in public prenatal clinics in two geographical areas. The study areas were peri-urban (High-likely exposed) and rural (less-likely exposed) communities. We evaluated the amounts of home drinking water DBPs (measured in THMs) from each study area using regulatory data and routine water sampling respectively. Each woman's unique water intake was calculated by integrating individual water consumption and uptake parameters. Multivariate logistic regression modelling was used to explore the relationships between premature birth and TTHMs after adjusting for the effect of significant covariates. In the high-likely exposed area, the estimated TTHMs mean (SD) values at the area level were 94 µg/L (18) during the third trimester and 72 µg/L (37) for the whole pregnancy. For the less-likely exposed area, the results for TTHMs were all below the limit of detection. A higher daily internal dosage of TTHMs during the third trimester of pregnancy substantially increased the probability of preterm birth (AOR 3.13, 95 % CI 1.36-7.17). The risk of preterm delivery was similarly related to TTHM exposure during the whole pregnancy (AOR 2.89, 95 % CI 1.25-6.68). Our data suggests that TTHM exposure is associated with the risk of premature birth. Therefore, the levels of TTHMs in drinking water should be routinely monitored.
A Systematic Review and Meta-analysis Protocol for the effectiveness of psycho-educational intervention programmes in addressing the psychological risk factors associated with non-communicable diseases among adolescents.

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Although chronic non-communicable disease (NCD) and risk factor assessment were limited to adults, there is a considerable burden of NCDs among adolescents that affects health outcomes and burdens the healthcare system. Critically, the onset of non-communicable diseases during adolescence is associated with mental health outcomes and track into adulthood. Thus, psychological health concerns and risk factors associated with non-communicable diseases among adolescents have been prioritized on the agenda against NCDs by health institutions globally. This systematic review of literature aims to determine the spectrum and effectiveness of respective psycho-educational intervention programmes developed to address the psychological risk factors associated with NCDs among adolescents. The review will include peer reviewed case-controlled and randomized controlled studies gathered from electronic databases (PubMed, CINAHL, Science Direct, Cochrane Library, SCOPUS, and ERIC) and grey literature from thesis repositories from 2012 to 2022 using a combination of key search terms including ‘intervention programme, adolescents, psychological risk factors and NCDs’. Following preliminary screening and shortlisting of collated studies, the Joanna Briggs Institute critical appraisal checklist will be used to assess the relevance and quality of the articles. This systematic review will use two types of data analysis: narrative synthesis of qualitative studies and meta-analysis of quantitative studies. The findings from this systematic review can complement the scarce knowledge on psychological well-being by providing evidence-based tools for managing psychological risk factors associated with NCDs, as well as present key insights for future intervention programmes on the management of psychological risk factors associated with NCDs among adolescents.
Experiences of Patients on Cancer Treatment regarding Decentralization of Oncology Services at a Tertiary Hospital in the Eastern Cape.

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The cancer burden is a global public health concern associated with high morbidities and mortalities. Low and middle-income countries are more affected including South Africa. Limited access to oncology services contributes to the late presentation, late diagnosis, and treatment of cancer. In the Eastern Cape, oncology services were previously centralized with negative effects on the quality of life of the already compromised health status of the oncology patients. To mitigate the situation, a new oncology unit was opened to decentralize oncology services in the province. Little is known about the experiences of patients after this transformation. That prompted this inquiry. This study aims to explore the experiences of cancer patients regarding the decentralization of oncology services at a tertiary hospital in the Eastern Cape. A qualitative approach with a descriptive, explorative, and contextual design was undertaken, to obtain the perspective of the decentralized oncology unit recipients. After obtaining ethical clearance and permission to conduct the study, interviews were conducted with 19 participants. Thematic analysis was done using Tesch’s approach to open coding in qualitative research. Three themes emerged from the data analysis: 1) Access to oncology services; 2) Oncology services provided; and 3) Need for improved infrastructural facilities. The majority of patients had positive experiences with the unit. The waiting time was acceptable, and medication was available. Access to services was improved. The staff had a positive attitude towards patients receiving cancer treatment.
Policy implementation gaps and advances at Eastern Cape Province schools for the Deaf in, South Africa

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Education is important in preparing learners for their future careers and must ensure high quality career information, guidance and support leading to the construction of desired careers. The supports provided by the education system and the decisions made by learners at school have a significant impact on their future lives. D/deaf learners construct careers in a context that is not fully supportive for them to do so. The purpose of the study was to explore policy availability and their implementation to guide career construction of D/deaf learners. This case study adopted a qualitative research methodology, using multiple methods for data collection. The study population selected through purposeful sampling included three participant groups: The teachers (n=18) and members of the Department of Basic Education (n=3) and documents for review (n=5). The findings showed that policies guiding and supporting the education of all South African learners are available, it is their implementation in contexts of D/deaf schools that remained unknown. The existing policies however had assumptions and blind spots which ignored the reality of limited knowledge exposure of D/deaf learners. Despite the positive advances in policy issues, the gaps are still concerning. Mitigation should include ensuring that policy implementation processes take cognisance of diversity of contexts and suitable supports be deployed as necessary. Development and supports should be prioritised in these contexts to realise the equity and justice for all, especially for persons with disabilities.
Multi professional collaboration in a rural setting: Healthcare professionals’ Experiences of Speech-Language Therapy

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Despite opportunities for collaboration among Speech and Language Therapists (SLTs) and other health care professionals, multi-professional collaboration is rarely practiced in rural communities due to the remoteness, inaccessibility, and poverty of rural and deep rural settlements. However, research has shown that collaboration can lead to improved health outcomes for patients. This study aimed to explore healthcare professionals' perspectives on collaborating with SLTs in rural Eastern Cape and identify barriers and facilitators of such collaboration. The study utilized a qualitative design and was conducted at three government-funded healthcare sites. Three rural healthcare professionals who had collaborated with an SLT for at least one year were selected as participants. Data were collected through interviews. The analysis involved multiple readings, note-taking, identification of emergent themes, and exploring relationships among these themes. The study revealed that positive collaboration occurred at all three sites, largely driven by strong relationships with SLTs. Access to SLT services influenced participants' perceptions, but there was a lack of knowledge about the profession among rural healthcare professionals and communities. This lack of knowledge was present despite varying levels of institutional support for collaboration. While barriers to collaboration were acknowledged, the study also highlighted various facilitators that could enhance collaboration in the rural Eastern Cape. These findings emphasize the importance of raising awareness about SLTs and their role in healthcare among rural communities and professionals.
Left ventricular mass independently associates with masked hypertension in young healthy adults: the African-PREDICT study

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Masked hypertension is reportedly common in young adults. However, it is unknown if these masked hypertensive individuals already present with organ damage. We determined whether a relationship exists between left ventricular structure and function, and masked hypertension in young healthy adults. In this cross-sectional study, we included 774 black and white men and women (aged 20–30 years) who had successful ambulatory blood pressure monitoring readings (>70% valid readings) and valid echocardiography done. We found that 16.4% had masked hypertension (60.6% whites; 67.7% men). When performing multivariable-adjusted logistic regression, we found masked hypertensive patients to have higher odds to present with increased left ventricular mass index (odds ratio 1.67, p = 0.031) compared to normotensive individuals. In multivariable-adjusted linear regression analyses, left ventricular mass index positively and independently associated with masked hypertension [adjusted R²= 0.193, β= 0.08 (0.01; 0.16), p=0.046]. However, we found no independent link between echocardiographic measures of left ventricular function and masked hypertension. This study highlights the importance of the early detection of masked hypertension as young apparently healthy adults already show an increased left ventricular mass index, thereby indicating increased risk for future cardiovascular disease.
Synthetic chalco-naringenin analogs have beneficial effects on the treatment of diabetes and its related complications through AMPK expression in vitro.

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Diabetes mellitus (DM) is a chronic metabolic disorder characterized by defects in endogenous insulin secretion and activity. Metformin is the first-line drug of choice for the treatment of type 2 diabetes (T2D). It exerts antidiabetic effects by reducing hepatic glucose production and increasing peripheral glucose utilization through AMP-activated protein kinase (AMPK) activation. Naringenin, a flavonoid, exerts antidiabetic effects by inhibiting gluconeogenesis through the upregulation of AMPK, and hence metformin-like effects. We aimed to identify AMPK as a potential target of synthetic chalconaringenin analogs and their putative therapeutic applications. Chalco-naringenin analogs were synthesized and characterized using IR, 1H-NMR, and 13C-NMR. C2C12 and Chang cells were cultured in Dulbecco’s modified Eagle medium (DMEM). MTT assay was used to determine cell viability, and the phospho-AMPKα (Thr172) sandwich ELISA Kit was used to determine AMPK phosphorylation. Chalcones were successfully synthesized and characterized by 13C-NMR and 1H-NMR spectroscopy. The docking scores of the chalcones suggested good binding affinity of these compounds to AMPK. Cell viability, as determined by MTT assays, was found to be dose-dependent for all compounds; however, 5k reduced cell viability compared to 5b. The effects of chalcones on AMPK phosphorylation were potentiated by co-treatment with metformin and naringenin. Chalcones showed potential in the expression of AMPK through computational chemistry; however, in the in vitro model, the effects of chalcones on AMPK were potentiated by metformin and naringenin. Chalcones could be further explored for their potential effects on AMPK activity in primary hepatocytes and/or in vivo studies.
Cultural and Religious Attitudes of a predominantly Pedi traditional Community towards Whole Body Donation in South Africa.

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Body donation has become a predominant source of cadavers in many countries; however, it continues to be limited in the African continent; especially among the Black African population of South Africa which has been reported to be unwilling to provide consent to donate their bodies. Hence, this study investigated the cultural and religious attitudes among a predominantly Pedi traditional community of the Black African population of South Africa in the Limpopo province. Descriptive statistics followed by a binary logistic regression analysis were conducted to obtain the key elements determining the willingness to donate one’s body in this community and the likelihood of willingness to participate in body donation. A p value of < 0.05 was regarded as statistically significant. The level of awareness of body donation was 30% and 41% of respondents were willing to donate oneself. Age, educational status, belief in a higher entity, ancestral and religious beliefs allowing for body donation were statistically associated with the willingness to donate one’s body. The elderly participants were significantly 0.14 times less likely to agree to donate oneself than the younger adults. Participants who understood that religion allowed them to donate oneself were 51.84 times more likely to agree to donate oneself than those who understood that religion did not allow them to donate oneself. The need for increasing awareness about body donation programs is warranted in this traditional community and may be addressed through awareness campaigns.
C. FACULTY OF MANAGEMENT AND COMMERCE
(Re)visiting predatory publishing: Some implications on academics’ career progression

Shambare, R.

In this article, I wade into the highly “contested terrain” of predatory publishing and predatory journals. Because of its controversy, predatory publishing, is largely an ignored research topic, and most of what is known on the topic tends to be anecdotal. Part of the reason is that the risk of being advocating for predatory publishing is career suicide (Maistry, x). Most narratives on predatory publishing tend to be of a political nature, where one party or author simply exerts their authority to declare Journal X or Journal Y to be predatory. Sadly, not much evidence is ever provided to justify these claims. If one dares to publish in those outlets, the consequences are all too obvious. It goes without saying that predatory publishing is as important, a research topic, as it is divisive. One such area is the effect of publishing on emerging and early-career academics. Without a clear and definitive understanding of predatory publishing, these researchers (and their institutions) remain to be in grave danger. It is against this understanding that it is befitting for this paper to contribute to the debate, by discussing how publishing, in general, positively influences the careers of early-career researchers. More specifically, the paper seeks to argue that while predatory publishing is to be discouraged, the status quo of a loosely defined notion of predatory publishing is a threat to many careers, if not the entire higher education sector.

Keywords: Accredited journals, DHET, impact factor, predatory journal, predatory publishing, South Africa

Subsistence, embeddedness, and financial decision-making in South African SMME’s

Simatele, M., Bolarinwa, S.

Subsistence businesses play a critical role in meeting the basic needs of many households. Many of these businesses remain small for the duration of their lives. Top among the reasons cited for this lack of growth is inadequate access to finance. The policy attempts through microfinance and development finance institutions have not succeeded. The argument that drives this discussion paper is that one of the reasons for this limited success is that the embeddedness of subsistence households needs to be accounted
for in popular intervention frameworks. Many subsistence businesses double as business ventures and primary sources of livelihood. This paper presents the results of a qualitative data study on how embeddedness can influence business decision-making. The results show that embeddedness significantly impacts how household enterprises make saving, borrowing, investment and financial management decisions. A package of possible policy interventions is presented, including support for alternative finance, business advice centres, instrumental support, practical literacy, and entrepreneurial skills training.

**Keywords:** embeddedness, household enterprises, SMMEs, Institutions.

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**Abstract C3**

**Monetary Policy transmission mechanism channels and the South African manufacturing sector:**

*An application of the Vector Error Correction Model*

**Hunter, D., Tsegaye, A., Kapingura, F.M.,**

It is unlikely that a country will experience a significant rise in growth without a dynamic, fully functional manufacturing sector. The channels via which monetary policy is transmitted to the real economy may also differ between industries. In light of that, the study examines the responsiveness of the different manufacturing industries to changes in monetary policy in South Africa. Quarterly data from 1998 to 2020 was utilised, employing the Vector Error Correction Model (VECM). Results revealed that the interest rate channel is more important for the total manufacturing production, metal, and chemical industries. The asset price channel and the exchange rate channel appeared to be significant for the variation in food and wood production. However, the credit channel was found to be insignificant in all industries. The findings indicate that there is heterogeneity in the response of the different industries to changes in monetary policy in South Africa. This demonstrates the importance of taking into consideration all transmission channels in domestic policy-setting.

**Keywords:** Monetary policy; Manufacturing sector; Vector error correction model; South Africa.
Who and What Constitutes Effective Leadership?

