

NELSON MANDELA
UNIVERSITY



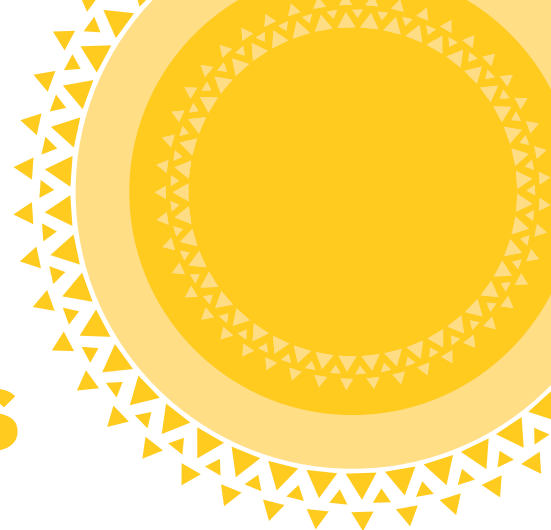
Learning and Teaching

Cover

This iconic image of the University's namesake, Nelson Mandela, has been given a colourful patchwork facelift compliments of an isiXhosa doctoral doek project that features in this publication (see page 27) as one the innovative Learning and Teaching success stories for 2019.



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An African Leader in Higher Education: New directions for Learning and Teaching

Message

Professor Sibongile Muthwa, Vice-Chancellor

Nelson Mandela University is recognised as a leader in embracing a humanising pedagogical philosophy or the 'humanisation of education'. This is the touchstone of learning and teaching at our University for a number of reasons, of which I will name a few.

It is about creating an environment that is conducive to bold thinking and questioning; dislodging outdated theories and narrow-minded preconceptions of teaching, learning and engagement in order to stimulate an alternative, emancipatory approach to higher education; and pioneering new programmatic interventions and recognitions of what teaching and learning in South Africa is about.

We hold our staff and students to high expectations and help them to achieve this in an age characterised by complexity, uncertainty, disruptions and the rapidly changing future of jobs, accelerated by technological advancements that are bringing about a convergence between digital, human and biological interfaces. Knowing this, we must ask ourselves how best to provide all students with authentic learning experiences that will foster the development of the essential skills and attributes needed to prepare our students for future

jobs, as many of the current jobs may no longer exist by the time they graduate.

We, as Nelson Mandela University, define our teaching and learning trajectory within the context of these and other local, national and global challenges. Essential to the trajectory is a fundamental question: What are universities for? This question has, of course, confronted higher education for centuries. In terms of our own posture, the question challenges us to experiment with alternative teaching and learning models that tap into the inherent wisdom and human potential of all people, in order to evolve a scholarship that will truly change the world.

We live in a society that remains profoundly unequal, with persistently high levels of poverty and unemployment, as well as various manifestations of exclusion. Our University's vision defines the trajectory we wish to take into the future by aligning our intellectual resources to the historic task of equality and inclusion; of creating a non-racial, non-sexist and democratic society. What the University does and what it stands for, are closely tied to the stature of our namesake, namely, the expansion of human understanding to promote social justice and equality.



Professor Sibongile Muthwa

In particular, we need to draw on Mandela's belief in the power of education to improve the lives of the marginalised and vulnerable in society. We are therefore deliberate in our mission as a civically responsive university to embrace innovative approaches to address seemingly intractable global challenges such as food security, poverty and deepening inequality, rapid urbanisation, the burden of disease, and climate change. There is broad agreement that the scale and complexity of these so-called "wicked problems" necessitate that we redraw the frontiers between the sciences and humanities to foster transdisciplinary learning, teaching, scholarship and engagement.

We are working hard at creating conducive spaces that resonate with who we are, where we are located and what this means for the future of our society. This implies that the University's life-changing educational experiences need to go beyond developing competent and knowledgeable professionals to cultivate graduates as enlightened citizens with sought after attributes such as innovative problem solving skills, social awareness, creativity, adaptive expertise, and an entrepreneurial mind set.

To achieve this noble goal, we recognise that student access must be linked to success and various strategies are in place to provide supportive living and learning environments to improve student academic performance, including providing a range of academic support and development services within and beyond the classroom. These services include peer support and mentoring,

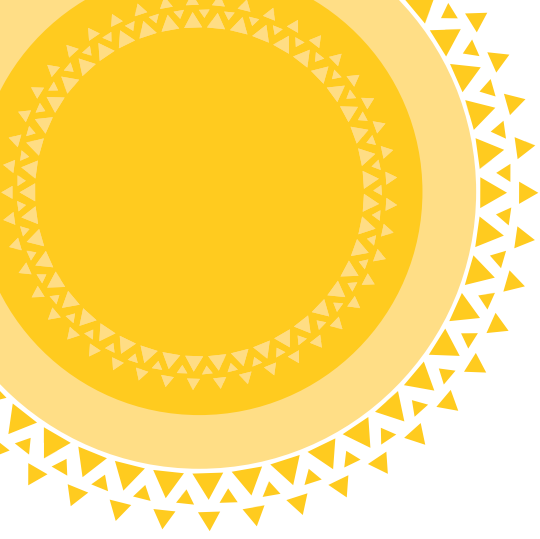
supplemental instruction, and various forms of extended curricula and foundation programme provisioning to assist underprepared students in transitioning effectively from schooling to university studies.

Improving our undergraduate student success rates favourably positions our students for the world of work as well as for postgraduate studies, thus strengthening our postgraduate pipeline and sustaining the development of the next generation of academics. This is particularly critical in revitalising the academy as a key dimension of our long-term sustainability and transformation trajectory. The intention is to support emerging, socially diverse scholars to obtain their Doctoral qualifications so that they are equipped to supervise higher proportions of Master's and Doctoral enrolments and produce quality research outputs to establish their careers.

As we enter the next decade, we look forward to hearing the corridors of teaching and learning filled with the voices of enthusiastic students and staff committed to the advancement of a more inclusive and humane world. It is an exhilarating time for all of us to pull together in co-creating a future that positions Nelson Mandela University in a manner that honours the legacy and values of our namesake through its distinctive and life-changing educational offerings, as embedded in our missions.

I salute the leadership of Professor Denise Zinn, the outgoing Deputy Vice-Chancellor for Learning and Teaching, for her passionate and life-long commitment to the scholarship and craft of learning and teaching.

"It is about creating an environment that is conducive to bold thinking and questioning; dislodging outdated theories and narrow-minded preconceptions of teaching, learning and engagement ..."



A window into our world

Foreword

Professor Denise Zinn, Deputy Vice-Chancellor:
Learning and Teaching

It is with great pride that I write the foreword to this new publication which gives a window into the world of learning and teaching at Nelson Mandela University. The journey of transformation within this portfolio has been exciting and inspiring but also long and hard, with many twists and turns.

As with all journeys, there has been a sense of excitement and anticipation, interspersed with impatience, and the inevitable question: “are we there yet?”

It is important, as we seek to capture some of the teaching and learning highlights, that it is in some sense a travelogue of the journey so far. We present you with selected “snapshots” of a never-ending journey. The destination cannot really be fully determined and there will be new drivers, passengers coming and going, and a landscape that continues to change as we go.

From 2015 to 2019 that landscape has been probably one of the most eventful and fast-changing in higher education in South Africa, with sharp ascents and descents to navigate. As our democracy has grown post 1994, the “born free” generation, our main constituency, has questioned what freedom really means as well as what it does – and should - offer them.

These young adults, with the social consciousness characteristic of this stage in their lives, have asked critical questions of those in the driving seats of institutions such as Nelson Mandela University.

The #FeesMustFall movement brought higher education institutions in South Africa to a standstill in 2015 and 2016, forcing us to stop, take a long hard look at our path and see if we are headed in the right direction. Our outspoken students, critical thinkers on issues of access and who may “get on the bus” of higher education, queried what that journey would teach them about life, work, freedom and social justice, and the future into which they were headed. They questioned the vision of the drivers and conductors, the routes we were taking and how we were dealing with the challenges of, and on, the journey. Their questions covered the why, what, how, where and “so what” of higher education and – most significantly – the “who” question.

Did we understand who they were, where they came from and where they wanted to go? Did we understand ourselves, how “stuck” we were, and perhaps still are? Just as importantly, in the early decades of our new democracy, at the beginning of the 21st Century, did we fully understand our changing roles? As

teachers, researchers and administrators, what did we need to do to meet them, receive them, understand them and their worlds, hold them and help them on their way to their future?

Within the Teaching and Learning Portfolio, by 2015 we had already started on the project of “Re-Positioning Teaching and Learning”. While we acknowledge the critical importance within the academic project of Research (read: Re – Search), we point out that learning and teaching are fundamentally connected to the SEARCH for knowledge.

At Mandela University, we see this SEARCH for knowledge, that comes through learning, teaching and research, as integrally connected to the search for a more socially just world, and the contribution that we, as an institution of higher learning, including our staff, students, programmes and projects, can make.

As we prepare our students and graduates to take their place as responsible citizens for life and the world of work, we have invoked and tried to implement a “humanising pedagogy”¹. This philosophy and praxis, we believe, is a fundamental orientation for re-humanising the relationships within learning and teaching spaces, as well as contextualising, Africanising and decolonising our mindsets and our curricula. One of the outcomes of our work has been to change the name of the portfolio to Learning and Teaching. This recognises that learning is at the beginning and core of what we all do in our search for knowledge, in our aspirations to grow, innovate and evolve.

As you read through this publication, you will see how our faculties, divisions and role players have taken up the quests and questions above. The work of the support division for Learning and Teaching has assisted greatly. I draw your attention to the section on Learning & Teaching Support in this publication, to see why Nelson Mandela University has been ranked first in the country in terms of student support.

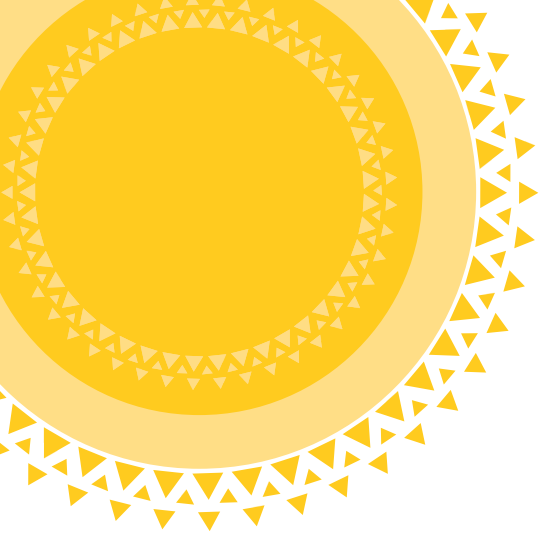
In conclusion, it is my hope that you are inspired by the stories in this publication, and will enjoy reading and sharing it with others.



Professor Denise Zinn

“The destination cannot really be fully determined and there will be new drivers, passengers coming and going, and a landscape that continues to change as we go.”

¹Our understanding of this concept draws on the work of the progressive Brazilian educator and philosopher Paulo Freire.



Putting people first

What does it mean to be Nelson Mandela University and what does this in turn mean for the way we think about curriculum development and transformation? These are fundamental questions at the heart of the humanising curriculum framework at this dynamically African university.



Based on the concept of humanising pedagogy, our approach references the human encounter irrespective of the discipline in which it is used, and hence is relevant throughout an institution bearing the late Nelson Mandela's name.

Curriculum transformation is integral to Learning and Teaching at Nelson Mandela University as we continue to offer programmes relevant to and informed by an African context, while preparing students for the 21st century in which they will work and live.

Curriculum transformation is an ongoing process across the institution involving interdisciplinary, multi-faculty and community engagements between staff, students and relevant stakeholders.

Heart-centred learning

The University views humanising pedagogy as a fundamental orientation in our learning and teaching philosophy. The first practical explorations of what this means can be traced back to a "Re-Visioning" journey started by the Faculty of Education in 2010. This was part of the Faculty's foundation for renewing curricula to be more relevant to what was required of teachers in South African institutions of learning.

The framework encapsulates several layers of meaning illustrated in the diagram on this page. The outer layer of the circle

acknowledges our work - and the people involved – which is informed and influenced by, and seeks to contribute to, the range of historical, philosophical, political and cultural dimensions of our lives. These dimensions include the theory and practice of teaching and learning.

The inner triangle – the goal of learning – is captured and enabled by the interactional relationship of the "I-thou-it" triad of Hawkins, where "I" and "thou" are the teacher and learner and "it" the subject matter.

A guiding hand

The University sees its Humanising Curriculum Framework as a guide rather than a prescription. It is not a destination the University can claim to have reached, but rather a process helping to enhance the humanity of all participants and the relevance of our curricula. It is inextricably interwoven with the humanising pedagogy advocated by Freire in his seminal work, *Pedagogy of the Oppressed*, first published in 1970.

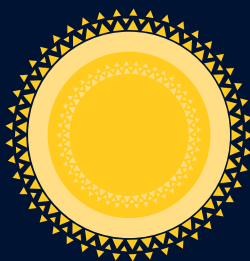
This exploration has assisted us in developing a set of 10 Curriculum Statements guiding the institution towards and through the process of curriculum renewal. Through a process of consultation, interrogation and reflection at several off-campus retreats and on-campus workshops, over a period of years, the

Key questions

There are a set of critical and fundamental questions guiding the choices made in the development and enactment of a curriculum:

- The **WHAT** question: What do we choose to teach or learn? This relates to the knowledge base(s) on which we draw, including indigenous knowledge, to develop and promote curriculum content.
- The **HOW** question: How will we teach this content to promote learning? In other words, this is a focus on the pedagogies used.
- The **WHERE** question: Where will this learning and teaching be set up and take place? Context is important, as is creating environments conducive to learning.
- The **SO WHAT** question: How do we know learning has taken place, and of what relevance is this to the student and society? This is linked to the crucial question of assessment.
- The **WHO** question: Who is learning, and who teaching? This is the most important question in a humanising curriculum; namely, who are the people engaged in the educational interaction? These are portrayed by the heart formation connecting and enveloping all these key questions.
- The **WHY** question: this is the underpinning purpose of education, of teaching and learning a particular curriculum and how it serves society.

The way we answer these questions speaks to the Nelson Mandela University story, in which our goal is to prepare our future graduates for work and life.



“Decolonising our curricula is also about recognising and acknowledging the existence of all forms of knowledge and their origins, including indigenous knowledges”



University developed these statements, which are included as part of the Humanising Pedagogy project in the office of the Deputy Vice-Chancellor: Learning and Teaching.

Department of Applied Language Studies lecturer Mukhtar Raban is tasked with managing this project called the Humanising Pedagogy Praxis and Research Niche (HPPRN) and part of his mandate has been to present introductory workshops throughout 2019.

Raban will continue to work in this field to familiarise staff and students with the deeper meaning of humanising pedagogy. This will include sharing the 10 Curriculum Statements linked to the Humanising Curriculum Framework farther and deeper across the institution's seven campuses in 2020 and beyond.

The framework also speaks to issues of social justice where teaching is understood as a political act. This is particularly relevant in South Africa and, as was seen in the #FeesMustFall protests of 2016, issues of social justice or the lack of it are keenly felt throughout the country.

On an ongoing basis, the University seeks to use a humanising pedagogy to underpin its vision, mission, and curriculum transformation and renewal efforts. These transformation efforts cannot be viewed in isolation without taking note of the legacy of colonialism and apartheid and the dehumanising role these have played in higher education.

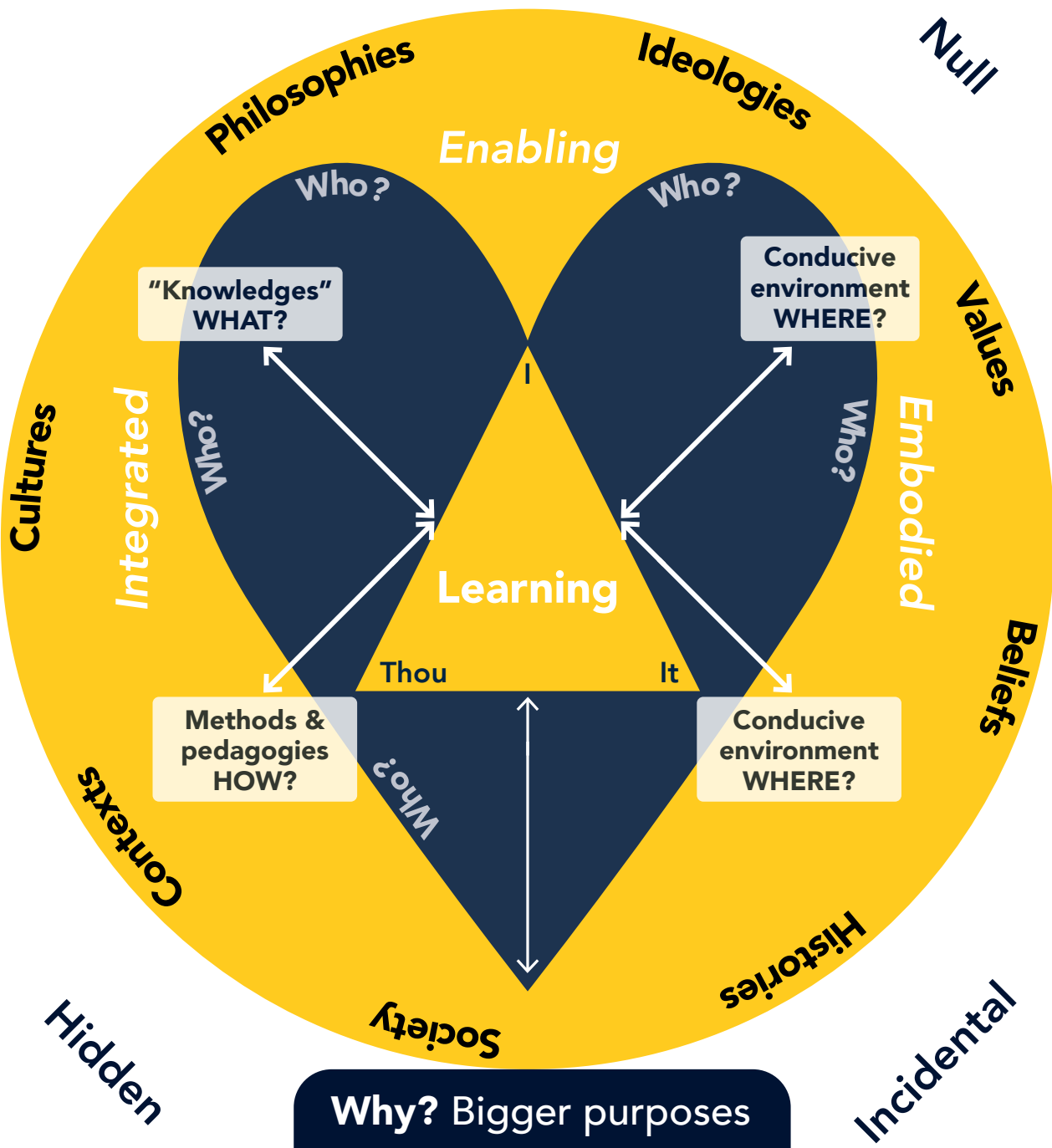
“Decolonising our curricula is also about recognising and acknowledging the existence of all forms of knowledge and their origins, including indigenous knowledges”

Decolonising our curricula is also about recognising and acknowledging the existence of all forms of knowledge and their origins, including indigenous knowledges. Only if these are included can Nelson Mandela University lay claim to having a vibrant, progressive, African, re-purposed and decolonised curriculum.



"Enabling a way of becoming for work and life"

A curriculum framework that has served us ...



Our vision: learning comes before teaching

Which comes first, learning or teaching? This seemingly simple question throws into relief the approach that Nelson Mandela University is taking with this publication - the first, it is hoped, of many dedicated to issues surrounding the cornerstones of education.

These cornerstones are learning and teaching, research and engagement, with and for society.

The institution envisages learning as coming first for several reasons:

- This is how it starts – we must learn before we can teach.
- Learning is the goal, which is why our students come to us.
- We want to begin with how people learn – and then adapt how we teach.
- Anyone who teaches must first adopt the stance of a learner.

This “learning then teaching approach” is also a fundamental tenet of a humanising pedagogy, which positions the student as the person to be foregrounded. It also speaks to the philosophy of ubuntu, where we, staff, are who we are through who they, students, are in our respective spaces at the University.



“This ‘learning then teaching approach’ is also a fundamental tenet of a humanising pedagogy, which positions the student as the person to be served”



It is obvious that, as an institution of higher learning, we also need to be a learning organisation; that everyone who teaches also needs to continuously be learning and adopting the stance of a learner.

However, we spell it out, because these are the immediate set of principles that come up and undergird why we are foregrounding learning in our description of this portfolio and its work.

It was these principles that also led to the development of the 10 Curriculum Statements at Nelson Mandela University, a continuously evolving document which has emerged with greater clarity in 2019 than ever before. These statements nourish the vision for learning and teaching at the institution.

It has been a journey of several years to develop the statements, and they will continue to change as our context and role players change. They are:



1. Context

Context is a primary consideration as we engage, iteratively, in transformation of our curricula. Context is multifaceted, hence aspects such as histories, location(s), and philosophical and ideological orientations or worldviews require consideration. So too do values and beliefs, and cultures and traditions, leading to sustainable futures.

2. Transformation

Transformation at Nelson Mandela University embraces responsiveness to, and anticipation of, change to ensure relevant, continuous and socially just learning and teaching. It also encourages open-mindedness, inclusion, fluidity and flexibility, all of which are reflected in our values, culture and practices.

3. Knowledge(s)

We are committed to offering curricula which support a unique educational experience, informed by multiple diverse knowledge sources, one of which is the student. These curricula should enable co-creation through collective inquiry to produce knowledge(s) which should include the principles of – and philosophical orientations related to - decoloniality, epistemological diversity and continuous review.

4. Curriculum

We embrace the idea, concept and notion of curriculum as more than the content of the subject. Curriculum design, review and renewal takes into account the contexts in which those learning and teaching are embedded, as well as the purpose of learning, teaching and research. Humanising pedagogies are considered, as is



assessment which focuses on ownership and application of knowledge(s). Spaces and environments are created in which learning and teaching are optimised.