Townes, J.

There are numerous definitions and theories of leadership. Effective leadership embodies the relationship between those who aspire to lead and those who choose to follow. This study interprets the phenomenon through the lens of multiple leaders. The study asked those who aspire to lead whom they admire as leaders and what qualities and characteristics these admired leaders displayed that led them to choose to follow these leaders. An interpretivist qualitative research approach was employed with a convenience sample of 62 leaders working at an automotive plant. Focus group discussions were held with seven leadership groups, ranging from senior management to high-potential leadership individuals. Followers are seeking an authentic type of leadership. Followers admire leaders who practice their values consistently, and who are sufficiently confident and self-aware to lead with both their heads and their hearts. Mobilising the capacity of their team is foremost in these leaders’ minds as they focus on empowerment and collaborative solutions. To uncover the potential within the leader-follower relationship leaders need to understand the desires and expectations of their followers and act in ways that are congruent to what the followers’ image of an effective leader is. Human resource practitioners and leaders can use the leadership characteristics identified in this study as a practical guide for establishing a more appropriate leadership style, and analysing which characteristics need to be improved. This will provide benefits to organisations, which will effectively assist leadership in their management practices.

Keywords: Admired; characteristics; effective leadership; followers.
The impact of sustainable farming on local economic development in the eastern province of South Africa

Matsiliza, N.S.

The legacy of twentieth-century farming impacted agricultural productivity by instilling experiences that reflect the use of cheap fossil fuels and (deemed) unlimited energy sources, environmental costs, and industrial production of chemical fertilisers and pesticides that promoted waste dumping near human settlements. These mistakes affect the quality of life, especially for the poor people who cannot move away from the dumping sites and the mechanisation of agricultural products. This study aims to develop an approach that can enhance sustainable farming for small-scale farming to improve the local economy. To respond to the aim, the objectives of this study is to determine strategies adopted for sustainable agriculture in the Buffalo City Metropolitan (BCM) area, assess gaps in sustainable farming practice, and the impact of sustainable farming on local economic development in Buffalo City Municipality of the Eastern Cape Province. The study will adopt a mixed research approach, which is used to collect and analyse data. A diverse research approach is suitable for this study since it allows the searcher to triangulate rich data using qualitative and quantitative strategies. Sustainable development involves vital stakeholders' involvement in managing and utilising the environment without compromising the result of natural capital for future generations. Evaluating sustainable farming and its impact on local economic development will contribute to the existing knowledge. These towns in BCM do not have a vibrant economy supported by strong industry; hence, they thrive on contributing to LED through Agri-farming and service sectors.

Keywords: Adaptive approach, sustainable development, farming, local economic development, funding.
Simplification of the employee tax provisions

Young, G.

“The hardest thing in the world to understand is income taxes” a quote attributed to Albert Einstein, physicist. This research aims to focus on simplifying the employee tax provisions in the Income Tax Act as they are currently difficult to read and apply. This section of the Act makes a significant contribution to revenue collection. To achieve tax simplicity, the research will focus on how to improve the readability of the legislation. This includes evaluating where the complex areas are in the legislation which contributes to lack of comprehension. A mixed method of both quantitative and qualitative research methodology will be adopted in phases in the research design, i.e., a literature study of international best practice will be conducted, and a text difficulty survey will be given to the students. A readability test will be applied to the legislation prior to any proposed amendments. The literature study and analyzed results of the survey with the students will provide a platform to recommend suggestions to improve the readability of the provision. A readability test will be applied to the recommendations to assess whether an improvement has been made. The research intends provide National Treasury with a policy brief, highlighting the need to introduce the proposed amendments to the employee tax provisions in South Africa. In addition, the research will create a learning aid for students to better understand the Act.

Keywords: Tax simplification, employees tax, readability tests, Income Tax Act.

Leveraging the World Cafe Method for In-Depth Insights on Health Information Kiosk Utilization in Type II Diabetes Care

Boucher, D., Foster, G., Orre, C., and Lindroth, T.

In the realm of digital health promotion, this research project places a spotlight on the World Cafe Method as a powerful tool for obtaining comprehensive insights into the deployment of health information kiosks for individuals managing Type II Diabetes (T2D)
and their families. Our approach to data collection involved a workshop structured around four tables, each dedicated to exploring a specific facet of health information kiosk implementation in the context of chronic diabetes care. With four participants per table, we coordinated a cyclic exchange of ideas that enriched our understanding with every interaction. The researchers acted as facilitators at each table and assisted in the transitions, ensuring that each new participant contributed original insights. The World Cafe Method, celebrated for its interactive and collaborative nature, proved instrumental in revealing qualitative insights from participants deeply engaged in the subject matter. Our findings highlight some essential factors that can influence the effective adoption of health information kiosks for the dissemination of critical healthcare information. Participants stressed the need for intuitive user interfaces, enhanced accessibility, and personalized content to cater to the diverse needs of T2D patients and their families. The workshop participants also emphasized the value of incorporating feedback mechanisms to continually enhance kiosk functionality and content relevance. A crucial aspect raised in the workshop was the importance of fostering partnerships among healthcare providers, technology developers, and patient advocacy groups to ensure the sustainable success of health information kiosk initiatives.

**Keywords:** World Cafe Method, Digital Health Promotion, Health Information Kiosks, Diabetes Type II, Qualitative Insights.

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**Abstract C8**

**Motivational Factors that Influence the Course Completion Rate of Massive Open Online Courses in South Africa**

**Cilliers, L., Twinomurinzi, H. & Murire, O.**

Massive open online courses (MOOCs) have increased access to higher education by allowing South Africans to access free, online-based, open content created by higher education institutions worldwide. However, most MOOCs report significant student drop-out rates before completing a course. Higher education institutions must understand learner motivation for completing a MOOC. This paper examines the motivational factors influencing the completion rate of MOOCs in South Africa. This study employed a quantitative approach to collect data using an online questionnaire from South African respondents. A total number of 3147
responses were recorded, and the data were analyzed with SPSS V28. Correlation statistics tests were used to denote the association between the four independent variables and the dependent variable. The study's most important findings are that intrinsic and extrinsic motivating factors, motivation to continue, and the availability of resources positively impact a MOOC’s completion rate. The study concludes that these factors will improve the throughput rate of MOOCs. It is recommended that all higher education institutions that offer MOOCs create a conducive online learning environment that offers independence and freedom of learning with plenty of communication and collaboration between students and facilitators. Creating such an environment will encourage active participation in the course and improve throughput rates.

**Keywords:** intrinsic motivational factors; extrinsic motivational factors; massive open online courses; MOOCs; completion rate; South Africa

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**Abstract C9**

**Role of AI in Enhancing Decision-Making Processes at a selected university in South Africa**

**Funda, V., Francke, V.**

The introduction of artificial intelligence (AI) into universities has recently emerged as a fundamental revolutionary change that will have wide implications for the decision-making processes involved. The study explores various ways in which AI contributes to the enhancement of decision-making processes within the academic sphere. The ICT department of a selected university in South Africa was a case. The study utilised convenience sampling and administered a questionnaire to twenty staff members comprising of IT administrators and decision-makers. The difficulties associated with IT service management have motivated this study on the possible impact that AI technologies could have on decision-making processes in higher education institutions. These advances have the potential to capitalise on the influence of data and analytical prediction. This study highlights the potential of using AI to evaluate large datasets that are complicated and time-consuming to analyse. It investigates the ways in which educational institutions might improve decision-making within IT service management by making effective use of real-time information. In addition, the study emphasises the significance of AI in the process of enabling data-based decisions that improve IT operations by using predictive modelling. Nevertheless, the study acknowledges the moral and societal ramifications that result from the incorporation of AI, underlining the significance of locating a harmonious balance between the progression of technology and the maintenance of human...
values. The study places a strong focus on the significance of an all-encompassing approach that encourages the appropriate use of artificial intelligence to enhance decision-making processes in South African HEIs.

**Keywords:** Decision Making; Artificial Intelligence; Higher Education.

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**Abstract C10**

**Using Guest Lectures in The Teaching of Strategic Management: An Intervention for Improving Student Engagement**

**Ford, M.,** Mbangeleli, N.B.A.,

This paper reports on the experiences and lessons learnt from using strategy experts as guest lecturers in the teaching of strategic management to Honours students at an Eastern Cape university. The purpose of the study was to determine the value of using guest lecturers for student engagement and learning. Given the high levels of student engagement as well as to promote students’ comprehension of theoretical and practical elements of the subject to promote critical thinking and analytical skills, including industry experts was considered an important teaching and learning component. Throughout the 12-week semester, three strategy experts presented three separate and very specific practical topics of strategic interventions. Anecdotal evidence from strategy lecturers reports that students struggle to grasp theoretical concepts and their application in a real-world business. As such, inviting practitioners as guest lectures has been shown to be beneficial in illustrating the real-world relevance of the material covered in many disciplines. However, the structure and approach to design guest lecturer interventions in strategic management is an under-reported phenomenon in the literature. This article considers this to be an important research gap worthy of attention. Results explored the students’ experiences on three different levels: engagement with other students, engagement with guest lecturers, and engagement with the material. The value of this study is that it provides insights for strategy professors regarding the benefits and challenges of including guest speakers in teaching the subject.

**Keywords:** Strategic Management, Honours students, guest lecturers, engagement.
Assessing the impact of the Presidential Youth Employment Initiative Internship Program: Exit interviews with interns at the University of Fort Hare

Chinyamurindi, W.

The paper reports on the findings of an exploratory study conducted with a sample of commerce interns taking part in an internship programme. The University of Fort Hare, like most South African universities, has benefited from the Presidential Youth Employment Initiative (PYEI). The PYEI sought to offer unemployed university graduates with no relevant work experience the opportunity to obtain practical workplace exposure and experience in their specified disciplines. Exit interviews were conducted at the end of a year-long internship programme at the University of Fort Hare. The interns were asked to reflect on three aspects from their internship experience: a) the lessons learnt; b) challenges faced and c) suggestions to improve future internship interventions based on their experience. A total of 22 interns from the Faculty of Management and Commerce agreed to take part in the research. Focus groups and unstructured individual interviews were conducted with the 22 interns. Narrative analysis using the three levels of meaning-making was incorporated. The findings show three salient narratives. First, a narrative of self-appreciation – consisting of praise for the PYEI as a gainful tool especially given the high unemployment rate in the country. Second, a narrative of experienced constraints – consisting of inherent challenges organizationally in assisting interns acquire skills. Third, a narrative of an envisioned future – detailing how future internships can be improved based on lived experience of the year-long internship programme such as the PYEI. The three narratives illustrate the opportunity-intricacy experienced within an internship programme. Implications can be drawn from this.

Keywords: Internship; Commerce; Graduateness; Skills; South Africa.
Equity market reactions to expected changes in the sustainability information environment

Terblanche, W., Badenhorst, W., Cahan, S.

The “alphabet soup” of sustainability reporting guidelines and frameworks led to a call by investors and the International Organisation of Securities Commissions for a global baseline of sustainability disclosure to allow them to allocate capital and manage risk more effectively. In response, the IFRS Foundation issued sustainability disclosure standards. Prior research shows that investors reacted positively to the mandating of international accounting standards. The adoption of global accounting standards is associated with improvements in the information environment of firms, through reduced information asymmetry or improved reporting quality. The adoption is also associated with positive economic consequences such as lower cost of capital and increased cross-border trading. Whether investors believe the IFRS sustainability disclosure standards will lead to net benefits or costs is an empirical question. This study examines equity market reactions to events meaning it is likely that firms will adopt the IFRS sustainability disclosures standards and examine cross-sectional variation in the reaction. I use data from firms primarily listed in the United Kingdom, Australia and Canada. The proximity of Canada and the United Kingdom to the United States of America and the European Union add interest to the setting as these jurisdictions have different reporting requirements. All three countries apply International Financial Reporting Standards and are considering the adoption of the IFRS sustainability disclosure standards. Investors reactions to key events using a market model to calculate cumulative abnormal returns were examined and results predicted cross-sectional variation in abnormal returns based on the quality of the information environment of the firms.

Keywords: Sustainability reporting; sustainability disclosure standards; ISSB; information environment; event study.
The effectiveness of community-based entrepreneurship development in Buffalo City Metropolitan Municipality

Sigcau, A.

Eastern Cape Province is one of the South African provinces that is grappling with a high unemployment rate of 42.8%. The Eastern Cape Province is demarcated as a rural community with approximately 65% of people living in rural areas. The high levels of unemployment result in crime, teenage pregnancy, inequality, and social exclusion. The Community-based entrepreneurship development (C-bed) is a development program that must blend social goals with economic, industrialization, social, environmental, and entrepreneurship. The program aims to address challenges experienced at the rural community level and promotes the general welfare and the standard of living in these communities. The purpose of this paper is to assess the effectiveness of C-bed in Buffalo City Metropolitan Municipality and how community-based entrepreneurship is assisting in enhancing the lives of people in BCMM. The study made use of a qualitative research approach and a case study design. Data collection was secondary in nature and analysed using thematic analysis. Findings revealed that C-bed is failing to address the issue of unemployment and enhance the lives of people living in poverty. Development projects tend to be unsuccessful due to illiterate, inadequate community participation, unsustainable use of natural resources. People living in poverty experience low self-esteem and see themselves incompetent. The study is recommended there must be tailor-made training programs that suit the needs and the context of BCMM. The study further suggests mentorship to strengthen independent Entrepreneurship.