5. Innovation

Through a continued spirit of scholarly experimentation, we strive to pioneer innovative practices and technology-enhanced learning and teaching.

6. Ulwimi Inkcazo – Language Statement – Taal Stelling

We recognise that language is tied to identity and that expression of humanity is a social practice and gives access to knowledge. We are committed to multilingual practices that draw on linguistic resources, contributing to the development of African

and global linguistic citizenship. This can be summed up in the words: Language Matters - Taal Maak Saak - Ulwimi Lubalulekile!

7. The Voice of Role Players: student and staff

We are committed to optimising the voice of our role players through equitable acknowledgement of our mutual vulnerabilities and strengths. We strive to ensure that our various teams are at ease in feeling a sense of belonging, ownership and accountability for the facilitation of learning and teaching. The voices of students and staff – both academic and PASS - are heard through input, feedback, interaction and contribution.

8. Relationships

We value and nurture relationships between the institution's role players because Higher Education Learning and Teaching is a deliberative encounter. A space will be created to strengthen the relationships among all participants to promote ownership, a sense of belonging, connection, support and thus - the students' success.

9. Space

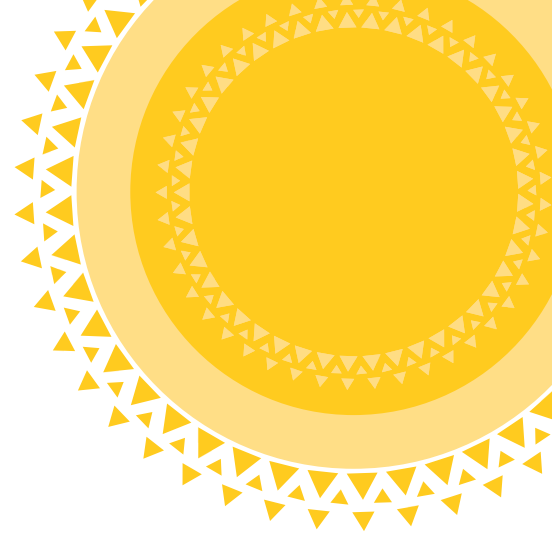
We create spaces that are intentionally conducive to their purpose while remaining sensitive to our unique context.

10. Processes

We create processes that ensure all role players can engage in a continuous cycle of reflection and renewal.

This set of 10 transversal curriculum statements has been drafted to guide and frame curriculum renewal at the University. The statements have served through various faculty-based and institutional committees for consultation and approval. Faculties have been reflecting more deeply on how these curriculum statements could frame their own curriculum renewal processes and how these are able to shift and improve approaches to curriculum development.

It is obvious that, as an institution of higher learning, we also need to be a learning organisation; that everyone who teaches also needs to continuously be learning and adopting the stance of a learner.



About Nelson Mandela University

Nelson Mandela University is the only university in the world that carries the name of Nelson Rolihlahla Mandela. The University embraces our former President's challenge to be "caring, responsible and innovative", and recognises the importance of continuously growing and adapting in the pursuit of knowledge and lifelong learning.



The University boasts years of experience in quality higher education, research and technological innovation. We unite the best traditions of both the academic and technological worlds – from entrance level (certificate) through to research level (PhD).

- Mandela University is the largest higher education institution in the Eastern and Southern Cape.
- A total of 29 800 students are enrolled on seven different campuses – six in Nelson Mandela Bay (Port Elizabeth) and one in George.
- Programmes are housed within seven faculties (Arts; Business & Economic Sciences; Education; Engineering, the Built Environment & Information Technology; Health Sciences; Law and Science), and in some cases, programmes are duplicated on more than one campus.
- The University's George Campus is situated at the foot of the Outeniqua Mountains in the town of George.

As an engaged university, the institution develops programmes, conducts research and offers services that are responsive to community needs; we also encourage reciprocal relations with universities, civil society and industry, nationally and internationally, especially in Africa. We are proud to be a valued

partner in the socio-economic development of our region – enabling entrepreneurs, nurturing innovators, empowering communities and developing leaders.

Nelson Mandela University is one of six comprehensive universities in South Africa, offering both general and professionally orientated university programmes from the entrance level (certificate) through to research level (PhD). Our University has a strong track record in both fundamental and applied research, working extensively in partnership with business and industry.

The University hopes to welcome its first cohort of aspiring doctors in 2021 on its journey to opening the country's tenth medical school. Various refurbishments and other improvements are already underway on our Missionvale Campus, close to Dora Nginza Hospital. Mandela University already offers essential health qualifications such as nursing, pharmacy, emergency medical care, dietetics and radiography. Its transformative interprofessional health education model approach in meeting South Africa's primary health care needs will further position Mandela University as an institution of choice.



The University is also on an exciting journey towards becoming the “go-to” destination for Ocean Sciences in Africa. Its Ocean Sciences Campus, launched in September 2017, is the first of its kind in South Africa, focusing on postgraduate marine and maritime education and training, research, innovation and engagement programmes to grow the continent’s blue economy, while ensuring the sustainability of our oceans.

Along with a first-class academic education, the University provides students with a co-curricular report reflecting their

involvement beyond the classroom as part of the institution’s quest to produce holistic, socially just students.

The University is committed to providing a welcoming and inspiring environment that is supportive, innovative, diverse and safe. Students need to feel that they are in a place of learning and discovery; a place founded on strong, egalitarian values that encourage them to express themselves, stretch themselves, and seek new solutions for a better world.

DIMENSIONS OF TRANSFORMATION

Transformation is a complex, multi-faceted and **integrated process** of continuous institutional **renewal** in alignment with our vision, mission and values.

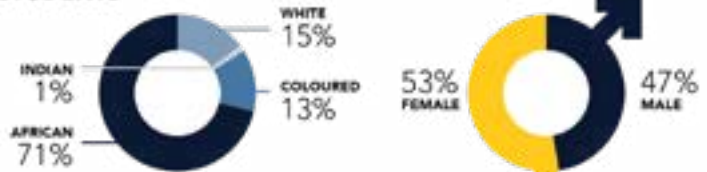
Nelson Mandela University seeks to advance **social justice, equality and inclusion** by providing life-changing educational experiences in pursuit of a **better life for all**.

Nelson Mandela University pursues transformation holistically across the following dimensions:

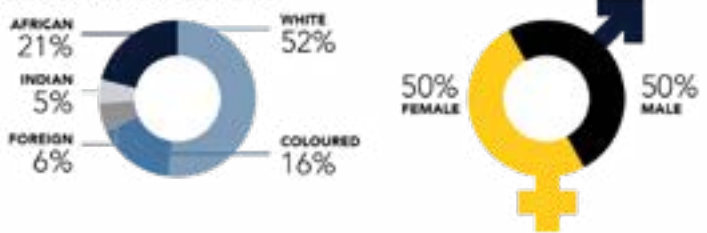


STUDENT AND STAFF DEMOGRAPHIC PROFILE 2019

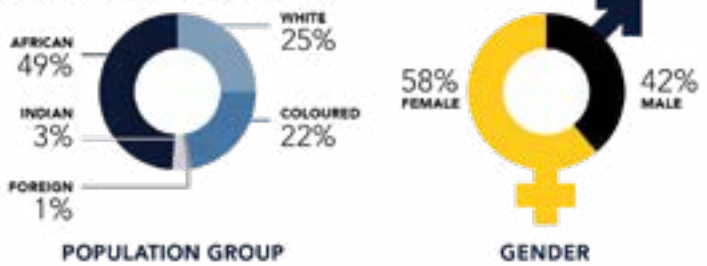
STUDENTS



ACADEMIC EMPLOYEES



PROFESSIONAL, ADMINISTRATIVE AND SUPPORT SERVICES (PASS) EMPLOYEES



DISABILITY

STUDENTS

29 503
TOTAL ENROLLED STUDENTS

1.4%
OF STUDENTS
HAVE A DISABILITY

ACADEMIC EMPLOYEES

662
TOTAL ACADEMIC EMPLOYEES

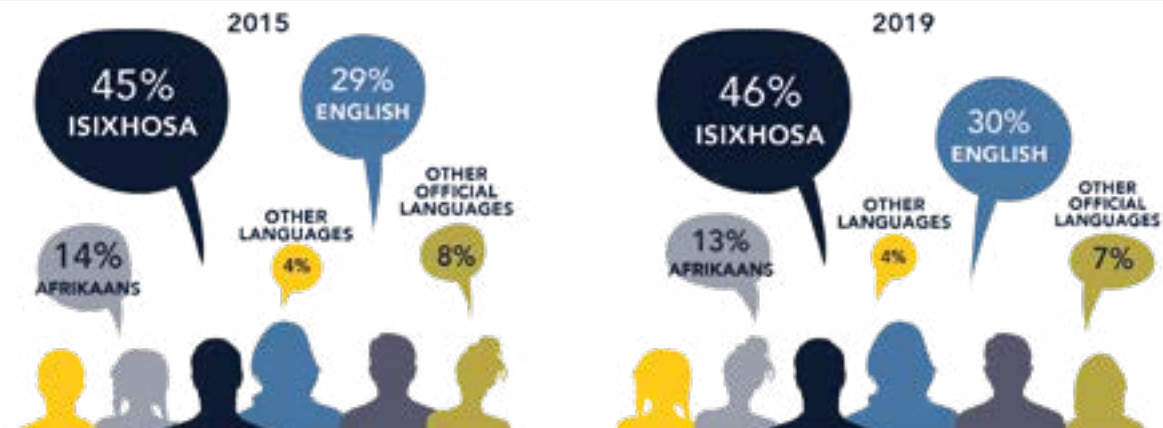
0.43%
OF ACADEMIC EMPLOYEES
HAVE A DISABILITY

PROFESSIONAL, ADMINISTRATIVE AND SUPPORT SERVICES (PASS) EMPLOYEES

1 867
TOTAL PASS EMPLOYEES

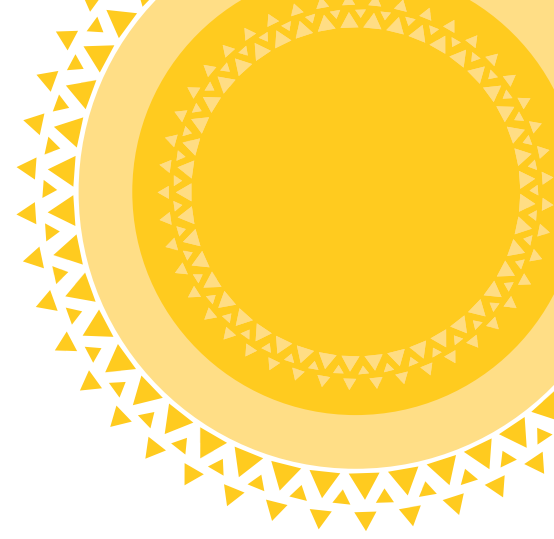
1.15%
OF PASS EMPLOYEES HAVE A DISABILITY

HOME LANGUAGE OF STUDENTS





Nelson Mandela University campuses, clockwise from top left: Missionvale, Ocean Sciences, Bird Street, North, George, South and Second Avenue.



Siyaphumelela – we succeed!

South Africa’s *Siyaphumelela – We Succeed* initiative is living up to its name by developing successful interventions for increased student success.



Nelson Mandela University is one of five national partners in Siyaphumelela alongside the universities of the Witwatersrand, Pretoria, Free State and Durban University of Technology.

Dr Charles Sheppard, Director of Management Information in the Office for Institutional Planning and Professor Cheryl Foxcroft, Executive Dean: Teaching and Learning, wrote the original proposal for the University. Funded by the Kresge Foundation, Siyaphumelela started in 2015 and looks at enhancing the use of data analytics to improve student retention and success in higher education.

So far, the University is bang on track, with the RADAR sub-project a successful example of how it has been implementing the Siyaphumelela project (see adjoining report).

The project is at the stage that it now falls much more in the domain of teaching and learning at Nelson Mandela University, hence staff roles need to be redefined. In future, data analytics will play a predominantly supportive role, while the project will be driven primarily from the Teaching and Learning staff.

“Access and success are strategic aims of the University and this project is aimed at ensuring student success,” says Marian Neale-

Siyaphumelela’s goals

- Improve capacity to collect and integrate student data
- create models of universities using successful data analytics to improve student outcomes
- create greater awareness and support for data use to improve student success
- create and highlight a shared vocabulary and consensus on particularly effective practices in student success
- increase the number of experienced data analytics professionals supporting student success.

Shutte, Institutional Researcher in the Office for Institutional Planning. “It has always had a very strong data focus, in order to enhance the University’s data analytics and bring data silos together.”

It brings together institutional research, management information, institutional planning, ICT, academic support staff, academic staff and students.



Mr Bill Moses, the initiator of the Siyaphumelela Project and Managing Director for The Kresge Foundation's Education Programme, which supports postsecondary access and success for low-income, first-generation and underrepresented students; and Dr Naledi Pandor, who was at the time of the photograph, at the Siyaphumelela Conference in 2018, the Minister of Higher Education.

In addition, staff from the Education faculty, CTLM (Centre for Teaching, Learning and Media) and Student Counselling are also working with Institutional Research staff, and staff from seven other institutions nationally in an "academic advising" work stream as part of the national Siyaphumelela project. This looks at a national definition of academic advising, along with professionalising and sharing best practices and has been supported by grant funding from the Department of Higher Education and Training.

The University continued to explore academic advising in the Faculty of Law and the School of Engineering in 2018 and



Better together

"We need to keep in mind the overall aim of Siyaphumelela, which is to have South African universities employ evidence-based practices informed by robust analysis of student data at each institution, and by sharing approaches across the participating institutions. The end goal is to yield more graduates from all racial, gender, and socio-economic groups."

– Dr Charles Sheppard and Marian Neale-Shutte

2019. The year 2019 also saw the pilot programme for first-year psychology students identified as needing language proficiency development.

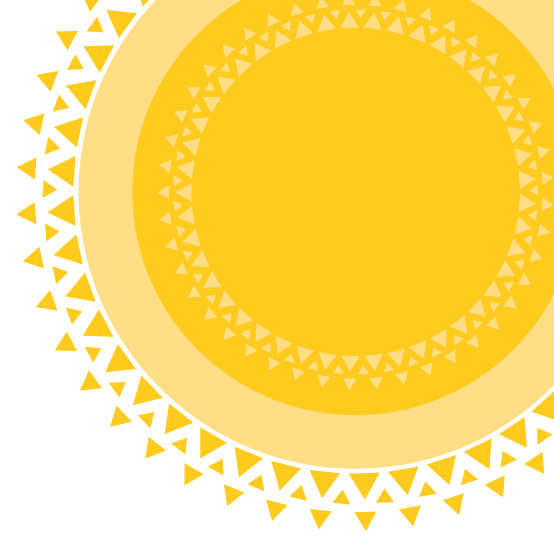
"Supplementary instruction has been a very effective student success intervention," says Neale-Shutte. "Its benefits are very evident from the comparison of the 'before and after' pass rates. The intervention shows a definite and substantial improvement in pass rates."

Siyaphumelela has created greater awareness in management as well as academic staff of the importance of student success and the need to increase the current completion rates of students. As the first phase comes to a close at the end of 2019, the University is looking at how it can add value to the second round and has submitted proposals to this effect.

Siyaphumelela has also allowed the five partner universities to look at common solutions with a shared understanding to see what works most effectively. There are now plans to include others among South Africa's 21 universities, particularly those previously disadvantaged, to scale this work nationally.

The University's Siyaphumelela project aims

- Develop a comprehensive set of student success indicators and data
- identify monitoring and evaluation methods and approaches for each indicator
- develop an electronic early warning tracking and monitoring system to monitor indicators and student progress – and the extent to which students take up academic support and development opportunities
- develop capacity to generate and use data analytics related to student success
- track improvement of student success initiatives.



RADAR spotlights students in need of help

RADAR is an electronic early warning tracking and monitoring system which the University has developed as part of its broader Siyaphumelela mandate.



It aims to be an easy-to-use tool for lecturers to identify students needing additional support at an early stage, so that they can identify the appropriate interventions.

“One of the major deliverables of our project was to develop an institutional early warning, monitoring and tracking system. We wanted this system to be where all the information and tools are available to identify at risk students, refer them to the correct kind of support, then monitor and follow up on interventions,” says Marian Neale-Shutte, Institutional Researcher in the Office for Institutional Planning.

Originally proposed by Dr Lynn Biggs in the Faculty of Law in 2015, it quickly became clear that RADAR fitted within the goals of Siyaphumelela across all faculties.

Therefore, as a pilot system in early 2015, it was subsumed into, and funded by, the Nelson Mandela University Siyaphumelela project. Dierdre Els from ICT then worked with Dr Biggs on development.

Hi-tech approach

RADAR gives lecturers a more integrated, real-time picture of students’ academic performance. Lecturers can email students from the system and access lists of interventions, allocating

students to watch-lists within or across modules as they monitor academic performance. The system can track student success indicators and progress, and see which students take up academic support and development opportunities.

As part of the Siyaphumelela Bonus Project, it has been successfully rolled out in Law and in the School of Engineering, and besides further enhancements to the lecturer interface, a student dashboard or interface was also developed through inputs by law and engineering students.

The results, when paired with input from academic advisors, have been tangible. In fact, the Bonus Project has been so effective that the University plans to roll it out across all faculties in 2020 - and it also has brought a financial reward.

“We were awarded a bonus of \$100 000 (R1.5-million) based on the success of RADAR linked with academic advising,” says Dr Charles Sheppard, Director of Management Information in the Office for Institutional Planning.

“It is now ready to be rolled out through the University and will be housed in the proposed establishment of the Learning and Teaching Collaborative for Success unit with a link to ICT.

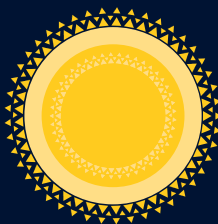


Dr Lynn Biggs, Dr Charles Sheppard and Dr Ann Lourens

No student left behind

A welcome enhancement to the RADAR system was a link inserted in the student dashboard to permit students to complete the Student Counselling, Career and Development Centre Learning Enhancement (SCCDC) Learning Enhancement Checklist online.

Once a student is referred to the centre through RADAR, the student can complete the checklist online. This enables the SCCDC to refer the student for support, which might be seeing a counsellor or attending a training session or workshop aimed at improving learning skills.



“We want our institutional early warning, monitoring and tracking system to be where all the information and tools are available to identify at risk students, refer them to the correct kind of support, then monitor and follow-up on interventions”

“The piloting of academic advising was a success, as there was an upward trend in the retention of first-time entering students in the two faculties where academic advisors were appointed. This suggests there is value to making more appointments in more faculties and the University plans to roll out academic advising and success coaches to all faculties.”

Dr Sheppard says RADAR will be in the Learning Development and Analytics cluster of the Learning and Teaching Collaborative for Success unit, where provision has been made for database management and success coaching.

“Access for support departments like residences, student counselling and supplementary instruction to specific lecturer and student dashboards will be included going forward,” he says.

Identifying risk factors – and smart solutions

In the Faculty of Law, counselling psychologist and access assessment specialist Kim Hurter, from the University’s Centre for Access Assessment and Research, was appointed as an academic advisor.

Research on how to identify academic issues revealed students who obtained less than a 55% average in the first semester of first year tended to be more at risk of not graduating in time, in reasonable time, or at all.

This led to RADAR’s intervention as close to the start of the academic year as possible, as soon as students’ class test and assignment results are available.

Hurter worked closely with academic lecturing staff to identify students in need of support and determine appropriate interventions. The focus was on connecting with pre-entering students transitioning towards University, first-year students transitioning into University and senior students transitioning through University.

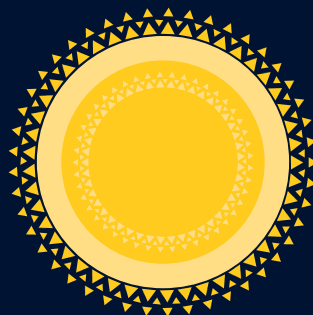
Students received one-on-one advising or group workshops. A buddy system was also put in place, where senior students orientated first years into campus life. The overall aim was

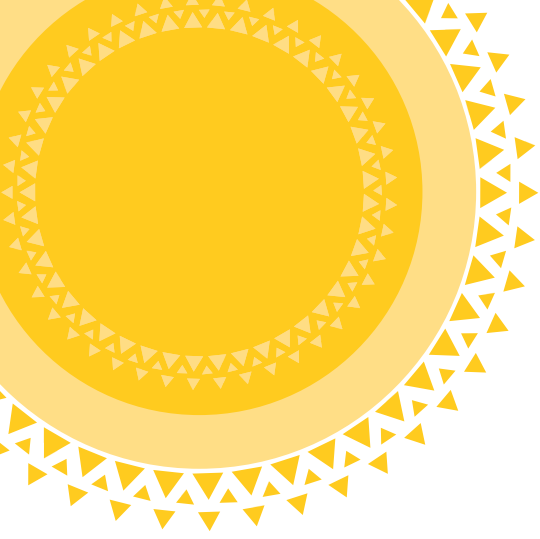
for students to achieve a sense of connection and belonging in the faculty, leading to them feeling comfortable in the space. In addition, these senior students were available to assist with queries on their law module content throughout the semester. This went a long way to instilling a sense of persistence, positivity and commitment to their law qualification.

In the School of Engineering, under the guidance of Dr Ann Lourens, psychologist Curwyn Mapaling was appointed as the academic advisor. Working under the mentorship of CTLM (Centre for Teaching, Learning and Media) staff, Mapaling worked closely with the academic lecturing and CTLM staff.

Engineering students received one-on-one advising and group mentoring. They also were referred to individual and group tutorials, completed the Learning Enhancement Checklist and could be recipients of the “Meal a Day” project.

In 2019, advising was extended to the whole Faculty and a pilot initiative embedding academic support or “critical thinking sessions” into the curriculum was started.





Language key to learning and teaching

Language is key to learning and teaching and in 2019 Nelson Mandela University has been firming up its new Language Policy to speak to the central role it plays at a modern institution serving a multiplicity of tongues.