Keywords: Mentorship, entrepreneurship, and development.
In view of severe societal issues and the growing influence and corruption in business, business leaders are increasingly compelled to act responsibly. The understanding that businesses significantly impact not only the economy, but also social and environmental aspects is driving a shift in expectations. Business leaders previously prioritising profit and wealth maximisation over governance, social and environmental responsibility, are now being held accountable for their actions and the impact they have on society. As a result, RL has become a crucial aspect of successful business practises in today’s world. The research provides insights into the current state of knowledge gaps on RL. Additionally, the paper explores the key themes and concepts that have emerged in RL research, shedding light on the areas where leaders can make a positive impact on society and the environment. The study adopted a systematic review of literature using Biblioshiny and Vosviewer. Through key word search of “responsible leadership” published articles from Web of Science between 2003—2023 were selected. After screening using PRISMA, a final record of 548 articles were used for analysis. This study provides a comprehensive overview of research trends on responsible leadership, highlighting the importance of ethical decision-making, governance, social responsibility, and environmental sustainability. The findings can guide future research and inform leadership development programs, promoting long-term sustainability and positive societal impact.

**Keywords:** Leadership; Organisational leadership; Business leadership.
D. FACULTY OF SCIENCE AND AGRICULTURE
Smallholder livestock species selection in response to climate change and its impact on food security in the Eastern Cape, South Africa

Manyike, J.Z., Taruvinga, A. and Zhou, L.

Climate change and variability adversely affect smallholder farmers, putting their ability to ensure household dietary diversity (HDDS) at risk. This study aims to investigate the smallholder farmers selection of climate resilient livestock species and their impact on HDDS. The study employed a cross-sectional research design to survey a total of 600 smallholder farmers, selected through multi-stage sampling techniques. A semi-structured questionnaire was used to collect the data. A weighted ranked index and an endogenous switching regression model (ESRM) was employed to analyse the data. The results reveal that goats, followed by indigenous chickens were the most preferred in response to climate change, while cattle were deemed vulnerable to climate change impacts. The results of the ESRM, reveals that selection climate-resilient livestock species to adapt to adverse climatic conditions can significantly improve agricultural households' dietary diversity status. Nonetheless, while goats were preferred as a best response to the adverse impacts of climate change, their impact on HDDS was comparatively lower (3.65%) than that of cattle (8.64%), which were deemed more vulnerable to climate impacts. The study recommends that farmers should strike a balance between climate resilience and household dietary diversity, recognizing that the most resilient species may not always contribute significantly to HDDS. By taking a holistic approach that considers both aspects, smallholder farmers can better adapt to climate challenges while maintaining adequate dietary diversity for their households.

Community engagement in research: case studies of Matatiele and Elundin local Municipality, Eastern Cape, South Africa

Community engagement is a collaborative and inclusive approach that can lead to the successful uptake of research, innovation and intervention in addressing complex socio-economic and environmental challenges. Using interactive discussion and feedback techniques, community opinions, experiences and perceptions were gathered. Drawing from transdisciplinary approaches this paper unpacks co-design and co-production steps that proved indispensable in developing research uptake and customised innovative technology by using two separate case studies in the local municipalities of Matatiele and Elundin in the Eastern Cape Province, South Africa. The Matatiele case study focused on water-energy food nexus and Elundin case study focused on climate services. The studies shed light on the potential, the need, and the advantages of community engagement in research as a tool for achieving societal research uptake. However, the study also acknowledges the challenges and barriers that are inherent in community engagement efforts. Recommendations and lessons learnt will guide future endeavours in this field.

Constraints inhibiting farmers' adoption of cattle feedlots as a climate-smart livelihood option in rural communities of the Eastern Cape, South Africa: an in-depth examination

Slayi, M., Zhou, L. and Jaja, I.F.

The adoption of climate-smart agricultural practices is crucial for enhancing resilience to climate change in rural communities. This study provides an in-depth examination of the factors constraining farmers' adoption of cattle feedlots as a climate-smart practice in the rural communities of the Eastern Cape. The research aims to identify the barriers and challenges that hinder the widespread adoption of cattle feedlots and understand the underlying factors contributing to farmers' decision-making processes. The study included surveys and interviews to gather data from 250 farmers. The data were analyzed using regression analysis and thematic analysis to identify the key constraints inhibiting the adoption of cattle feedlots as a climate-smart strategy. Findings reveal several significant constraints that farmers face in adopting cattle feedlots. Financial limitations, including limited access to credit and lack of financial resources, emerge as critical barriers. Infrastructure and resource constraints, such as inadequate water supply and electricity, hinder adoption. Knowledge and skills gaps, cultural and social factors, market limitations, and environmental considerations further contribute to the constraints experienced by farmers. To address these constraints, the study proposes interventions to promote the adoption of cattle feedlots as a climate-smart practice; including improved access to affordable financing options, providing capacity-building programs on feedlot management and climate-smart practices, disseminating
information on feedlot benefits and best practices, developing necessary infra-structure, strengthening market linkages, and creating a supportive policy environment. Further research is needed to validate and expand upon these findings in a broader context.

-------------------------------------------------------------------------------------------------------------------------- Abstract D4

Why are we not walking? Introspective reconstructions of the north-south global climate change conundrums

Muchaku, S. and Zhou, L.

International cooperation between global North and South countries on climate change adaptation is critical for successful global responses to the climate crisis. However, polarised debates over responsibilities between these two worlds have hindered progress on the implementation of climate-friendly strategies in both regions. The lack of willingness to adopt such interventions is seen by many as a challenge that needs to be addressed collectively. This paper attempts to provide informative insights on why the North-South divide continues to undermine efforts to address the scientifically established climate change threats, posing a threat to the attainment of the millennial sustainable development goals for the survival of a habitable planet. We attempt to do this by providing a literature-based reconstruction of the failure to observe the relevant agreements and pronouncements, so that the authorities may adapt and adjust before it is too late. The paper provides guidelines for this programme gleaned from a comprehensive analysis of this literature.

-------------------------------------------------------------------------------------------------------------------------- Abstract D5

Dairy farm personnel’s knowledge of the aetiology, risk factors, clinical signs, zoonotic potential, and control of bovine fasciolosis in South Africa

Mpisana, Z., Jaja, I.F., Byaruhanga, C., Dorny, P., Dermauw, V. and Marufu, M.C.

Dairy farm personnel’s level of knowledge on the neglected tropical zoonotic food-borne trematodosis, bovine fasciolosis, is poorly understood. The current study aimed to investigate the knowledge and awareness of the aetiology, risk factors, and clinical signs
of bovine fasciolosis among dairy farm personnel in the Eastern Cape Province, South Africa. A structured questionnaire was prepared and randomly administered to 152 dairy farm personnel. The Chi-square test was used to assess associations between demographic descriptors and knowledge of fasciolosis. Most respondents were between the age of 31-40 (45.4%) years followed by 21-30 (32.2%), greater than 40 (20.4%), and less than 21 (0.7%). Most respondents (90.8%) irrigated, dried off (69.8%) and rotated (94.7%) their pastures. Respondents’ location was significantly associated with their knowledge of Fasciola species as the cause of fasciolosis in dairy herds, and knowledge of swampy areas and water snails as risk factors of fasciolosis (all \( p < 0.001 \)). There was a significant association between respondents’ educational status and knowledge of the zoonotic potential of fasciolosis (\( p = 0.001 \)). Significant associations were observed between regions and control of bovine fasciolosis (\( p = 0.002 \)). In conclusion, this study showed that most respondents were unaware of Fasciola species as the causative agent of fasciolosis. There is a need to improve farmers’ knowledge through strategic agricultural extension services, community engagement, and enlightenment campaigns. Such awareness campaigns and training programmes may improve farmers’ knowledge about Fasciola parasites and promote efficient acaricidal use to control liver fluke in the Eastern Cape Province.

Abstract D6 (Poster Presentation)

Sequence analysis of Fasciola species from faecal and liver samples of slaughtered cattle in the Eastern Cape province of South Africa

Mpisana, Z., Jaja, I.F., Byaruhanga, C., Dorny, P., Dermauw, V. and Marufu, M.C.

While both Fasciola hepatica and Fasciola gigantica have been reported to occur in South Africa, only few studies have performed molecular confirmation of the Fasciola species infecting cattle in the country. The objective of the current study was to estimate the prevalence and to characterize Fasciola species from faecal samples of slaughtered dairy cattle in the Eastern Cape Province of South Africa. Between September 2020 and July 2021, faecal samples were collected from 283 cattle at three high throughput abattoirs in the province. Sequential and phylogenetic analyses were conducted to detect the presence of Fasciola spp. from the faecal samples. Fasciola hepatica and F. gigantica ITS-2 sequences were obtained by amplifying the ~364-bp and ~300-bp genes, respectively, using species-specific conventional PCR assays, followed by cloning and sequencing. Sequence and phylogenetic analysis revealed the presence of F. hepatica in all 11 dairy cattle samples submitted for sequencing. The study concluded that F. hepatica was the only etiological agent impacting dairy productivity in the Eastern Cape Province of South Africa. Fasciola specimens
need to be sampled from other areas in the province to reveal the distribution of *Fasciola* spp. The molecular detection will raise awareness among veterinarians, meat inspectors and farm managers on the distribution of etiological agent/s and develop intervention strategies to control strategies of bovine fasciolosis.

Abstract D7 (Poster Presentation)

**Combining ability of selected QPM inbred lines and test cross hybrids for tolerance to low soil pH under field conditions**

Bobotyana, S.

The development of improved and high-yielding maize hybrids can help increase food security for the maize crop. Information on the combining ability of QPM genotypes for tolerance to soil acidity is essential to maximize their use for new cultivar improvement. Acidic soils are the abiotic factors constraining maize production. The objective of this study was to estimate the combining ability of QPM genotypes for yield and yield-related traits under low soil pH and optimum conditions. Forty-four testcross hybrids generated from line x tester crosses of 22 QPM inbred lines and two open-pollinated varieties (OPVs) were evaluated together with three hybrid checks under low soil pH and optimum conditions. A total of 49 genotypes (forty-four single crosses and five checks) were assessed using a 7 x 7 alpha lattice design with two replications and A randomized complete block design with three replicates on inbred lines in two locations at the University of Fort Hare and Dohne agricultural institute research farms in the Eastern Cape during 2017/2018 and 2018/2019 cropping seasons. GCA and SCA's mean squares for most traits suggested that additive and non-additive effects were vital. Significant variation was observed among the genotypes for GCA effects for almost all traits studied across the two environments. The selected crosses showed significant SCA effects in a few agronomic yield-related traits in the combined analysis. Among the hybrids, the only crosses that showed significant and positive SCA effects for grain yield are 25Y x NC under optimum and 34Y x Obat in an acidic environment. 17Y and 22Y had superior combining effects for yield under acidic conditions. The inbred lines 29E and 16Y had superior combining effects for yield under acidic conditions and had the required appearance and characteristics of vital traits that can be useful for the further development of high-yielding varieties.
Responses of fungal diversity and community composition after 42 years of prescribed fire frequencies in semi-arid savanna rangelands

Poswa, S., Manyevere, A. and Mashamaite, V.

Prescribed fire frequencies have been widely used to reduce the risk of severe wildfire occurrences. Several studies have been conducted to assess the impact of these fire frequencies on vegetation, vertebrate, and invertebrate species, as well as soil physical and chemical properties. However, there is a lack of empirically based knowledge concerning the impact of fire frequency on soil microorganisms. This study assessed the effect of different fire frequencies on the diversity and composition of soil fungal communities in semi-arid savanna rangeland. Soil samples were collected from an ongoing long-term trial at the University of Fort Hare (South Africa) on the following treatments: (i) no burning; (ii) annual burning (burned once every year); (iii) biennial burning (burned once every 2 years); (iv) triennial burning (burned once every 3 years); (v) quadrennial burning (burned once every 4 years); and (vi) sexennial burning (burned once every 6 years). Fungi were identified using high-throughput sequencing, with Shannon-Wiener and Inverse Simpson diversity indexes being used for diversity and network analysis. Principal coordinate analysis was used for Bray-Curtis distance matrices to visualise the relationships between treatments. The highest diversity was found in biennial burning, which was significantly different (p < 0.05) from the sexennial, quadrennial, and no burning treatments but was not different from the triennial and annual burning treatments. Regarding the taxa, Ascomycota and Basidiomycota were the most identified phyla, followed by Mortierellomycota, Chytridiomycota, and Rozellomycota. The different fire frequencies had an influence on soil fungi diversity and taxonomic composition in semi-arid savanna rangelands.

Genome mining and cloning of keratinase enzymes encoding for bioconversion of chicken feathers into valuable peptides from Chryseobacterium proteolyticus

Mpaka, L., Ntozonke, N., Nnolim, N. and Nwodo, U.
Chicken feather degradation is a leading global environmental and health hazard as chicken feathers are recalcitrant to regular proteolytic activity and thus remain accumulated in the environment. The environmental accumulation of chicken feathers is associated with releasing toxic gases such as sulfur oxide and may be potential reservoirs of pathogenic microbial strains. Microbial keratinases have demonstrated their efficiency in degrading chicken feathers into valuable hydrolysates; hence, this study focused on cloning the keratinase enzymes for the bioconversion of chicken feathers to beneficial compounds such as organic fertilizers. The bacterial genome was sequenced using Illumina HighSeq 2000; sequences were assembled using SPAdes De Novo and annotated using Prokka. The Prokka revealed thirty-one keratinolytic genes, and four were selected for cloning. Three genes were cloned successfully in *E. coli*, demonstrating high feather degrading efficiency. The cloned genes can maximize keratinolytic activity and curb feather disposal, contributing to environmental health. Conversely, cloning these genes in *E. coli* would maximize the production of these enzyme batteries. Therefore, chicken feathers will be easily recycled into valuable compounds, including a range of skin products, organic fertilizers, animal feed, and other products of economic importance.

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Abstract D10

**Statistical analysis and identification of pneumonia risk factors using the Cox Proportional Hazard Model**

Mutambayi, M., Lala, M. and Chiruka, T.