In line with the University's ethos of listening to the voices of all role players, students as well as academic and support staff have been included in the critical, sensitive process of updating the existing language policy. This policy will underscore one of the institution's 10 guiding Curriculum Statements, which emphasises that "Language Matters – Taal Maak Saak – Ulwimi Lubalulekile".

Deputy Dean in the Faculty of Education, Professor Nokhanyo Mdzanga, leads the Language Policy Working Group with the assistance of Dr Jacqui Lück, Head of the Department of Applied Language Studies, and a team who are passionate about multilingualism and language issues.

This group has gleaned pertinent insights from conducting "courageous conversations" and focus groups with every constituency in the University, from students and workers, to academic and PASS staff, as they work towards a truly multilingual environment for the 21st Century.

More than words

As the group notes, language has been, and continues to be, a barrier to access and success in higher education, particularly for students who are not English first-language speakers.

Out of close to 30 000 students, more than 51% have isiXhosa as a home language. However, while Nelson Mandela University is committed to multilingualism, the language of learning and teaching remains predominantly English for historical, local and global access reasons.

There are increasing efforts to develop and promote isiXhosa language and culture, as the dominant indigenous language in the province. There are moves also to ensure that Afrikaans as a mother-tongue language can be used to facilitate success in learning and teaching.

It is not only the spoken and written word which is valued at Nelson Mandela University: in line with the government gazette of 2018, sign language also is included, says Nosiphiwo Delubom, deputy director: universal accessibility and disability services.

"From the summer graduation of 2018 onwards, we have had a sign language interpreter at graduation," says Delubom. "This is part of the University moving towards an inclusive language policy."

A humanising pedagogy has deep implications for Language

Policy development and how the curriculum takes up language matters as part of this philosophy is critical, says Prof Mdzanga. She quotes McKinney, who states that the “real” language problem is that a monolingual ideology focused on English teaches children to devalue the non-English languages they use on a daily basis.

Deputy Vice-Chancellor: Learning and Teaching, Professor Denise Zinn, is the “institutional owner” of the Language Policy and is keenly aware of the importance of an updated, contextualised framework, particularly with reference to the institution’s holistic focus on student success.

The first principle of the approach to teaching at Mandela University is: “Knowing who our students are”. Only once the University has established this can it effectively understand and support them in their pathway towards successful graduation. This also includes anticipating where graduates need to land, in life and the world of work, which itself will not be a monolingual destination.

One mission, many voices

From the varied conversations and encounters in the process towards developing a humanising curriculum framework, several themes have surfaced. With reference to language, Prof Zinn highlights two of these in particular: the importance of student voice, and multilingualism in context.



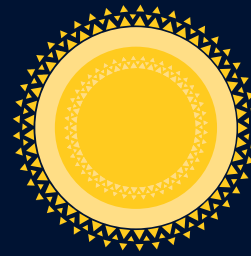
Professor Nokhanyo Mdzanga

Moving forward

Across various faculties, steps are being taken to celebrate linguistic diversity and encourage language inclusion.

The Department of Chemistry, for example, has started a project of renaming of the periodic table with elements described in isiXhosa and Afrikaans, the two main indigenous languages in the Eastern Cape.

In the Education Department, student teachers register for isiXhosa conversational language over the four years of Foundation Phase studies. The Faculty of Business and Economic Sciences makes available glossaries of key terms in isiXhosa, and there are many more such examples across all faculties at Mandela University.



“The Language Policy needs to be developed in line with the information emerging out of this process. The medium of instruction seems to be one of the big challenges facing students. What are some of the ways that one can mediate that? And how are we are doing this, specifically and practically? How do our learning and teaching frameworks and policies help us to achieve our goals?” asks Prof Zinn.

She further ponders if teaching methods sufficiently take into account that students may not share the language of their lecturers, or of their fellow students.

“If a student does not speak the same language as the lecturer, then the pedagogical techniques must be adapted. For example, it helps to write the names of certain concepts on the screen or blackboard, or provide a graphic, or text that the student can look up, rather than only giving verbal input or explanations.

“Good teaching practitioners need to be conscious of these techniques, especially when dealing with multilingual classes



where language and pedagogy intersect. Another example is the translation of concepts into various languages spoken in or known to the class – this helps to consolidate the meanings and encourage ownership of the knowledge.”

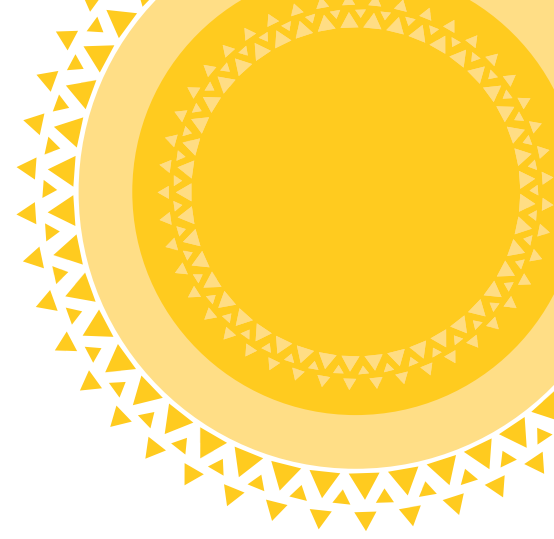
Prof Mdzanga extrapolates this to learning and teaching in the Faculty of Education.

“We are contributing to a multilingual pedagogy as we recognise that student teachers speak a variety of languages and they in turn are going to teach learners in a variety of languages. We cannot turn a blind eye or deaf ear and never recognise the value of the language resources that they bring with them.”

The end goal is to create an inclusive environment advancing tolerance and respect for diversity, where speakers of both indigenous and non-indigenous languages are truly valued.



“If a student does not speak the same language as the lecturer, then the pedagogical techniques must be adapted. For example, it helps to write the names of certain concepts on the screen or blackboard, or provide a graphic, or text that the student can look up, rather than only giving verbal input or explanations.



Amalaphu Obulumko – cloths of wisdom

The University is celebrating its 10th year of doctoral theses written in isiXhosa in 2019 with Amalaphu Obulumko, a colourful and creative interdisciplinary project.



“The institution must be applauded for creating an environment which allows students to write their proposals and research in isiXhosa,” says Language and Literature Professor Linda Kwatsha of the decade of doctorates.

Prof Kwatsha is appreciative of NAC bursaries which have helped to enable students to use an African language as the language of research. Now the scholarship of the first seven doctoral candidates has been further honoured by Amalaphu Obulumko – “cloths of wisdom”.

The Faculty of Arts has drawn together language, heritage and scholarship in this, referencing 2019 as International Year of Indigenous Languages. Amalaphu Obulumko celebrated this as well as the decade of doctoral achievements by crowning the authors of the first seven isiXhosa theses with a headwrap or *doek* created in their honour.

Faculty of Arts Media and Communication lecturer Senzo Xulu says the interdisciplinary team which worked on Amalaphu Obulumko wanted to fashion something that would appeal to students and at the same time highlight academic achievement, using a visual language to spread the groundbreaking scholarship.

“As all the authors are female, the idea was to crown African knowledge in a regal way through the headwraps,” he says of the



Dr Lwandlekazi Notshe wearing the *doek* named in her honour

collaborative process, which was both a learning and teaching experience for the staff and students involved.

The design of the fabric of each *doek* is named after the author of one of the isiXhosa theses: Gxekwa, Notshe, Jaxa, Mvenyashe, Khumalo, Hempe and Cutatele.

BTech Textile Design student Thandozani Nofingxana designed the prints for the *doeks*, which are now on sale and may be ordered.



Knowledge and Pedagogy Symposium and Exhibition

Nelson Mandela University Learning and Teaching held its Knowledge and Pedagogy Symposium and Exhibition in September 2019, mapping decolonisation, transformation and digitalisation praxis at the institution.

The rationale behind the symposium was multifaceted and included:

1. The transformation of higher education, on the cards for the country since the mid 1990s, has been provided with renewed impetus in 2008 through the Soudien Report and later by way of the #MustFall movement of 2015-2016.
2. To make sense of and share what we are doing and how far we have come, as well as considering what shifts have taken place to guide our future trajectory within the context of the present "transitions" within the institution and the sector, the University community needs to "check in" with each other, gauging and charting the transformation of the academic project.
3. Focusing on knowledge and pedagogy against the backdrop of the University's Curriculum Statements.



First-year Visual Art student and performance artist Luke Rudman created a dozen plastic rubbish "monsters", live models in partnership with Greenpeace Africa to highlight the danger of plastic pollution.



Mukhtar Raban, project manager of the Humanising Pedagogy and Praxis Research Niche area



[youtube.com/watch?v=u-K3QOQ3GwQ&feature=youtu.be](https://www.youtube.com/watch?v=u-K3QOQ3GwQ&feature=youtu.be)

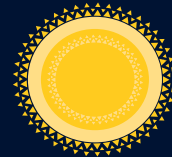


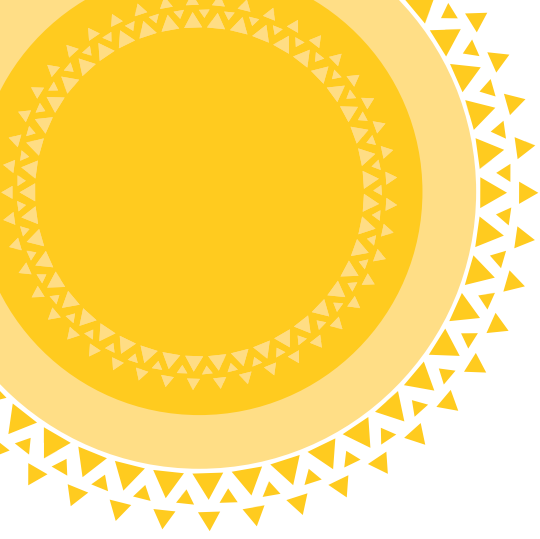


Objectives plot exciting way forward

The symposium and exhibition highlighted several progressive and stimulating aims, such as:

- To “map”, that is to develop a topography of how faculties, programmes and entities have and are engaging with transforming and decolonising of knowledge and pedagogy: conceptually and practically.
- Interwoven with these transformation imperatives has been the digital revolution and the increasing dependencies and interdependencies on digital technologies to assist us in our work. This involves preparing our students for the future world of life and work, and being cognisant of the impact this has on knowledge accessibility, acquisition and pedagogies.
- The symposium identified and showcased through presentations, cases of good practice taking place in Nelson Mandela University and a few other South Africa universities.
- There was also a visual exhibition of praxes that employed multiple platforms (posters, maps, photographs and so on) under the heading “Mapping the Academic Project”.





What it means to be human and humane

Dean's Overview

Professor Rose Boswell, Executive Dean: Faculty of Arts



Teaching and learning in the Faculty of Arts focuses on what it means to be human and humane in the face of urgent global and social challenges.

Added to this, we are foregrounding a deep understanding of place and being in contemporary society, interrogating what it is to be defined by place and the meaning of place in advancing diverse perspectives and value orientations.

Even though the faculty has no discernible place with which it is identified on campus, it has been inspired to work across and contribute to disciplines beyond arts, social sciences and humanities at Nelson Mandela University. Future directions may include deeper understanding of 4IR in socially grounded and humane ways.