In South Africa, pneumonia is a leading cause of both adult and pediatric hospitalization and death. People with HIV and tuberculosis have a significantly increased risk of pneumonia-related hospitalization and death in all age categories. To determine the variables influencing the length of time it takes for patient to recover, their impacts, and the impact of concomitant conditions, survival analysis techniques were used. For four months, we prospectively gathered patient data on the causes of pneumonia in a chosen hospital in King Williams Town, Eastern Cape, to track the length of time from admission to discharge and characterize the long-term clinical outcomes of pneumonia patients using the Cox Corresponding Hazard model. According to the Cox PH model, three covariates exhibited greater significant relative risks than the others. Patients with high alcohol consumption (p = 0.048; RR = 0.687; 95% CI = -0.702: -0.15), diabetes (p = 0.002; RR = 3.443; 95% CI = 0.606:2.597), and exposure to toxic fumes (p = 0.007; RR = 3.666; 95% CI = 0.911:1.790) were all significantly associated with delayed or subpar recovery after some time. In patients with pneumonia, the effects of a protracted recovery period result in ongoing morbidity and mortality. Future or prolonged
Evaluating the water productivity of intercropping maize and sunn hemp at various timings and stand densities for soil cover in semi-arid South Africa


The challenge of water scarcity presents considerable difficulties for diversifying rainfed crop systems. This research aimed to evaluate stored soil water dynamics, distribution, and water productivity (WP) of rainfed maize/sunn hemp intercropping at various timings and stand densities. The study was conducted under the in-field rainwater harvesting (IRWH) tillage over the 2019/20 and 2020/21 growing seasons. Eight different treatments: sole maize (SM), sole sunn hemp (SSH), intercropping carried out simultaneously with maize planting (P1), at the V15 (P2), and the R1 maize growth stages (P3), and a range of sunn hemp stand densities: 16, 32, and 48 plants m\(^{-2}\). During the reproductive growth phase of maize, competition for soil water between different plant species was evident, resulting in noticeably lower soil water storage in intercropped plots compared to those with sole crops. The most significant reduction in grain yield, amounting to -12.2% and -20%, occurred when intercropping was done at the R1 growth stage of maize and with a high sunn hemp stand density of 48 plants m\(^{-2}\). SSH exhibited the lowest overall water use (364.5 mm) throughout the season, and a significant portion of 56% was utilized during the vegetative growth phase. Biomass and maize grain yield water productivities of 27.5 and 6.77 kg mm\(^{-1}\) ha\(^{-1}\), respectively, were highest with simultaneous intercropping. Intercropping sunn hemp simultaneously with maize during planting and using a medium stand density of 32 plants m\(^{-2}\) is recommended in semi-arid South Africa.
Biochar ageing improves soil properties, growth and yield of red radish (Raphanus sativus) in a Haplic Cambisol

Nyangbo, P., Motsi, H., Chiduza, C. and Malobane, M.E.

The use of biochar as a soil ameliorant has recently gained momentum. However, its application has been reported to have some adverse effects soon after pyrolysis. This study aimed to determine the effect of different biochar ageing methods and fertiliser applications on selected soil properties, growth, and yield of red radish (Raphanus sativus L.). A 2 x 3 factorial arrangement was used in a complete randomised design (CRD) with three replications. The factors were (1) biochar ageing at three levels, i.e., naturally aged biochar (NB), artificially aged biochar (AB), and fresh biochar (FB), and (2) fertiliser at two levels viz fertilised (F) and non-fertilised (NF). A control treatment (without biochar) was also included. Irrespective of the ageing method used, biochar application significantly increased soil pH, while fertiliser application significantly reduced soil pH throughout the experiment. Similarly, biochar application significantly increased soil hydraulic conductivity compared to the control. However, after ten weeks, significantly higher soil hydraulic conductivity was reported in treatments with AB biochar compared to NB and FB. Applying fertiliser in biochar-amended soils improves the soil’s hydraulic properties and increases radish growth. The study concludes that AB biochar + fertiliser application improves soil properties and the growth of radish.

Co-occurrence and risk assessment of hexabromocyclododecane, 2,2',4,4',5,5'-hexabromobiphenyl and toxic elements in Buffalo River Estuary, Eastern Cape Province, South Africa.

Olaniyan, O.O., Adeniji, A.O., Okoh, A.I. and Okoh, O.O.

All organisms, including humans, need clean water to survive. Persistent organic pollutants (POPs) like hexabromocyclododecane (HBCDD) and 2,2',4,4',5,5'-hexabromobiphenyl (BB-153) and toxic elements (TEs) like arsenic (As), chromium (Cr), and nickel
(Ni) harm human health and the environment. HBCDD harms aquatic plants and animals, whereas BB-153, As, Cr, and Ni may cause human cancer. Buffalo River Estuary (BRE) is in East London. Organochlorine pesticides (OCPs), total petroleum hydrocarbons (TPH), phenolic derivatives, and polyaromatic hydrocarbons (PAHs) have all been found in BRE. HBCDD and BB-153 have never been reported in BRE. Thus, this study examined BRE's surface water and sediment HBCDD, BB-153, Cr, As, and Ni levels in 2020. GC-MS and GC-ECD were used to detect and quantify the analytes, while ICP-MS measured toxic elements (TEs) levels. BRE's surface water included BB-153, HBCDD, As, Cr, and Ni at quantities ranging from not detected (n.d.) to 0.03, from n.d. to 0.064, from n.d. to 3.89, from n.d. to 2.91, and from 0.028 to 3.946 μg/L, respectively. BRE sediment included n.d. to 508 mg/kg (dw) of BB-153, 0.009 to 426 mg/kg of HBCDD, 0.021 to 20.5 mg/kg of As, 0.220 to 64.5 mg/kg of Cr, and 0.078 to 28.3 mg/kg of Ni. The Hazard Quotient (HQ) risk assessment shows a low risk of non-cancerous diseases for adults and children. However, for cancer risk (CR) in adults and children, the number exceeds 10^{-4}, indicating a high risk for estuary swimmers due to trace element exposure, notably chromium (Cr).

______________________________________________________ Abstract D14

Agro-morphological characterization of yellow-seeded QPM inbred lines and topcross hybrids

Bobotyana, S.

Characterization of inbred lines is crucial in effective crop improvement and exploitation of heterosis in hybrid breeding. Agronomic and morphological traits are widely used in the germplasm characterization of crop plants. The objective of the study was to carry out a primary characterization of phenotypic traits of yellow QPM inbred lines. Twenty-two yellow QPM inbred lines and forty-nine hybrids were planted at the University of Fort Hare and Dohne agricultural institute research farm for the 2017/2018 and 2018/2019 summer seasons. A randomized complete block design with three replicates was used at two locations under acidic and normal soil conditions. The Inbred lines were evaluated using twenty-five agro-morphological traits (14 quantitative and 11 qualitative), such as grain yield, plant height, ear height, thousand kernel weight, leaf length, ear rot, and leaf area. The mean performance of inbred lines for grain yield ranged from 1.6 t/ha to 3.1 t/ha in optimum conditions, whereas it ranged from 1.1 t/ha to 1.7 t/ha under an acidic environment. The highest grain-yielding genotypes in the optimum environment were 14Y, 7Y, and QSY5 with 3.10, 3.01, and 2.90 t/ha, respectively. In the acidic environment, the highest yielders were 3Y, QSY5, and 17Y, with 1.7, 1.6, and 1.5 t/ha, respectively. Inbred line 16Y had the lowest grain yields in the optimum environment with 1.5 t/ha, whereas
under an acidic environment, 6Y was the lowest yielder with 1.1 t/ha. The grain yield displayed positive and significant (p<0.05) correlation with ear height (0.59), plant height (0.55), leaf length (0.18), number of leaves (0.37), number of ears per plant (0.54), number of kernels per row (0.63) and number of rows per ear (0.50). Highly significant differences were observed among hybrids for the number of kernels per row, ear length, and grain yield. Across environments, the analysis showed mean grain yields of experimental genotypes had a minimum and maximum of 1.78 t/ha and 3.42 t/ha, respectively. The highest-yielding hybrid was 14YxNC (3.22 t/ha), followed by QSY5xNC (3.02 t/ha). The top ten highest-ranked genotypes comprised eight testcross hybrids and two testers. The combined analysis revealed that most traits showed heritability greater than 50%, such as ear damage (59.92), number of rows per ear (51.76), and ear length (59.31). In addition, the mid-parent heterosis (MPH) for grain yield was the highest positive observed in hybrid 14YxNC, followed by QSY5xNC, QSY5xOBAT, 3YxNC, 13YxNC, and 4YxOBAT, while the remaining hybrids exhibited negative estimates. The information from this study can be utilized in breeding programs to develop varieties and exploit heterosis.
E. FACULTY OF SOCIAL SCIENCES AND HUMANITIES
Democratic Governance and Military Interventions in West Africa: Public Perceptions, Challenges and Envisaged Resolutions

Bosompem, H.K.

In recent years, some West African countries in the sub-region have witnessed incessant coups, which have destabilized the peace, and development and brought untold hardships to citizens of those nations, especially women and children. The study utilised the qualitative research approach. It solicited responses from different participants who were purposively selected and interviewed based on their willingness, knowledge, and availability. The paper made use of a systematic empirical inquiry into understanding and meaning which took the form of a literature review, official publications and correspondence, newspaper surveys, pamphlets and newsletters, dissertations, and theses as well as information from the internet were employed. This paper utilised the theories of military intervention in third-world countries and the military in politics. The findings showed that there is a strong public perception that unconstitutional regime reforms and illegitimate term extensions on the part of incumbent presidents account for the rampant coup d’états in the sub-region. It also emerged that the escalation of coups was the result of the huge presence and activities of Jihadist groups, terrorists, and Islamic insurgents in parts of the region. Furthermore, the paper discovered that unfavorable foreign policy, particularly, the French policy of assimilation had impoverished the French colonies in West Africa over the years. As a result, the colonies are staging a popular revolt against those foreign policies. The outcome of the paper and recommendations has great implications and influence for West African governments, policy makers, Development partners, Research Institutes, educational organizations, municipal institutions, and community leaders.

A Comparative Appraisal of Access and Quality of Sexual and Reproductive Health Services For Gays and Lesbians in Bulawayo (Zimbabwe) and Pretoria (South Africa).

Jasi, P.
There is a dearth of research about sexual and reproductive health (SRH) access and quality of care for gays and lesbian communities in Southern Africa in general, and South Africa and Zimbabwe specifically. This study investigated the extent to which gays and lesbians access quality SRH services in Pretoria and Bulawayo and examined the facilitators and barriers to accessing the same services. A mixed methods approach was applied involving both qualitative and quantitative data collection methods. A total of 30 key informant interviews, eight focus group discussions and 387 questionnaires were administered using purposive, time location and snowball sampling approaches. The study found that the most commonly available sexual and reproductive health services were contraceptives and sexually transmitted infections services. Several service providers were not adhering to the World Health Organization guidelines for provision of comprehensive services for key populations. Critical gaps noted included the absence of key populations-only service hours, the presence of a stigma and discrimination-free environment and the provision of comprehensive services under one roof. Most referral facilities had limited drugs, equipment and supplies for cancer screening, no HIV prevention, sex change, in-vitro fertilization, and sterilization services. Stigma and discrimination from healthcare workers was a huge barrier affecting access across all public health facilities. The study recommends the need for public authorities to address the bottlenecks and barriers affecting access to SRH services and products such as lubricants, affordable quality condoms, dental dams and latex gloves while reinforcing the facilitating factors promoting access.

Abstract E3

Reassessing the Neoliberal Paradigm and GDP-Centric Growth in the Context of Sustainable Development: A Critical Examination of UN SDG 8

Nekhwevha, F.N. and Chigbu, B.I.

This scholarly appraisal delves into the feasibility of attaining meaningful development within the framework of the United Nations (UN) Sustainable Development Goal (SDG) eight (8), which aims to foster inclusive and sustainable economic growth, full employment, and decent work. The article critically evaluates the pertinence of using GDP growth as a principal metric for development, particularly in the context of SDG 8 targets and their attainment by 2030. Despite advocating for GDP-based economic growth, this article contends that the emphasis on GDP is a flawed measure due to its inability to account for non-monetized aspects of well-being, such as unpaid work and social, environmental, and emotional components of development. Drawing from Amartya Sen’s perspective, it is argued that development transcends mere economic expansion, encompassing
multifaceted dimensions like education, health, housing, and social equity. The article elucidates that capitalism, driven by profit maximization, perpetuates unemployment and underpins global inequalities. Neoliberal policies of deregulation, tax cuts for the affluent, and privatization can hinder the realization of SDG 8's goals, particularly in terms of income growth for low-wage nations and eradication of extreme poverty. The authors argue that the SDGs' allegiance to neoliberalism and GDP-centric growth undermines their potential to achieve sustainable development. The focus on entrepreneurship and capitalism under SDG 8.3 raises concerns about resource depletion and environmental harm. The study suggests that insights from the degrowth paradigm, which emphasizes resource reduction and ecological balance, should guide future actions to avert the impending catastrophe of resource exhaustion.

Abstract E4

Unpacking Decent Work and Sustainable Economic Growth: Analysing Gender Inequality, Capitalism, and the Informal Sector within Sustainable Development Goal 8

Nekhwevha, F.N. and Chigbu, B.I.