A humanities discourse in learning and teaching is vital in a time of technological innovation. Humanities scholars are wary of utilitarian thinking and believe that any innovation should ultimately improve the human condition. In recent years, scholarship in the humanities has evolved to consider the post-human world and what this means for the sustenance of life on earth. In this regard, learning and teaching in the Arts Faculty includes reference to ecofeminism, pedagogies of the sea and

This school seeks renewal through the Africanisation of the curriculum. In doing so, the school recognises the substantial diversity of Africa and its people, its place in the global society and economy and its role in informing and diversifying world art and creativity.

Creative production and research are integral to teaching and learning, and this is reflected in the titles of a few of the many Faculty Teaching and Development Innovation Grants in 2019:

- Health and healing in a cross-cultural perspective
- African Musical Creativities in Action
- isiXhosa Home Language Technology enhanced language learning
- First-year student guide, locally grounded, to assist the transition from school to university
- Amazwi, a trilingual poetry magazine for the University.

The school fosters students' ability to be critical and to ask questions which speak to historic inequalities and the decolonisation imperative.



Professor Rose Boswell

considerations of indigenous philosophies and their influence on sustainable and peaceful living.

As humanities scholars, we continue to ask the difficult questions about how to make humanity more humane and this holistic approach aims to equip our students with the attributes needed to navigate the world.

Our schools offer intellectually stimulating programmes that build and advance humane and visionary thinking.

The schools reflect a diversity of disciplines, but all share a mission to develop passionate, critical and creative thinkers who will make a difference in that world. They each also have a vision, which infuses the University's 10 curriculum statements which have a humanising pedagogy at heart.

Our local rootedness and global orientation mean that the Faculty of Arts is well-placed to catalyse learning and teaching at Nelson Mandela University.

The Faculty has an exciting vision, which should be carried forward; that is, it cherishes a humanising pedagogy in learning, teaching and research with transformation at its core.

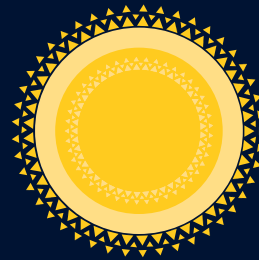
The faculty is moving closer to the University's collective vision of being a dynamically African university.

School of Architecture

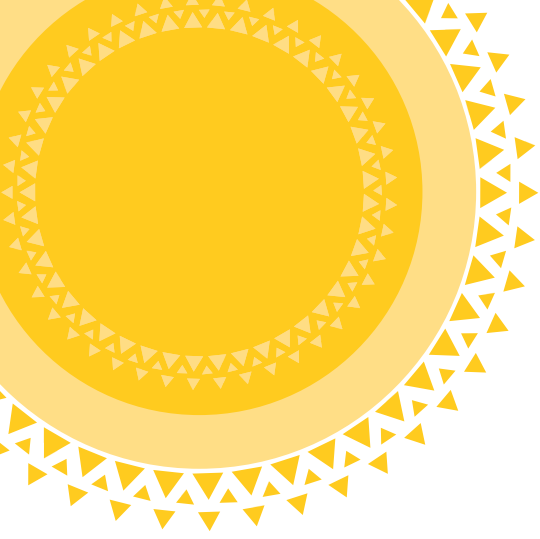
The School of Architecture critically engages with natural and built ecosystems to create a humane, inclusive and sustainable environment. It builds on the institutional identity of working with communities on collaborative projects. It attends to student epistemic access through peer mentorship and winter school programmes.

School of Governmental and Social Sciences

Learning and teaching in the School of Governmental and Social Sciences is oriented towards African epistemologies and global issues, so that students become embedded in the continent's intellectual traditions whilst critically engaging scholarship beyond Africa. African historiography, race, class, gender, public management and trust, conflict and indigenous knowledge systems are part of the school's interdisciplinary focus.



“Our mission ... is to develop passionate, critical and creative thinkers who will make a difference in the world”



Crèche X3: a student design/build project

John Andrews

Nelson Mandela University architecture lecturer

Architecture alumni and students are constructing a new aesthetic in Nelson Mandela Bay's working class and township areas, where communities co-create beautiful, practical, low-cost, low-tech buildings and pre-schools for residents to enjoy.

One of these, Crèche X3, is a student design/build project for a new 100m² community crèche in the informal shack settlement of Airport Valley, Gqebera, Port Elizabeth.

The second-year design studio at Nelson Mandela University's School of Architecture is responsible for designing and constructing the new building as part of the formal academic curriculum.

The project is an attempt to redefine the architectural design studio as a platform for staff and students to collectively integrate and contribute to the core functions of academia: learning and teaching, research and engagement.



John Andrews



Second year architecture students at work on Crèche X3 (Left to right) Helane Richter, Mokgeti Machete, Cameron Watkins (in the window), Rachel Molisy and Katelin Hagemann.

In addition to the academic element, the professional dimension of the project has seen the team responsible for the design, costing, fundraising, project and construction management, health and safety documentation and administration and the physical and manual construction of the project itself.

During the process, the studio has engaged with the community, the profession and other departments of the University. This includes the Airport Valley community representatives; the crèche caretakers; Walmer Angels Project (NPO); Mandela University's Departments of Construction Management and Mechanical Engineering; specialists in structural engineering and health and safety; and NMMM Building and Land Planning.

The portable design is currently in the closing stages of construction completion and assembly on the University's South Campus (deadline 20 November 2019), before disassembling it and moving it to its Airport Valley Community (deadline early December 2019).

The project has an approximate value of R320 000, of which R50 000 has been donated by private individuals and R275 000 by the University through various sources of engagement, learning and teaching and faculty research funding.



A full circle approach

Complexities within the project have included the possibilities and intricacies of team collaboration, engagement with real communities, and *making* as a core architectural area of concern.

This has led to not only different methods of learning and teaching, but to the creation of innovative assessment practices, allowing a class of students to collaborate as a single team towards the production of a single "professional" product, while still enabling individual assessment through innovative "peer performance review" practices.



Benefits for all

The approach is innovative in that the by-product of the educational and academic processes contribute towards society in a direct and tangible way.

In return, society offers students a real-world architectural learning context which not only affords an opportunity to engage collaboratively in a professional environment with real construction and materials, but also enables them to confront their own humanity, faced with an authentic project context and real-world ethical responsibility - in the spirit of a more humanising learning and teaching practice.

Central pedagogic preoccupations are entrenched in *experiential* and *critical* pedagogies and explore the potential of the design/build as a medium to promote reciprocity over hierarchy, collaboration over autonomy and the development of humanitarian spirit.

The design is a *kit-of-parts* which has been pre-manufactured and is portable, within a reasonable timeframe, to adapt to future development in the informal settlement and stringent municipal regulations. The building is sensitively aligned with the local climate and harvests rainwater, while sliding front and rear walls and movable internal partitions allows for a space that may transform.

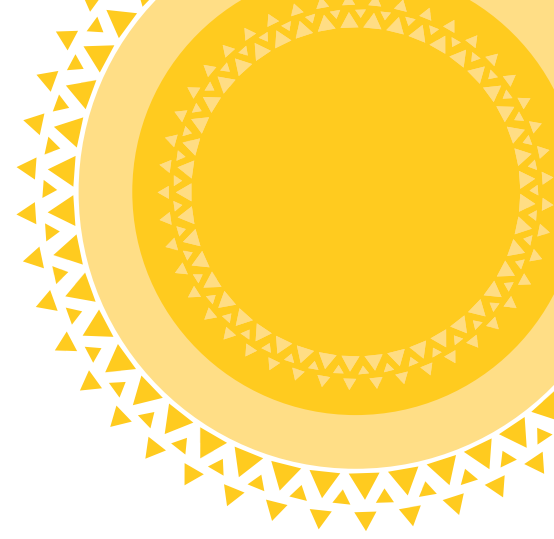
This enables the building to be used not only as a crèche, but also the possibility to be used as a community centre, church, a soup kitchen or a public stage. The expression of the architecture aims to reinterpret the use of industrious materials to create a low cost, dignified, habitable building that also contributes delight to the dire conditions in the informal settlement of Airport Valley.

“The approach is innovative in that the by-product of the educational and academic processes contribute towards society in a direct and tangible way”

In the end, the project is an aspiration to create a situated, critical and inclusive education while generating creative research and contributing in a tangible way to the community at large. To offer students a “diverse range of life-changing educational experiences for a better world” (Mandela University vision) through a more humanising and experiential teaching and learning practice, and in our own way - on the ground - to contribute towards the University’s current case for change.

“A quest to be of service to society through our core business of teaching and learning, research and engagement”, while “generating cutting-edge knowledge for a sustainable future”.

From the project team, we would like to kindly thank all of those who have been involved and particularly Mandela University for support from a range of different departments (administrative and academic) for contributions, assistance and encouragement.



Singing the praises of indigenous music

The African Musical Creativities in Action project gives lively expression to Nelson Mandela University's positioning and ethos as a dynamic educational institution rooted in Africa.



Professor Dizu Plaatjies

The Department of Music in the School of Music, Art and Design plans to continue the project as part of its learning and teaching strategy for 2020, says music lecturer Gareth Williams.

"It gives students the opportunity to focus on the music of Africa and South Africa – something that they have not previously practically engaged with," he notes.

African Musical Creativities in Action (AMCiA) germinated when royal Ugandan court musician Albert Bisaso Ssempeke visited campus to present a workshop at the end of 2017.

Ssempeke brought with him the *amadinda*, a type of south Ugandan xylophone, and shared its sounds with music students and staff.

"At the workshop, students were singing in Bugandan (the language of Uganda) and dancing," Williams says, adding that it was such a success that it became a formal project in 2018.

The idea behind AMCiA is to use "master musicians" such as Ssempeke from across the continent to share knowledge with Nelson Mandela students and staff in a learning and teaching exchange.

"In African and traditional music, it is almost impossible to separate the instruments from the singing and the dancing," says Williams, a fact which led to the workshops becoming multi-sensory learning experiences.

Guest musicians so far have included Venancio Mbande Junior, a master timbila performer from Mozambique and, closer to home, Dizu Plaatjies, who is the professor of African music at the University of Cape Town and former leader of band Amanpondo.

Collaborations with other institutions include the University of Cape Town and Rhodes University, as well as the International Library of African Music in Makhanda (formerly Grahamstown).

Learning as we go

With a classical background, Williams sees himself more as a facilitator than a lecturer for AMCiA.

"I'm not teaching it – I'm learning it with the students as we go along. In a pedagogical sense, the actual leading of the learning part is by the 'master musician'."

Input is not restricted to visitors. "In our community we have incredible musicians who we can call 'master musicians'," Williams says, citing Port Elizabeth-based Zimbabwean marimba player Tendai Dembaremba as one example.

In this way, AMCiA also gives an opportunity for community engagement with residents of Nelson Mandela Bay from other African countries.

"What this project is opening up is to shine a light on African musical creativity."



Gareth Williams

"We need to facilitate a space to engage with the music of Africa and South Africa in a practical, hands-on way"

– Gareth Williams

The sound of music

The AMCiA project calls for a fresh perspective on teaching and learning, says University music lecturer Gareth Williams.

"The focus is different to the conventional music curricula, which is very much based on a written and notational tradition; African musical arts traditions are based on an oral-aural tradition.

"You are being taught something for which, basically, you use your ears. It is passed on and you learn it by becoming part of a group or by listening to it.

"This project has really been to start getting that kind of music into the University. At the same time, we have to make sure that it is infused in a contemporary way so that it is relevant to students.

"This shared knowledge creation, storied learning and above all, joyous creative outlet, goes a long way towards building students' musical confidence and their understanding of how they fit into their respective communities, the music world, and the world at large."

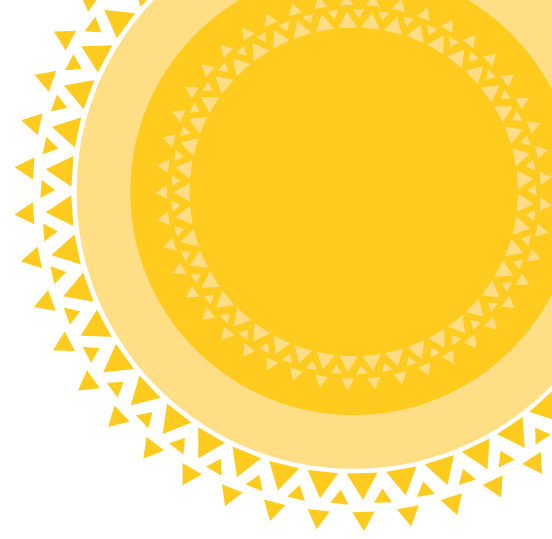
Dembaremba, who is also proficient on the mbira, is doing his PhD in chemistry at Nelson Mandela University.

Williams notes that while Dembaremba learned to play the marimba at primary school, South African learners did not receive the same exposure to their country's indigenous instruments. It was therefore important to create this kind of learning environment.

"This kind of music is not readily accessible, but there must be opportunities for our kids to be involved in something like this. They need to be looked at within their own spaces and under cultural relativity.

"We need to facilitate a space to engage with the music of Africa and South Africa in a practical, hands-on way.

"We want to embed student learning within communities of practitioners and in the real-life settings where the music needs to be performed and experienced."



Business is both science and service

Dean's Overview

Professor Hendrik Lloyd, Executive Dean: Faculty of Business and Economic Sciences

The Faculty of Business and Economic Sciences has embraced the progressive curriculum statements of the University to enhance learning and teaching within and across its departments.

The Faculty has a special role within the community: fully committed to rigorous research and the scholarship of Learning and Teaching, as a public institution we also have a responsibility to broader society, the people we serve. Effective integration of these two foci adds value to the community we serve, as well as giving a differentiating value to our graduates and our faculty.

The Faculty of Business and Economic Sciences has several flagship professional programmes, such the CA Programme, MBA Programme, Financial Planning and Industrial and Organisational Psychology.

The idea, concept and notion of curriculum are more than the content of subjects taught and the Faculty presents the Beyond the Classroom, Second to None and Pinnacle programmes to promote the development of leadership skills in students. Management students, among others, are required to complete 120 hours of workplace experience and all departments have active student societies.



Professor Hendrik Lloyd

Meeting the student where he or she is, is another part of the humanising pedagogy practised in Business and Economic Sciences. A pilot academic advisor project launched in April 2019 has successfully manually tracked under-performing students, leading to interventions such as study skills training, note taking and stress management.

Many departments in the Faculty address the language imperative with module specific mother tongue glossaries, and have employed a writing specialist to assist postgraduate students with academic writing.

We revisit and revise our Graduate Attributes and the Faculty presents an Employability Workshop to help bridge our students into their future potential careers.

Processes which ensure all role-players can engage in a continuous cycle of reflection and renewal are embedded so that the voice of role players is heard. This year, excellent submissions were received for the Faculty Excellent Teacher of the Year and Faculty Emerging Teaching of the Year Awards, indicative of the good work being done by faculty staff members.

There is a need to reflect on what we teach in our curricula, especially in terms of decolonisation and Africanising our curricula, the Fourth Industrial Revolution and promoting interdisciplinary research and collaborations.

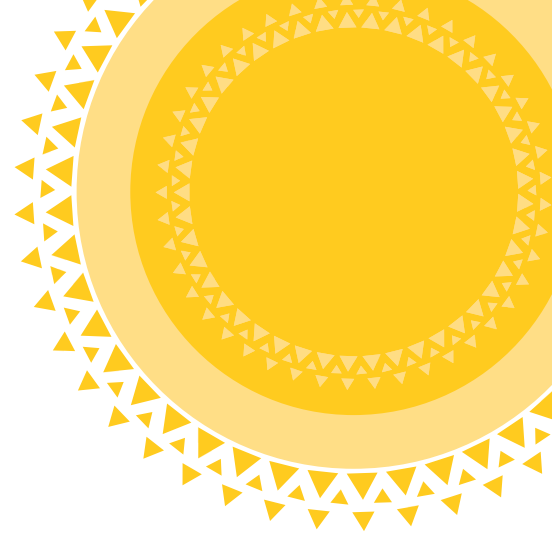
Context, knowledge and transformation are addressed in ways which have an impact on decolonising and Africanising our curricula. Learning material is regularly reviewed by programme coordinators to determine the relevance and appropriateness in the context of Africanism, and updated accordingly.

There is a strong focus on using innovation in how we deliver programmes by using technology to enhance learning and

“There is a need to reflect on what we teach in our curricula, especially in terms of decolonisation and Africanising our curricula, the Fourth Industrial Revolution and promoting interdisciplinary research and collaborations”

teaching, including the languages used. All departments embrace blended learning and the Faculty hosted a Digital Colloquium in November. The Faculty of Business and Economic Sciences is also trailblazing the Digital Learning and Teaching space in the University and aims at being the pilot initiative in establishing the first Digital Faculty on campus. Our aim is to have several Short Learning Programmes market-ready for on-line delivery early in 2020.

There is a continuous collaboration with colleagues in different disciplines in other departments to promote interdisciplinarity and mutual co-operation to benefit staff and students alike.



A caffeine shot of blended learning

The Learning and Teaching Committee of the Faculty of Business and Economic Sciences has been serving academics a caffeine shot of digital training to boost their expertise in delivering blended learning.



The twice monthly “e-spresso sessions” are one of several ways the chair is harnessing technology to benefit students and staff in the Faculty.

It’s a learning and teaching approach which has been reaping dividends, says chairperson Dr Paul Tai-Hing, who introduced the 15-minute lunch break sessions in 2019.

“At these coffee sessions there is a digital topic which is presented,” he says. For example, the topic may be how to use TEAMS, a digital platform for sharing information, which Dr Tai-Hing likens to “WhatsApp on steroids”.

“TEAMS can be accessed on cell phone or laptop and is a tool that makes the sharing of information, such as a document you want to send to all the students, so easy. It’s about getting information out there and starting conversations with students.”

He advocates intelligent use of blended learning as a way to capture the attention of the millennial – and increasingly post-millennial – student body.

However, there are other institutional reasons, among them the fact that Nelson Mandela University has shortened its academic year to fall in line with the calendar of other universities in South Africa.



E-technicians Andrew Thuo and Tiaan Gerber in action

Young guns

In addition to the e-spresso sessions, the Teaching and Learning Chair has also piloted switched-on e-technicians.

The squad of postgraduate students assists staff to use technology more effectively in their teaching by, for example, helping them to record lectures on video, so that they may be put online for wider access.

The Faculty of Business and Economic Sciences is Nelson Mandela University's largest faculty, and Dr Tai-Hing hopes that each faculty will be able to use this resource in future.

"Learning is changing and so are the students so we have to change with the student and bring technology into the classroom. Instead of presenting a lecture, you may rather do a 10-minute video, or several short videos.

"Millennials don't like sitting in one-hour lectures, and many don't come to lectures because of their shorter attention span; they would rather watch a video.

"It's a huge change for those who have been lecturing for 20 or 30 years, who sometimes don't even know what technology can do. They are coupled with training sessions as well, by the e-technician – who are millennials teaching the teachers. It's been working so well and taking the angst away because the Baby Boomers are sometimes very anxious when it comes to technology."



Dr Paul Tai-Hing

"You still want to teach the same amount of content in the shorter time, and administration and preparation still need to be done," says Dr Tai-Hing. "What can I make use of to teach the millennials, and help the academics to cope with the shorter academic year?"

Harnessing technology to help with this reaps benefits.

The beauty of lecture on video, for example, is that it can be relayed anywhere in the world, at any time, for a student to watch at his or her own pace.

Dr Tai-Hing has already been able to post links for students who have been temporarily abroad in countries such as Dubai and Nepal: "I just sent them a video, they are still able to keep up to date, and it is also invaluable for sporting students when they are on a tour."

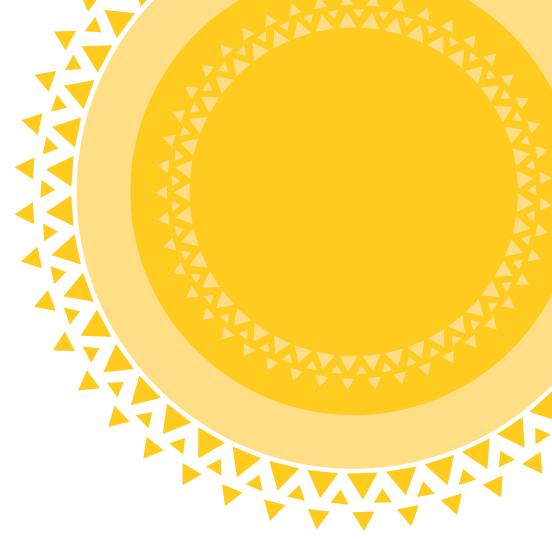
He has found staff confidence also grows as they experience what technology can offer their learning and teaching experience.

"Someone else is the expert, they teach me, and I discover 'oh wow, it's not so frightening'. It's a wonderful project because it gets the creative juices flowing. What we are doing and why we are doing it is because of the changing student - the millennial who is so much more tech savvy."

Technology enhanced learning is gaining ground with blended and online learning increasingly embedded in teaching and learning within faculties. At the same time, the University realises it needs to adapt pedagogies to move beyond merely uploading information for students on a digital learning platform.

Dr Tai-Hing also presented the first Digital Colloquium at Nelson Mandela University on 1 November. Various presenters, internal and external, shared strategies and techniques to educate the Faculty academics.

"The e-spresso and digital colloquium are tools to educate the academics in our faculty, but there is so much more."



Students 'pay it forward'

Students in the Faculty of Business and Economic Sciences are 'paying it forward' by living out the University's values in community service projects.



The "Pay It Forward" community outreach programme falls within the School of Industrial and Organisational Psychology and Human Resources, and forms part of a module taken by second-year diploma students.

The programme, aimed at community service as part of civic engagement, promotes the Nelson Mandela University's values of Ubuntu and caring for the environment, and gives students the chance to demonstrate desired graduate attributes.

The students identify vulnerable communities, then start projects in these communities or partner with existing NGOs. The programme requires students to work in teams, identify needs, plan interventions, foster relationships and serve a community cohort over a period of three months.