Promoting decent work and sustainable economic growth within the framework of Sustainable Development Goal 8 (SDG 8) entails addressing gender inequality, the consequences of capitalism, and the role of the informal sector, while also considering environmental sustainability. Research on SDG 8 remains limited, often adopting an appraisal perspective, and the concept of decent work within this goal remains relatively unexplored. Additionally, the focus on the challenges and inadequacies of achieving sustainable economic growth through decent work in the context of SDG 8 is insufficient, resulting in significant knowledge gaps. To contribute to filling these gaps, this paper adopts a descriptive and critical review perspective, systematically analysing 172 journal papers and reports to investigate the concept of decent work within SDG 8. The research addresses the challenges and inadequacies related to decent work embedded in SDG 8. The review reveals that while progress has been made in tackling gender inequality in the labour market, gender bias, income discrepancies, and underrepresentation of women in senior positions persist, hindering inclusive and sustainable economic growth, full and productive employment, and decent work for all - SDG 8. The findings underscore the importance of providing fair, safe, and secure employment opportunities to support economic growth and development while upholding workers' rights. In conclusion, we emphasize the crucial role of promoting decent work and sustainable growth in achieving SDG 8's overall objectives, as it directly impacts other SDGs.
Working it to Make it Work: Intently Pursuing Climate Change Resilience Options amongst Smallholder Farmers in Lesotho

Ramalefane, T. and Moyo, P.

Climate change threatens food security in Southern Africa. Shift in rainfall patterns and increasing temperature ranges disrupt agricultural production and thus the livelihoods of the hundreds of thousands of people who depend primarily on agriculture for survival in Lesotho. Lesotho has reported ever increasing downward trend in grain production since the 1970s (Ministry of Food Security, 2012). On the other hand, prices of food have continued to rise. While Lesotho is historically one of the leaders in maize production in Southern Africa, this record has been replaced by major imports in legumes and wheat while maize production spirals downward. Amongst the challenges facing Lesotho’s food production is low adaptive capacity in coping with present reality of climate change and subsequent disruptions to conventional farming. While there have been many efforts to bolster resilience amongst farmers in Lesotho, the problems of yearly shocks to production persist. This study is an assertion that climate change is already the reality for Lesotho farmers and that more preparedness measures need to be in place than ad hoc responses to climate shocks. This qualitative study adopts social science approaches in understanding the level of agency amongst farmers and the critical outlook is employed in key informant interviews with major stakeholders to ascertain the forage of networks that can possibly exploited to bolster farmer resilience on more consistent and permanent basis. It is hypothesized in this study there are other capitals and opportunities that are yet to be optimized.

Assessing Climate Vulnerabilities of Urban Food Systems and Institutional Responses: The Case of Bulawayo, Zimbabwe

Maphosa, M. and Moyo, P.
Urban areas across the globe are grappling with the multifaceted challenges of climate change, particularly when it comes to ensuring food security for their residents. This study delves into the complex nexus of urban food systems and climate vulnerability, focusing on the city of Bulawayo in Zimbabwe. As a case study, Bulawayo serves as an illuminating example of the intricate web of climate-related risks and institutional responses affecting urban food security. The primary aim is to provide a comprehensive understanding of the complex relationships between urban food systems, governance, and climate change. The research employs a combination of document analysis and a qualitative approach. Document analysis provides valuable insights into the policies, strategies, and governance mechanisms in place to address climate vulnerabilities in urban food systems. Qualitative research helps to gain a deep understanding of institutional responses to climate vulnerabilities in urban food systems. It allows for in-depth exploration of perceptions, experiences, and the context in which institutions operate. Preliminary findings underscore the importance of effective urban governance and adaptive policies in mitigating climate vulnerabilities in urban food systems. The study also underscores the importance of integrating food system considerations into urban planning and climate action policies.

Abstract E7

Bridging the Gap between Research and Practice in South African Child Welfare: An Analysis of Recommendations for Future Directions

Schiller, U. and Strydom, M.

South Africa’s child welfare system uniquely collaborates with non-governmental organisations (NGOs) and the State to deliver child protection services. Despite comprehensive policies and legislation developed since 1994 to implement a social developmental welfare model, challenges persist in translating these ideals into effective practice. This study recognises the gap between research and practice in the field and seeks to align recommendations from research with the practical needs of the South African child protection system. Teater’s observation (2017) of the disparity between research and practice underscores the necessity for improved communication between researchers and practitioners. Through a systematic review of research articles over the past decade, this study identifies prevalent themes in the South African child protection literature, shedding light on key focus areas for future research and practice. The findings emphasise the significance of enhancing macro-level interventions, revisiting policy and legislation, re-evaluating the funding framework, and enhancing the State's role in implementing the developmental model. While
congruence in recommendations arises from the reality of practice, this study advocates for the collaborative exploration of innovative solutions alongside practitioners to create comprehensive, contextually relevant strategies for developmental welfare service delivery.

Abstract E8

An Assessment of Access to South African Liberation Movement Archives Beyond the University of Fort Hare Repository

Mzamo, D. and Allsobrook, C.

The study examines access of the scattered South African liberation struggle archives beyond the University of Fort Hare to establish the scope of what is available and the extent to which open access is afforded for scholarship and community participation in general. The discourse on custodianship and accessibility of the scattered liberation struggle archives has been a neglected subject and Fort Hare NAHECS is working on strategic partnerships with various partners to centralise the liberation archives through a common server for open access to South African scholars, communities and researchers. The paper seeks to establish claims to access in relation to the legislative framework which governs Access to Information in post-apartheid South Africa. The data was collected using the triangulation approach, a qualitative method, considering multiple case sites for a single case study design. Liberation archives are classified as those that were repatriated from exile, but this classification has been problematized as limiting and omitting the genesis of political resistance by perpetuating a monistic colonial grandstanding narrative. The researcher also draws attention to misplaced archives preserved by institutions outside South Africa to investigate their accessibility online and in digital repositories.

Abstract E9

Psychological Well-Being of Recent Doctoral Holders from one University In The Eastern Cape, South Africa: A Case-Study.

Kunene, L.M and Kheswa, J.G
Research worldwide has identified doctoral students being prone to impaired mental health with heavy sociological consequences for society, universities research outputs and national as well as international rankings. Published literature emphasizes that impaired mental health among doctoral students especially in historically black universities such as in South Africa, is caused by lack of emotional support from the supervisors to enhance their academic skills. To investigate forms of psychological challenges that the doctoral students experienced and what strategies they used to surmount them, this study employed a purposive, qualitative approach to interview twenty-one successful doctoral holders from one university in the Eastern Cape, South Africa. Prior data-collection, the researchers applied for the Ethical Clearance Certificate and asked for the informed consent of the participants. To achieve trustworthiness, four principles namely, confirmability, credibility, transferability and generalizability by Lincoln and Guba, were followed. In line with Carol Ryff’s theory of psychological well-being, which guided this study, the resultant findings following coding of the themes demonstrate the importance of pre-PhD registration counselling, continuous engagement with the supervisors for self-regulated learning, positive self-esteem and active effort to maintain a healthy mental state of mind during the PhD journey.

Abstract E10

Exploring the Psychological Well-Being Of People Living with Hiv/Aids in Lusikisiki, Eastern Cape, South Africa.

Nodwengu, N., Hoho, V. and Kheswa, J.

The study's objective is to examine how the psychological health of people living with Human Immunodeficiency Virus (HIV) and acquired immunodeficiency syndrome (AIDS) is affected as well as how they manage their daily lives on a physical, social, and psychological level. In a qualitative study conducted among members of one of the support groups run by the Treatment Action Campaign (TAC) District office in Lusikisiki, fifteen isiXhosa-speaking participants—men and women—between the ages of 20 and 60 were interviewed. Prior data collection, the ethical clearance was obtained from the Inter-Faculty Ethical Committee (IFREC) of the University of Fort Hare, South Africa. Drawing from Ryff’s six dimensions of psychological well-being, the results show that PLWHA owing to acceptance of their HIV-positive status, accessing the antiretroviral drugs, and being emotionally supported, demonstrated resilience. Furthermore, the following themes emerged, namely; self-motivation, spirituality or religion, and support
networks as coping techniques despite being unemployment. It is recommended that the community initiatives like raising poultry and cultivating vegetables could help improve the lives of PLWHA and sustainability of the project.

Abstract

Supporting LGBTQ Students in Rural Universities in South Africa: Towards the Promotion of Diversity, Inclusivity and Visibility

Banda-Chitsamatanga, B.

While South Africa has made huge strides in its protection of LGBTQ (Lesbian, Gay, Bisexual, Transgender and Queer/Questioning) persons, however within the university spheres, issues of support, inclusive teaching and learning of LGBTQ perspectives continue to be compromised due to the prevailing heterosexist system. Using a mixed methodology approach, with a sample size of 362 undergraduate and postgraduate students, the survey aimed to examine the perspectives of University of Fort Hare students on knowledge and experiences on LGBTQ issues, and measures taken by the university to promote or undermine inclusion and diversity. Key findings of the study revealed that despite the existence of LGBTQ students on campus preconceived notions, and a lack of understanding of LGBTQ identities were evident due to cultural and religious beliefs leading to mixed feelings about interacting with the LGBTQ students. Results further suggested that hidden and formal curriculum offerings either avoided, hardly mentioned, neglected, or expressly excluded LGBTQ perspectives in teaching and learning due to reticence on training and guidance on what entails LGBTQ inclusivity. Concerted efforts to increase awareness on what constitutes exclusionary practices accompanied by inclusive campaigns, to empower university stakeholders are proposed to help ameliorate cis-heteronormative attitudes while supporting LGBTQ inclusive practices and diversity. Application forms for admissions and registration process should comprise of gender-inclusive language to assist the university in having accurate institutional data on student orientation, gender identity, gender expression or sex characteristics. Formulation and implementation of policies that dismantle cis-heteronormative culture remain critical.
Are Offensive Operations the most viable form of defense? : A discourse on border securitization in Post-Apartheid South Africa

Awosusi, O. and Ferim, V.

South Africa has the most geostrategic advantages in Southern Africa. However, the deployment of the borders as the instrument of Pretoria’s diplomatic engagements since 1994 witnessed unanticipated cross-border challenges ominously impacting its national security architecture. The borders have been poorly engaged, especially in relations with the neighbouring states, and thus rendered it a haven for cross-border illegalities and criminalities, such as smuggling, drug/human trafficking, and border jumping among others. In national moves to secure the borders, Pretoria deploys various border securitisation measures such as stringent visa regime, migrants-containment, fence-building, and border militarisation. This study thus examines South African border securitisation advances in the SADC region. It argues that the ongoing ‘offensive diplomacy’, especially the recent deployment of armed border guards to manage the borders remains an imported Eurocentric and nationalistic advances, which does not reflect the dynamics of its inherited colonial borders with the neighbouring countries, and thus holds no prospect for its national security. It submits that diplomatically engaging the borders from ‘below’ to factor in the ‘divisive elements’ and dynamics of the borders has the potential of arresting the lingering border security threats in the country. The study adopts a qualitative research design, using primary and secondary data with the thematic content-analytic method.
A. POSTGRADUATE STUDIES (PGS)
Detection of resistance genes in Klebsiella pneumonia isolates recovered from hospital effluents in the Eastern Cape Province.

Joan U. Okafor and Uchechukwu U. Nwodo

*Klebsiella pneumoniae* (*K. pneumoniae*) is an opportunistic bacterium responsible for many nosocomial and community-acquired infections. The emergence and spread of antibiotic resistance have resulted in widespread epidemics and endemic dissemination of multidrug-resistant pathogens. A total of 145 *K. pneumoniae* isolates were recovered from hospital wastewater effluent and subjected to antibiogram profiling. Furthermore, the antibiotic resistance determinants were assessed among phenotypic resistant isolates using polymerase chain reaction (PCR). The isolates showed a wide range of antibiotic resistance against 21 selected antibiotics under 11 classes, with the most susceptible shown against imipenem (94.5%) and the most resistant shown against ampicillin (86.2%). The isolates also showed susceptibility to piperacillin/tazobactam (89.0%), ertapenem (87.6%), norfloxacin (86.2%), cefoxitin (86.2%), meropenem (76.6%), doripenem (76.6%), gentamicin (76.6%), chloramphenicol (73.1%), nitrofurantoin (71.7%), ciprofloxacin (79.3%), amikacin (60.7%), and amoxicillin/clavulanic acid (70.4%). Conversely, resistance was also recorded against tetracycline (69%), doxycycline (56.6%), cefuroxime (46.2%), cefotaxime (48.3%), ceftazidime (41.4%). Out of the 32 resistance genes tested, 28 were confirmed, with [tetA (58.8%), tetD (47.89%), tetM (25.2%), tetB (5.9%)], [sulI (68.4%), sulII (66.6%)], and [aadA (62.3%), strA (26%), aac(3)-Ila(aacC2)" (14.4%)] genes having the highest occurrence. Strong significant associations exist among the resistance determinants screened. About 82.7% of the *K. pneumoniae* isolates were multidrug-resistant (MDR) with a multiple antibiotics resistance index (MARI) range of 0.24 to 1.0. A dual presence of the resistant genes among *K. pneumoniae* was also observed to occur more frequently than multiple presences. This study reveals a worrisome presence of multidrug-resistant *K. pneumoniae* isolates and resistance genes in hospital waste effluent, resulting in higher public health risks using untreated surface water for human consumption. As a result, adequate water treatment and monitoring initiatives designed to keep track of antimicrobial resistance patterns in the aquatic ecosystem are required.

**Keywords:** Hospital; antibiotics resistance; genes. Multidrug; *K. pneumoniae*. 
Responses of fungal diversity and community composition after 42 years of prescribed fire frequencies in semi-arid savanna rangelands.

Sanele Bridged Poswa, Alen Manyevere and Victor Mashamaite

Prescribed fire frequencies have been widely used to reduce the risk of severe wildfire occurrences. In addition, several studies have been conducted to assess the impact of these fire frequencies on vegetation, vertebrate, and invertebrate species, as well as soil physical and chemical properties. However, there is a lack of empirically based knowledge concerning the impact of fire frequency on soil microorganisms. This study assessed the effect of different fire frequencies on the diversity and composition of soil fungal communities in semi-arid savanna rangeland. Soil samples were collected from an ongoing long-term trial at the University of Fort Hare (South Africa) on the following treatments: (i) no burning; (ii) annual burning (burned once every year); (iii) biennial burning (burned once every 2 years); (iv) triennial burning (burned once every 3 years); (v) quadrennial burning (burned once every 4 years); and (vi) sexennial burning (burned once every 6 years). Fungi were identified using high-throughput sequencing, with Shannon-Wiener and Inverse Simpson diversity indexes being used for diversity and network analysis. Principal coordinate analysis was used for Bray-Curtis distance matrices to visualise the relationships between treatments. The highest diversity was found in biennial burning, which was significantly different ($p < 0.05$) from the sexennial, quadrennial, and no burning treatments but was not different from the triennial and annual burning treatments. Regarding the taxa, Ascomycota and Basidiomycota were the most identified phyla, followed by Mortierellomycota, Chytridiomycota, and Rozellomycota. The different fire frequencies had an influence on soil fungi diversity and taxonomic composition in semi-arid savanna rangelands.

Antibiogram characteristics of Salmonella enterica serovars isolated from swine, poultry, and cattle dairy farms in the Amathole District and Buffalo City Metropolitan Municipalities, Eastern Cape.

NKALANE ONGEZILE, Okoh Anthony and Nontongana Nolonwabo
Salmonella enterica is a normal commensal of the human and animal gastrointestinal tract, which may be transmitted through the faecal-oral route, eventually cause Salmonellosis that is diagnosed with diarrhoea and other symptoms. Antibiotics are recommended for the treatment of the disease, with time that of the infections has been challenged greatly by multidrug resistant pathogens. This study aimed to determine the antibiogram profile of Salmonella enterica serovars isolated from swine, poultry, and cattle dairy farms in the Amathole District and Buffalo City Metropolitan Municipalities in the Eastern Cape. A total of 198 faecal droppings were collected and Salmonella enterica was isolated using Rappaport-Vassiliadis enrichment broth and Xylose-Lysine deoxycholate agar. Polymerase chain reaction with specific primer sequences was used to confirm presumptive isolates and delineate them to respective serotypes. All positive isolates were tested against 15 antibiotics, followed by PCR screening of antimicrobial resistance determinants for isolates showing phenotypic resistance. Sixty isolates were positive for Salmonella, with 48% and 45% of isolates recovered from chicken and swine faecal samples respectively. From the 3 Salmonella enterica serovars that were screened, only Typhimurium was detected with a frequency of 26.67% (16/60). Ninety percent of the isolates were resistant to at least one antibiotic, 43.33% were multidrug resistant with antimicrobial resistance determinants BlaZ (53%), BlaTEM (47%), TetA (64%), TetC (41%), and BlaIMP (60%). Continuous monitoring of antibiotic use in dairy farms is recommended to reduce the rate of further development of multidrug resistance and surveillance of Salmonella enterica serovars to keep track on the spread of multidrug resistant pathogen.

Abstract PGSA4


SINQADU MLULEKI, Zelalem Sintayehu Shibesh and Khuram Khalid

One of the issues that service consumers face when using cloud-based solutions is the delay in processing large and real-time data. Fog computing has been introduced as a solution to this issue since it allows the data to be processed at the edge of a network while enabling different tasks to be scheduled for processing in Fog devices at the edge network. These devices still require cloud resources to give them the capacity of processing real-time applications. However, scheduling these tasks must be made in such a way that they do not consume all the available resources on a Fog device. When a task consumes all available resources, it can lead to network breakdown or high latency which is not acceptable for real-time applications. Therefore, to address this problem, this
paper proposes a task scheduling technique for traffic surveillance vehicular network application through smart cameras. We used the iFogSim simulator, where the scenario of vehicle tracking is considered. Simulations are conducted to find an efficient scheduling algorithm among a pool of available ones that can optimize the energy consumption and average delay of our proposed real-time application model. The results show that the First Come First Serve (FCFS) scheduling algorithm outperforms the Short Job First (SJF), Generalized Priority (GP) and Round Robin (RR) counterparts in terms of average latency, energy usage, execution time and network usage.

Abstract PGSA5

**Microbial quality of polyherbal formulations traditionally used against enteric bacterial diseases in Raymond Mhlabo Local Municipality.**

**MKETSU ZIZIPHO**, Okoh Anthony, and Nontongana Nolonwabo

The global use of polyherbal formulations has increased rapidly in recent years especially in developing countries. However, quality assessment of polyherbal medicines is frequently lacking, something urgently required for the safety of users. Hence, this study investigates microbial quality of polyherbal formulations used for the treatment of enteric bacterial diseases in Raymond Mhlabo Local Municipality in the Eastern Cape Province of South Africa. A total of 17 polyherbal formulations were collected. Enteric bacteria were isolated while total viable bacteria, total coliforms, faecal coliforms and mycoflora counts of samples were determined using serial dilution and spread plate method. One (6%), two (12%), three (18%) and two (12%) were unsafe for human use because they exceeded WHO’s permissible limit for total viable counts, total coliform, faecal coliforms and mycoflora counts respectively. *E. coli* and *Vibrio* species were the predominant bacteria obtained from polyherbal preparations. Microbial contaminants in these polyherbal formulations pose the risk of infections to consumers therefore appropriate standards for all herbal medicines should be followed to assure safety.
Spatiotemporal distribution of ground-dwelling insects in the citrus plots and surrounding vegetation.

MQHOKWENI MBEKO, Pfarelo G. Tshivhandekano & Lelethu U.P. Heshula

Ground arthropods are an essential component of agroecosystems, contributing significantly to their biodiversity and functioning. However, various factors affect the seasonal patterns, population dynamics, and substantial contributions these ground arthropods make to enhancing soil structures and functions. The current study aims to provide a standard inventory of the diversity of insects found in the Greenwood citrus farm of Fort Beaufort. Monthly sampling activities were conducted using pitfall traps that were left open for at least three days and half-filled with soap and water. There were 60 passive pitfall traps evenly distributed in the three orchards: Naartjies, Oranges, and Lemons (20 per orchard). So far, 3082 ground arthropods have been sampled; 1097 were captured in Naartjies, 580 in Oranges, and 1405 in Lemons. In Naartjies and Oranges, we recorded nine orders, while eight were in Lemons. We recorded higher numbers of ground-dwelling arthropods during the February and March sampling months. The mean abundance per sample was more elevated in autumn than in winter. Hymenoptera dominated all orchards during autumn and winter, with Lepidoptera less dominant.

Keywords: Spatiotemporal ∙ Ground arthropods ∙ Agroecosystems ∙ Biodiversity ∙ Pitfall traps

Synthesis and Characterization of polymer-based wound dressings loaded with Capparis sepiaria for management of infected wounds.

KULA HLALISA

Infected wounds are among the leading causes of global mortality and morbidity; this is due to the use of improper wound care treatment. The problems associated with the wound dressings used currently include causing allergies, toxicity to cells and
microbial invasion. Bio and synthetic polymers such as PVA, CMC and SA were used as bases for preparation of hydrocolloids (single and double layer) and cryogels and then encapsulated with natural plant extract *Capparis sepiaria*. The wound dressings were characterized by FTIR, and results showed the successful polymerization and the absence of interaction between the polymer network and the loaded drug. SEM analysis revealed interwoven, uniformly aligned, and moderate porous nature of the dressings. The dressings’ mechanical properties, Water Vapour Transmission Rate (WVTR), *in vitro* antibacterial, and *in vitro* cytotoxicity were performed. *In vitro* antibacterial studies showed the efficacy of the wound dressings against selected gram-positive and gram-negative strains of bacteria while *in vitro* cytotoxicity studies confirmed the non-toxic nature of the dressings. Furthermore, the porosity, folding endurance, swelling behaviour, and dressing pH properties of the dressings were also studied. The prepared polymer-based wound dressings exhibited good porosity percentages between 55%-79% as well as WVTR values similar to that of commercially used dressings. The results obtained in this study indicate that the hydrocolloids and cryogels are potential wound dressings for infected wounds and for patients with sores that take long to heal.

**Keywords**: Sodium alginate, cryogels, capparis sepiaria, biopolymers, wound dressings.

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**Abstract PGSA8**

*Exploration of ligninolytic bacteria and their lignin peroxidase enzyme for potential application in the removal of phenolic compounds from industrial wastewater.*

MFUDUKA VUSUMZI and Nnolim Nonso

There is an increasing concern about water security around the world. A significant reason for this is the continuing difficulty in ensuring the availability, accessibility, and sustainability of water sources. In many developing countries, including South Africa, there is a lack of adequate wastewater treatment facilities. These facilities are crucial for treating and purifying wastewater before it is released into the environment. Without proper treatment, wastewater contains many contaminants, including organic matter, pathogens, chemicals, and nutrients. This study focuses on characterising and determining bacterial isolates from soil samples obtained from the Hogsback Forest reserve in Hogsback, Eastern Cape, South Africa. The bacterial isolates were assessed for ligninolytic properties and lignin peroxidase production. Lignin peroxidase enzyme holds a vast potential for enzymatic removal of toxic phenolic compounds from industrial wastewater effluents. The isolated bacterial strains were screened for ability to degrade...
lignin model compounds (Veratryl Alcohol and guaiacol) and ligninolytic indicator dyes (Azure B, Congo Red, Remazol Brilliant Blue R, and Methylene Blue). Eight (44%) of the tested isolates were favourable for degradation of both lignin compounds. All tested isolates (8) (100%) could decolourise Congo Red and Remazol Brilliant Blue. Only one (12.5%) isolate was able to decolourise Methylene Blue. None of the isolated was able to degrade Azure B. Phenol degradation assays will be performed, and the factors affecting phenol degradation will be optimised. The bacterial strains will be identified through 16S rDNA sequence analysis and the nucleotide sequences deposited in the GenBank.

Optimization of physical and nutritional parameters for the production of xylanase from lignocellulose degrading-bacteria.

NTUZELA BONGILE

Lignocellulose is a plant dry matter that mainly consist of three different types of polymers which are cellulose, hemicellulose and lignin. Lignocellulose is very abundant matter and until recently numerous studies have been carried out to determine ways of converting into usable material. Lignocellulose degrading-bacteria are capable of producing hydrolytic enzymes that breakdown lignocellulose into simple compounds that can be used for various purposes across different industries. Bacteria was isolated from Hogsback woodland and Alice municipal dumpsite. These samples were later on analysed in the lab for the isolation of bacteria by incubating them in minimal salt media for 7 days. Bacterial isolates were purifed on the same media and primarily and secondary screened for the production of xylanase. Parameters such as pH, temperature, incubation time etc. were optimized by incubating bacteria on minimal salt media. Furthermore, enzyme assays were carried out to determine the enzyme activities. Different isolates had peaks or highest activites at different values of the conditions that were optimized. These conditions are now known this indicates that bacteria can utilized to produce xylanse at optimum conditions.
Soil hydrological behaviour in grassland, rangeland, and cropland ecotopes using hydropedological interpretation in Raymond Mhlaba municipality, Eastern Cape, South Africa.

NYAMBO SIPHAMANDLA, Alen Manyevere

The Eastern Cape Province in South Africa is endowed with an arid-semi-arid climate, highly dispersive soils, and inappropriate land use management practices. A multidisciplinary approach is required for the conservation of soil and water resources in these areas. The aim of this study is to use the hydropedological approach to evaluate the soil hydrological behaviour of three ecotopes found in three catchment areas in the Raymond Mhlaba municipality, Eastern Cape Province, South Africa. The grassland, cropland, and rangeland ecotopes were identified in Alice, Mbizana and Blinkwater catchment areas. A total of 243 soil samples were collected to measure soil hydraulic properties at 0 –20, 20 –40 and 40 –60cm depth intervals. Soil morphological properties were used to classify hydropedological soil types. Soil hydraulic properties were high in grassland ecotopes, indicative of high infiltration associated with high lateral water flow. The ecotope recharges the groundwater table in the catchments. Overland flow in cropland and rangeland ecotopes is the dominant soil hydrological flow, related to soil crusting and erosion. Soil hydrological behaviour in the different ecotopes was impacted by the climate conditions in each catchment area, with emphasis on potential evapotranspiration in semi-arid catchments. The results contribute to further understanding of ecotope and catchment hydrological processes. It forms a database for decision-making related to sustainable soil and water resource management, especially in fragile environments with limited land use management.

Key words: Soil hydrological processes, sustainable management, ecotopes, catchment area, water flow paths.

Dramatization of agricultural technologies as a method of diffusion to promote climate smart farming among smallholder farmers in the Eastern Cape, South Africa.

TSHAYINGWE KAMVALETHU
Climate change is a global issue affecting millions of individuals worldwide. It is one of the greatest obstacles facing small-scale agriculture in South Africa. This study's primary objective is to determine the efficacy of using video drama as a dissemination method to increase farmers' awareness and adoption of climate-smart agriculture. The study employed an ethnographic research design to develop a scenario depicting climate-smart agricultural technologies that smallholder farmers can implement to mitigate climate change. The research was conducted from the perspectives of social learning theory and entertainment education theory. Awareness regarding climate change and climate-smart agricultural technologies was disseminated through the use of video drama. The crop production technologies depicted in the drama are water conservation demonstrated by homemade drip irrigation techniques, liquid fertilizer application, and pest management demonstrated by sowing desmodium plants using push-pull technology. The study will use a sample size of 156 smallholder farmers from the Eastern Cape, South Africa. A semi-structured questionnaire was developed to be used to obtain information from the respondents before and after watching the video drama. The data will be analyzed using McNemar's test, where the dependent variable is dichotomous. Test of hypothesis will be carried out to determine the significant of the dependent variables from the study. Statistical Package for Social Sciences (SPSS version 29) will be used for the analyses. Key findings will be analyzed and recommendations given.

Abstract PGSA12

Ruthenium-based compound for anticancer activity.

Ayodele T. Odularu, Xolani Khalo, Msimelelo B. Nkohla, Peter A. Ajibade, Pelokazi Nkombi, Johannes Z. Mbese, Opeoluwa O. Oyedeji

Limited stability in aqueous solution is a main challenge in applying ruthenium complexes as therapeutic agents. Additional challenge occurs when ruthenium nanoparticles’ particle sizes for targeting specific organs are hindered to achieve effective anticancer activities. The purpose of this study is to explore ruthenium-based compounds for effective anticancer activity. The methodology used to achieve the purpose was a five-year (2019 -2023) duration systematic literature review using Scopus and Web of Science (WoS) as the database search engine. Results from literature search revealed that solution of enrapped Ru(II) coordination compounds in nanomaterial system improved their targets and delivering into cancer cells.
School culture as barometer of learners’ success: A Case study of Eastern Cape selected schools.

Mzokwana N. N. and M Mkhomi

The South African government attaches high priority on education hence a bigger share of the country’s budget is allocated to education. Literature presents a growing concern that South African public schools are not performing well with several contributing factors for learners’ poor performance. However, despite poor learner performance in selected schools, there remains a number of schools that continuously produce satisfactory results. It is against this background that this paper sought to determine whether school culture has a contribution to Grade twelve learners’ academic performance in selected secondary schools in the Eastern Cape Province. This paper used the Social Interactionist (Mead, 1934) as its lens which seeks to understand events and circumstances around us and influence behavior. This paper is in the interpretivist paradigm and employed qualitative approach to gain experiences and opinions of participants on the influence of school culture. A case study design was adopted. Purposive sampling was employed to select five rural public secondary schools with a total number of forty participants.

A pilot study was done with four respondents who were not part of the sample. Data collection was done through semi-structured interviews by following an interview guide. Data triangulation was done to ensure validity and credibility of research findings. Among the findings that emerged from the study was the critical role of stakeholders in creating a safe environment for teaching and learning, instructional leadership, accountability and responsibility culture, curriculum monitoring and support, corporal punishment, teachers’ Ill-discipline, and poor leadership, mentoring and coaching, extra classes for grade twelve learners. The paper therefore recommends cascading focus to the lower grades to continuously sustain school culture that enhances good learner performance; proper planning; protection of instructional time; and consequence management.

Keywords: Organizational culture. School culture, academic performance, academic achievement.
South African trajectory of closure of public schools: case studies of rural and urban KwaZulu Natal Schools.

KHUZWAYO, HP, Mkhomi MS and Gqeba NG

The Constitution of the Republic of South Africa of 1996 guarantees every child a right to education and obligates the state to provide basic education opportunities to all its citizens. However, schools throughout the country are closed down or merged disadvantaging local communities, particularly the rural communities. Learners are forced to travel long distances in search of education or drop out of school. Often the department of education cite unaffordability of running schools with lower learner and enrolment and limited resource allocations. This process of closing or merging schools, termed rationalisation, is justified by the department of education as means to increase efficiency and equity. This concept paper seeks to explore the available literature into the nature, scale and the impact the rationalisation process in KwaZulu Natal public schools. This paper adopts qualitative research approach and is underpinned by Van Manen's (2017) Theory of Lived Experiences. The relevant literature will be analysed using thematic approach.

Challenges to instructional leadership in South African public schools.

GAZI, N and Mkhomi M S

In South Africa the role of a school principal is legislated in the South African Schools Act (SASA) No. 84 of 1996 as well by the policy on the South African Standard for Principalship (2015), which both aim to improve principals' leadership capacity and ultimately enhance learner performance. Despite the legislative frame and policy directives, South African schools are experiencing a number of factors affecting instructional leadership that lead to poor academic standards or poor curriculum management delivery. Let me just highlight the few persistent ones: The principal’s duties are filled with diverse administrative functions rather than instructional activities. Another factor raised by the literature is that principals have been described as lacking the explicit
knowledge base and skill set needed to function as instructional leaders. Furthermore, the role of school principal has become
difficult as a result of increased instructional responsibilities and managerial tasks. These are some of the perceived roadblocks
experienced by school principals in becoming effective instructional leaders. However, these challenges are not peculiar to South
African context but are a universal phenomenon. Therefore, this concept paper seeks to review literature to identify prevalent
factors affecting instructional leadership in schools.

**Keywords**: school principal, instructional leadership, academic performance, curriculum.

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**School stakeholders’ perceptions of principals’ instructional leadership practices.**

**MSHWESHWE, Y** and Mkhomi MS

South Africa has prioritized education in many policy agendas. Despite the fact that education is a top priority in South Africa, some
schools are still falling behind in terms of their performance, the evidence of this could be seen in the country’s school pass rate for
each province, which shows that provinces like Limpopo achieved 66.7 percent in the 2021 matric exam, while provinces like the
Free State managed to achieve 85.7%. This stark disparity between the two provinces demonstrates the necessity to examine our
educational system with a stethoscope. Education provides the citizens an opportunity to access new horizons, extends freedom,
creates new opportunities, it provides people with the knowledge to create new innovation. To achieve improved learner
performance, schools need effective instructional leader to drive the mission of learner performance. However, even the worst
performing schools have instructional leaders who need to be supported, mentored, and guided to achieve improved performance.
Therefore, this concept paper zooms into school stakeholders’ perceptions and understanding of an ideal instructional leader
through literature review.

**Keywords**: school principal, instructional leadership, academic performance, curriculum.
School based interpersonal conflict management strategies: A review of South African schools’ cases.

FATAU KASSIM ABDUL and Mkhomi M S

Interpersonal conflict is certain or bound to happen in human strives and it is a common occurrence in an organisations and schools are not immune from it. The level of interpersonal conflict presents in schools result in school dysfunctionality which escalates the interpersonal conflict and adversely affect school performance. The SMT are not able to manage a school interpersonal conflict because it has become a scourge and people are fighting and are being killed and some are having a nervous breakdown and burnout, that is overwhelmed, emotionally drained and unable to keep up with life’s incessant demands because the SMT is struggling to produce the intended results. The purpose of this paper seeks to explore the management strategies that can be applied in dealing with interpersonal conflicts in schools. The paper is guided by the ABC conflict theory or the conflict triangle theory of Galtung (1996). The paper reviews relevant literature to explore the nature of appropriate conflict management strategies.

Keywords: conflict, interpersonal conflict, conflict management strategies, school management team.

Afrophobia and Intra-African Relations: The role of cultural diplomacy.

AWOSUSI OLADOTUN EMMANUEL and Ferim Valery

Afrophobia is a continental phenomenon that devastates the African developmental agenda. Despite the post-independence pan-African efforts, the continent has faced recurring xenophobia/Afrophobia, resulting in episodic diplomatic spats between and among African nations. Although the theme of cultural diplomacy is not novel in African regional discourse, the role of creative industries in addressing the pervasive mistrust between and among African nations remains underexplored. This paper argues that emphasising the mutually admired cultural products between and among citizens of African countries, the shared suspicion that
fuels xenophobic outbursts can be curbed significantly. The study explores the role of certain arms of the creative industry, such as the film industry, Afro-pop music, national festivals, and cultural troupes, to enhance people-to-people interactions and mitigate the devastating effects of Afrophobia in the continent.

Assessing Strategies of Addressing Linguistic Gap in a Multilingual Classroom: A case of Four Primary Schools in Amathole West District.

MAKHOHLISA NCEBAZAKHE, Madziya Elizabeth and Sindiso Zhou

Before 1994, English and Afrikaans were the preferred languages for education in South Africa. This arrangement favoured those who had English or Afrikaans as their home language. Consequently, the interim constitution which was developed in 1993 declared South Africa a multilingual state, with 11 official languages, which was a response to English and Afrikaans dominance during apartheid. Therefore, South Africa’s diverse nature required the utilization of different strategies in teaching and learning to create equal learning opportunities for all learners in a multilingual classroom. This paper problematised the lack of implantation of proper strategies that could address the language gap in a multilingual classroom setting. The paper focused on two research questions: What are the strategies that teachers use to address the linguistic gap in a multilingual classroom? How effective are the strategies employed by teachers? The study employed Lambert’s Social Psychological model for second language learning as the theoretical framework. Data were collected from English FAL and content subject teachers from four primary schools in Amathole West district. The interviews and classroom observations served as data collection tools for this paper. Findings indicated that teachers employed a wide range of strategies to address language barriers in their classrooms including translanguaging, code-switching, the use of technology, extended time for language classes and cooperative learning with varying success dependent on learner context and learner variability. Recommendations include a review of the current language policy, provision of workshops for teachers, provision of adequate reading materials for learners, and parental involvement to bridge the language gap. Keywords: Linguistic gap; Strategies; Multilingualism; Translanguaging; Code-switching; Social Psychological Model.
Tracing the nexus between language, decoloniality and education in South Africa.

MADZIYA Z ELIZABETH, Makhohlisa N and Zhou Sindiso

The history of the South African education system demonstrates that language plays a central role in education and it can empower or disempower learners. Language was used as a tool of exclusion and oppression through the use of English and Afrikaans in apartheid South Africa. After attaining independence, South African indigenous languages do not live up to their official status as espoused in the constitution. The paper explores ways in which language can be used to decolonize learning in general, and English second language learning in particular. At the core of this study are the questions; What is the link between language, decoloniality and education? What is the current position of African languages in the education sector? This study used secondary data from existing literature. The conceptual framework used in this paper was developed using concepts drawn from Ruiz’s Language as a Right, Language as a Resource and Language as a Problem as well as Ndhlovu and Makalela’s (2021) concepts on decolonizing multilingualism. Findings from this study established a nexus between language, decoloniality and education. Linguistic injustice is still prevalent as the school curriculum conforms to monolingual ideologies and biases despite the existence of a well-designed language policy that aims to promote equality, inclusivity and diversity in South Africa. There is a lack of strategic intent and implementation of strategies that accommodate learners’ linguistic nature and capabilities. This paper calls for more research to assess strategies that are currently in place and their effectiveness in disrupting English monolingual instruction. We recommend that policy makers must ensure that the Language in Education Policy achieves its core objective, which is to accept dynamism and multilingualism.

Keywords: English language; multilingualism; decoloniality; South African schools; decolonizing.

A critical examination of the language that denigrates women in isiXhosa poetry.

MDLIVA MQHUBI G. and Lukhanyo E. Makhenyane
IsiXhosa poetry has been researched extensively by researchers in African Languages and Literatures. Over the years, scholars have established isiXhosa poetry’s nature and contribution in nation building and healing the ills of the society. Furthermore, they have noted that through its use of rich language, the masses have been moved to act in political and social settings. Although much has been researched about the language used in isiXhosa poetry, there is a paucity of extended research on the language that denigrates women in isiXhosa poetry. It is then the aim of this paper to examine how isiXhosa poetry denigrates women by using language. This study is qualitative in nature, and it will use secondary data to examine the language that denigrates women in isiXhosa poetry. I will examine seven (7) isiXhosa poems written in the 21st century, to identify and examine language that is used to refer to women. I will base my analysis on the principles of African feminism. This theory examines the depiction of African women in literature, issues of equality as well as how women should be depicted. I discovered that some isiXhosa poets use language that can lead to gender-based violence in an era of democracy in South Africa. Language is also used to disparage women’s intellect as well as to show gender inequality. These findings are viewed against the backdrop of African feminism, to bring to the attention of contemporary poets the language to depict women in poetry.

**Keywords:** denigration; women; democratic dispensation; isiXhosa poetry; African feminism.

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**Abstract PGSB10**

Towards translanguaging (TLA) as pedagogical tool for assessment in the Zimbabwean education system.

**NDLOVU NOELINE**

This article critiques stagnation on monolingualism policy. It problematizes constraints of monolingualism assessment (MLA) in post-colonial multilingual education fraternities. It seeks a responsive, disruptive and delinking point of departure from MLA challenges and challenged Anglo normativity for trampling on linguistic diversity, the very rich innate linguistic resource that epitomises multilingualism. A qualitative approach was used to gather data from information rich participants, on the challenges of MLA. Qualitative Content Analysis was used to analyse data and emergent themes from the data discussed. A phenomenology strategy informed by the constructivist worldview were deployed. Focus Group Discussions, in-depth interviews and document analysis were deployed for data collection. I argue that the problematics of stagnation on MLA policy in post-colonial Zimbabwe...
are a reality and refute MLA for being discriminative, oppressive; for perpetuating linguistic, epistemic and social injustices. TLA emerged as the alternative delinking pedagogical and political stance bearing potential to bringing restitute through valorising linguistic repertoires to leverage academic performance in summative assessment. Currently, penalising and stigmatising ILs interference as deficit, results in low academic performance. English hegemony in the assessment of multilinguals who are non-native speakers of English, are also grappling with learning it as an L2 is problematic. Although ambivalence regarding the strength of TLA in opening opportunities at global level was noted, it was attributed to coloniality. Regardless of the ambivalence, overwhelming evidence in support of TLA obtained and is crucial in influencing transformative and beneficial policy adaptations for multilinguals whose linguistic repertoire resources are currently distasted as deficits.

**Keywords:** summative assessment, translanguaging, monolingualism, linguistic repertoire.

Abstract PGSB11

**Mixture Weibull-Generalized Pareto Distribution.**

**TOLULOPE O. ADENJI**, Akin S. Odeyemi, Chioneso Marange (Poster Presentation)

Background: Weibull distributions are widely used in several areas including lifetime data modelling and reliability analysis. Parameters addition to well-established distribution is one of the well-established methods for obtaining more flexible new families of distributions. Method: In this study, a probability distribution referred to as Mixture Weibull Generalized-Pareto (MWGP) Distribution was studied and some distributional properties of the distribution were obtained. Monte Carlo simulation study at different sample sizes were used to examine the accuracy of the maximum likelihood estimates. The distribution was applied to a real lifetime data. Results: There were significance differences between the proposed model and its sub-models at the 5% level of significance. The best distribution was selected using AIC and KS-test. Conclusion: We found that the proposed MWGP distribution is a suitable model for modelling the data set.
The moderating effect of cultural groups on the adoption of social media as a tourism information source: a comparative study.  

MAGODA ZINZI

This study aims to investigate the critical interplay between cultural group membership and the utilisation of social media as a source of information within South Africa's tourism industry. Given the economic importance of tourism in South Africa and the disruptions caused by the COVID-19 pandemic, the study seeks to understand this relationship to offer insights and strategies for enhancing the resilience and recovery of the South African tourism sector in the digital era. The study will explore the impact of culture on the adoption of Facebook and Instagram as tourism information sources in South Africa. It recognises that there is a need to investigate cultural dimensions like individualism, power distance, and uncertainty avoidance to measure culture. As tourists increasingly rely on social media, the study aims to understand how cultural group membership influences hotel information seekers' behaviour. It will examine the moderating role of cultural groups, the independent variables from the Technology Acceptance Model, Social Cognitive Theory, Social Influence Theory, and Innovation Decision Process Model frameworks, and the intention to adopt these platforms for tourism information in the South African context. This study will use a quantitative research approach to examine the moderating effect of cultural groups on the adoption of social media as a tourism information source, with 290 online respondents selected through convenience and snowball sampling techniques and structured online surveys. The surveys will be distributed by placing advertisements on social media (Facebook; Instagram, LinkedIn, WhatsApp), and company websites/emails for tourism businesses. Informed consent will be obtained from participants, and hotels/tourism businesses. The Likert-scale questions will assess the frequency and extent of social media use for tourism information. Regression analysis will be employed to examine the moderating effect of cultural group membership on the adoption of social media. It is anticipated that the findings of this study will inform tourism policy and marketing strategies, focusing on social media's benefits and cultural diversity in South Africa, and understanding the interplay between cultural factors and technology adoption.
The competition law normative and institutional framework relevant to black empowerment in South Africa.

MAJOVA BUHLE

In South Africa, Competition Law is a fundamental policy that seeks to address the country’s social and economic inequalities which have experienced deep deprivation of resources among the black society. However, the problem of past injustices and inequality of opportunity to the historically disadvantaged people in the market remains elusive. It is because South Africa’s competition law at its root regulates the substantive framework and the efficiency goal. Nonetheless, placing the opportunities for black-owned businesses to enter, grow, and participate in the markets is an essential element on South Africa’s route to becoming an inclusive, efficient, and competitive economy focused on developing and benefiting all South Africans. This study encompasses promoting and maintaining competition in the marketplace to produce competitive markets and develop them in a way that is not detrimental to society. Moreover, this includes the promotion of competition law normative and institutional framework as a mechanism to accelerate black empowerment in South Africa. Therefore, the principal innovation of independent, effective, and specific institutional enforcement bodies is an essential tool to achieve the present goal.

A framework for evaluating the quality of chronic disease mobile health applications.

CHUMANI CHARLIE

Mobile health applications (mHealth apps) have transformed healthcare, especially managing chronic diseases. However, the quality and evidence-based nature of these mHealth apps have been a concern of health care workers. Hence, the aim of this research is to develop a framework that can be used to evaluate mHealth apps that may manage chronic health diseases. This research starts with a structured literature review (SLR) to explore the mHealth app evaluation, highlighting challenges in chronic disease management and assessing existing models. The SLR identifies essential criteria for evaluating mHealth apps, especially in the
context of chronic diseases. This study introduces the Chronic Disease mHealth App Quality Evaluation Framework (CHRONIQ) based on SLR insights. CHRONIQ integrates dimensions and constructs from established models, such as the Mobile Application Rating Scale (MARS), the Enlight Suite, and the Multidimensional App Quality Assessment Tool (AQUA). It also introduces Engagement Quality and Health Outcomes to adapt to the dynamic nature of chronic disease management. CHRONIQ includes evaluation dimensions like Information Quality, System Quality, Service Quality, Engagement Quality, User Satisfaction, Health Outcome, Intention to Use, and Net Benefits. These dimensions comprehensively assess app quality, user satisfaction, and health impact, including Patient Empowerment and Net Benefits. In conclusion, this research addresses the critical need for a robust evaluation framework for chronic disease mHealth apps, particularly within South African healthcare. CHRONIQ accommodates the unique demands of chronic disease management and addresses concerns like misinformation, data security, and diverse user needs, significantly enhancing healthcare delivery.

Bibliometric analysis of research on Gig Economy and worker wellbeing: Trends, challenges, and future directions.

DARLINGTON TAWANDA CHIGORI

The world of work has changed drastically in recent decades. With the rise of digital platforms and artificial intelligence, traditional jobs are being replaced by automation, and new job roles are emerging. This shift has created both opportunities and challenges for workers. The gig economy has revolutionised work by enabling individuals to work independently in customised workspaces that differ significantly from what is presumed by traditional management theories. Nonetheless, gig work can have a detrimental impact on worker well-being. The gig economy, characterised by flexible work arrangements, can lead to challenges such as information asymmetries, unfair incentives, and precarious working conditions, which can negatively affect worker health and safety.

This study analyses the literature on the gig economy's impact on worker well-being, identifies factors contributing to its negative effects, and identifies potential solutions and policy recommendations to improve working conditions for gig workers. The study employs a bibliometric analysis of academic articles and research papers related to the “gig economy” and “worker well-being”. 
The analysis includes examining the key themes, trends, and findings in the literature to gain a comprehensive understanding of the topic. The study advocates for the need to prioritise the well-being of gig workers to address the negative impacts of the gig economy. By understanding the factors that contribute to their negative experiences and implementing appropriate policies, we can create a more equitable and sustainable working environment for gig workers. Additionally, improving worker well-being can lead to increased productivity and satisfaction, benefiting both workers and platforms in the long run.

Abstract

Review on Small-scale livestock farmers’ knowledge, attitudes, practices, and willingness to pay for fodder seed technology in the Eastern Cape Province of South Africa.

TOKO AYABONGA, Anele Mayekiso and Manana Mamabolo

As in other developing nations, livestock is an important source of income for the poor in South Africa and it has been evident that livestock is an excellent commodity for giving the poor and rural dwellers a consistent and growing income. Approximately 70% of South Africa’s area is suited for raising livestock, and Eastern Cape accounts for a higher proportion of livestock producers. Despite the many advantages of having livestock in small-scale agricultural systems, access to and availability of feed are the main obstacles to raising livestock. To increase small-scale livestock production there is a need to consider forage pastures, as lack of feed is viewed as the main constraint to livestock productivity in this paper. However, the adoption of agricultural technologies that include fodder seed is said to be very low. Therefore, this paper reviews small-scale farmers’ knowledge, attitudes, practices, and willingness to pay for fodder seed technology. In conclusion, the paper demonstrates the benefits of forage cultivation to small-scale livestock farmers, such as increased livestock productivity. However, there are technical and institutional challenges that need to be addressed for the wider adoption and improved production of the forages. The current challenges include a lack of knowledge and awareness of rainfed winter forage production practices, a lack of finances to buy good quality seed and a lack of tillage resources. The paper lastly justifies that knowing, and a positive attitude towards an innovation (fodder seed) may lead to its adoption and the farmer may be willing to pay for it.

Keywords: knowledge, attitudes, practices, willingness to pay, fodder seed technology, small-scale livestock farmers.
Food security charges during and post COVID-19 lockdown restrictions, and its implications: A Review perspective from rural households of Eastern Cape Province, South Africa.

SKHEPHU AKHONA

The country’s largest food bank by the name Food Forward RSA, gave an estimation that at least 2.2 million jobs were lost during the COVID-19 pandemic. As a result, more people became poor and bankrupt overnight, many rural household families went to bed hungry, and Eastern Cape province was no exception. The food security situation in the Eastern Cape province of South Africa remains alarming, particularly among rural communities. The paper sought to study the changes in household food security status during and post-COVID-19 lockdown restrictions using published secondary information. Evidence from preceding reviews shows that food insecurity increased drastically during COVID-19 and associated lockdown measures. In the essence of post-COVID-19 lockdown restrictions, the economic fallout from the pandemic continues to affect individual households, making it hard to afford a living. From the secondary literature analysis, food accessibility and affordability are notable key drivers of food security that are linked to inequality across rural communities in the Eastern Cape. While factors like educational level, employment, and income influence food availability, accessibility, and affordability. Dependence on less preferred and less expensive foods is the most used coping strategy across the province. The food security status and the underlying factors that drive it suggest that rural households should be encouraged and supported to engage in farming and participate in agricultural cooperatives to mitigate food insecurity and promote long-term sustainable development.

Keywords: Food security, rural household, COVID-19 lockdown restrictions.

Enhancing user experience in human-computer interaction: a framework for designing inclusive and collaborative interfaces.

ADURADOLA, OLUWATOBI JOHN and GURAJENA CAROLINE
In our increasingly digitized world, the interaction between humans and computers has become fundamental to communication, information sharing, and problem-solving, forming the basis of Human-Computer Interaction (HCI). While HCI traditionally emphasizes usability, a broader focus on inclusivity and collaboration is now recognized as crucial. This study aims to develop a comprehensive framework that seamlessly integrates user experience, inclusivity, and collaboration in digital interface design. By addressing the complex interplay between these elements, the research seeks to redefine interface design parameters, placing the user at the centre of the process. The framework will be developed through a multi-faceted methodology, including empirical studies, theoretical analysis, prototyping, and evaluation. The expected outcome is a transformative framework that guides designers, researchers, and practitioners in creating interfaces that offer immersive, inclusive, and collaborative experiences.

**Keywords:** Human-Computer Interaction, User Experience, Inclusivity, Collaboration, Interface Design, Framework Development, Accessibility, User-Centered Design.

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**Abstract PGSC8**

**Early childhood education in South Africa: discourse between home and ECD sector.**

SKOTA-DAYILE N P and Mkhomi M S

Modern societies produce modern families who rely on experts and experienced teachers to guide and teach their children at an early age. This is the case of South Africa, where the Early Childhood Development Centres (ECDCs) are relied upon to provide the rudimentary educational skills to children. The ECDCs are meant to be the extension of the child’s home in transmitting skills, knowledge and values. However, ECDCs have pre-packed programmes, often contradicting home-based teaching. Therefore, the aim of this paper is to explore socialization alignment or discourse between Early Childhood Education (ECE) and home-based teaching in South African ECDCs. Interpretivism paradigm and Qualitative research approach were preferred for this paper as they explain the lived experiences of participants in the study. The Case study design was chosen to gain in-depth understanding of areas of alignment between home and ECD centres. 4 ECDCs were purposively selected with 14 parents interviewed and the collected data was thematically analysed. This study found that parents did not know exactly what their children were learning in ECDCs and claimed that they had never been invited to make an input in curriculum design and development. Secondly, it was found that ECDCs are not interested in children’s diverse cultural backgrounds but in the pre-packed programmes. Thus, discourse...
between home and ECDCs due to the contradictory practices facilitated in particular by teaching children in a non-mother tongue language that impact on home sociocultural values. This paper argues for an inclusive approach in curriculum for ECE, with special focus on cultural values embedded in indigenous home languages to be given prominence and deserving status as English language.

**Keywords:** education, development, home-based values, sociocultural values, skills

The increased extraction and destruction of natural resources by mining companies still remains a drive for sustainable development in South Africa. Over the years mining companies in the South African economy have left mining communities with environmental challenges such as air, water and ground pollution as such hindering their right to development. This study will focus on the legal effect of public participation on the right to development in South Africa. Chapter one will provide a background and foundation for the study in contextualising the gap. Furthermore, this study will describe the legal issues in the problem statement, the research problems and objectives and the literature review of this study. Conversely, since the study will be subject to limitations, the research scope and demarcation of the period of study will be set out briefly. This chapter will make a provision of definitions of legal terms that are frequently used in this thesis in order to avoid misinterpretation. The research approach in this study is desktop-

2 Haddaway et al “Evidence of the impacts of metal mining and the effectiveness of mining mitigation measures on social–ecological systems in Arctic and boreal regions: a systematic map protocol” BMC 2019 1of 11-2 of 11.
based research. The reason the researcher chose this method is because sources are little to low cost and the data already exists thereby data collection is quick. Lastly, this chapter concludes with an overview of the chapters contained in the thesis.

Abstract PGSC10

The competition law normative and institutional framework to black empowerment in South Africa

Buhle Majova

In South Africa, Competition Law is a fundamental policy that seeks to address the country’s social and economic inequalities which have experienced deep deprivation of resources among the black society. However, the problem of past injustices and inequality of opportunity to the historically disadvantaged people in the market remains elusive. It is because South Africa’s competition law at its root regulates the substantive framework and the efficiency goal. Nonetheless, placing the opportunities for black-owned businesses to enter, grow, and participate in the markets is an essential element on South Africa’s route to becoming an inclusive, efficient, and competitive economy focused on developing and benefiting all South Africans. This study encompasses promoting and maintaining competition in the marketplace to produce competitive markets and develop them in a way that is not detrimental to society. Moreover, this includes the promotion of competition law normative and institutional framework as a mechanism to accelerate black empowerment in South Africa. Therefore, the principal innovation of independent, effective, and specific institutional enforcement bodies is an essential tool to achieve the present goal.

Keywords: Competition law, Inequality, Institutional Framework, Black people, and Competition.