Activities vary from assisting children in children's homes with homework, serving the elderly at old-age homes, caring for abandoned animals at animal welfare organisations or presenting life orientation lessons at primary schools, and more.

Programme leader Yonela Dube highlighted the contributions of two teams who presented their community projects at the Knowledge and Pedagogy Symposium at the University in



September. One team worked on a children's playground at Ubomi Obutsha Centre in Kwazakhele, while another volunteered at Enkuselweni Child and Youth Care Centre, a juvenile detention centre, also in Kwazakhele.

"The all-male team working at Ubomi Obutsha shared how much they enjoyed the 'brotherhood' that grew out of the relationships they developed during the project. You could see that they knew their roles, and they did very well," says Dube.

"The team at Enkuselweni worked with young offenders. The students conducted sessions to get to know the boys, then taught them beadwork and how to use art as a medium for expressing feelings. The group had to take charge, facilitate discussions and set boundaries, while providing opportunities for the boys to open up."

A two-way street

Dube notes it was both a teaching and learning experience for the students.

"An integral part of the project design is the opportunity for the students to reflect, from both a personal and group perspective, on their experiences, including challenges and positive outcomes.

"It's so important for the students to share their stories, to capture the moments that have shaped and changed them. Students start off by saying 'we want to do it to get good marks' and then one sees the attachment that develops as they work on their projects. Some of them may not even be aware of skills they



HR students at the Knowledge and Pedagogy Symposium

already possess, which they subsequently discover while working on the project."

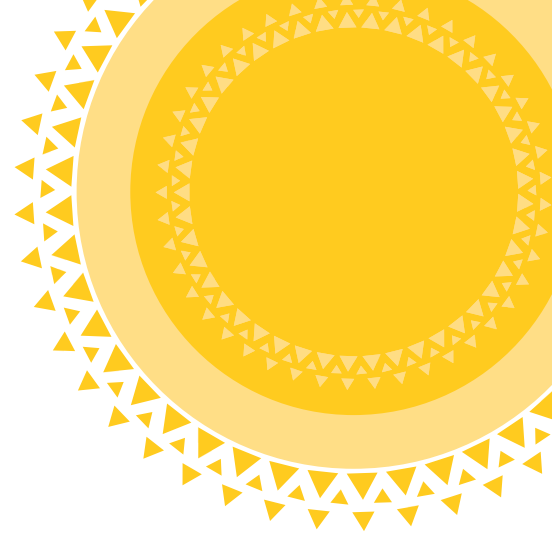
One student, Siphesihle Sofute, captured his journey in verse, dedicating his poem to the young offenders at Enkuselweni, and recited this to the boys as well as at the Knowledge and Pedagogy Symposium.

Another student, Athenkosi Dingee, noted, "Respect has to be the highlight of what I've learned ... working at the centre taught me responsibility, selflessness, societal contribution with the little that I could contribute - that alone was enough to make me feel good about myself."

Research conducted by the school shows community service projects are a valuable tool for students to experience real life, practise desired graduate attributes and deepen their socioeconomic awareness. Academics, in turn, gain insight into student experiences and can then highlight areas in which students need support or guidance in a service-learning project of this nature.

"Respect has to be the highlight of what I've learned ... working at the centre taught me responsibility, selflessness, societal contribution,"

– Athenkosi Dingee, student



Dare to teach!

Dean's Overview

Dr Muki Moeng, Executive Dean: Faculty of Education



Education is the centre of everything – hence a key goal of the Faculty is to revive teacher education as an esteemed profession.

We are proactively recruiting strong students to study teaching and implement the faculty's motto and calling: Dare to teach! This motto emerges from Brazilian educator-philosopher Paulo Freire's *Teachers as Cultural Workers: Letters to Those Who Dare to Teach*.

As a faculty, we embrace our University's educational philosophy of a humanising pedagogy, which is strongly reflected in our approach to teaching and learning, research and engagement. Our praxis is responsive to our location and time with dominant themes of decolonisation, social justice, citizenship education, diversity, social cohesion and critical pedagogies that contribute to social change.

The majority of people in the Eastern Cape are first language isiXhosa speakers and our curriculum includes Africanised knowledge systems and reading. We emphasise training student teachers who can facilitate learning in multilingual classrooms and upskill all students in IsiXhosa and Afrikaans language skills.



Dr Muki Moeng

Foundation Phase flagship

The Foundation Phase is our faculty's flagship and we are producing outstanding teachers from our four-year BEd Foundation Phase degree.

Monitoring, support and preparedness must start in Early Childhood Development (ECD) and from 2019 we partnered with Early Inspiration, an ECD organisation in Port Elizabeth.

As part of the decolonisation and transformation agenda, we address the entire educational system. This includes South Africa's poor matric results and what we as a faculty are doing to improve the standard.

To assist Grade 12 learners, we partner with other faculties and collaborate with schools. The faculty's Centre for the Community School is on the Missionvale Campus; its purpose is to improve the quality of education in communities in the greater Nelson Mandela Bay area and throughout the Eastern Cape.

We have produced considerable research on new approaches to education and curriculum development, engaging with schools and communities in Nelson Mandela Bay and the rural parts of the province. We also have agreements with Technical and Vocational Education and Training (TVET) sector. In consultation with them we have developed – and had approved – an Advanced Diploma in Technical and Vocational Teaching, offered for the first time in 2019.

Humanising pedagogy

Nelson Mandela University is recognised as a leader in the field of humanising pedagogy or the "humanisation of education". It is about:

- dislodging outdated theories and narrow-minded preconceptions of teaching, learning and human engagement to stimulate an oxygenated, enquiring approach to education
- re-looking at who owns the power of knowledge in the classroom
- developing teachers and students to become passionate, compassionate and effective
- holding people to high expectations and helping them to achieve this
- creating an environment conducive to thinking and questioning.

Humanising pedagogy recognises diversity and that our schools and universities should not perpetuate a westernised, middle-class monoculture; they should pioneer new recognitions of teaching and learning in South Africa. They are about filling the cup of education, not about plugging the holes of deficit.

Curriculum renewal

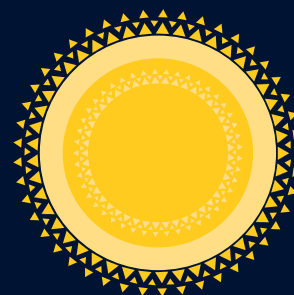
Ongoing curriculum renewal is characterised by multi-perspective, reflective inquiries and participatory conversations. This enables the team to develop a shared understanding of the humanising philosophy of teacher education.

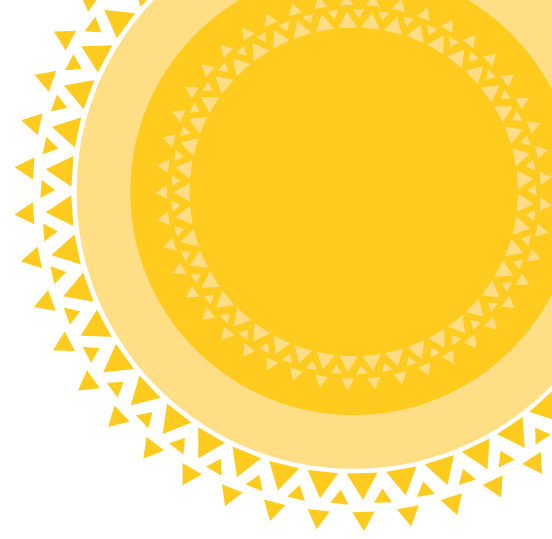
There are engagements with principals and community leaders, teachers, past and present students at our University, colleagues at other universities, the Department of Basic Education and the Department of Higher Education and Training.

From here, the team developed its humanising curriculum framework – flexible, recursive and student-centred - addressing three core questions:

- How do I as teacher educator facilitate student learning in a way that is integrated, enabled and embodied?
- What does the student teacher need to know about the child as learner to be a good teacher?
- What should the student teacher know about the child in relation to family, community and society to be a good teacher?

We are committed to cultivating teachers, researchers and leaders who will become critical thinkers as well as agents of hope, change and social justice.





Collaborating with rural schools

The Faculty of Education's Centre for the Community School (CSS) strives to develop alternative approaches to school improvement which are relevant and responsive to their contextual barriers.



Although many of the 35 schools the CSS works with are based in an urban area, namely the Nelson Mandela Metro, the engagement entity's net spreads into rural areas deep across the Eastern Cape province.

The CCS and the Ikamvelihle Development Trust (IDT) this year, for example, partnered to co-construct school improvement plans with four pilot schools in Cala.

"Working with rural schools since 2017 has been a fantastic learning experience as it challenges our notions of knowledge construction in response to the complex challenges confronting schools in rural communities," says CCS Director Dr Bruce Damons of the time he and CSS Project Manager Jabu Bam have spent with the schools.

"In the rural areas there is knowledge, agency and willingness to engage and think through the challenges; the engagements are so enriching and we return with knowledge which we are able to share with our other communities of practices.

"The spaces are opening up for us as a university to authentically engage with multiple communities, and we need

to be responsive," he says, adding that the knowledge which subsequently emerges has an impact on teaching and learning.

"It is critical engagement. How can we share this knowledge so that it can have an impact on learning and teaching?"

"The quality of education in South Africa is plagued by numerous challenges, with the impact of poverty being one of the greatest. The challenges are common in various contexts but are pronounced in the working class and rural communities of our country."

Community spirit

Dr Damons notes that research on rural communities often focuses on the negative aspects, including poverty, isolation, disease, entropy and marginalisation. Few studies report on how people interact, engage with and shape their lives and define schooling.

"What is missing is an engagement approach with these communities to understand how certain schools in rural contexts have triumphed in spite of the adversities they are facing, and the strengths of the communities in which they are situated."

“Working with rural schools since 2017 has been a fantastic learning experience ... the engagements are so enriching and we return with knowledge which we are able to share with our other communities of practices”

– Dr Bruce Damons, Centre for the Community School director



The University’s partnership with the four Cala schools - Batandwa Ndongdo High School, Cala High School and Guata and Mnxe primary schools - seeks to provide a space to:

- allow schools to identify the type of support they need to become beacons of hope in their communities
- co-construct programmes to support this development
- co-create a mutual understanding and learning with the goal of informing scholarship, which in turn will support teaching and learning and whole school development within a rural context.

Stakeholders include the principals, teachers, learners, community members, CCS and the Ikamvelihle Development Trust.

Onwards and upwards

Numerous engagements have led to a programme called Sakhingomso – isiXhosa for “building a better tomorrow”. Sakhingomso is guided by five themes of collaboration:

- teaching and learning support
- psycho-social support
- infrastructure
- capacity building
- community and stakeholder support.

Participants identified various projects under these themes based on priorities and resources. All four schools still have pit toilets, for example.

“At Mnxe, the school’s most urgent need is to address the pit toilets, as the shack structures covering these blew away, leaving



Top: Dr Bruce Damons and Mr Wapi, Head of Department, Guata Primary School. Bottom: Dr Bruce Damons at Guata Primary School in Cala.

the toilets exposed and, as a result, the learners are using the open veld,” Dr Damons says.

Capacity building has been another priority for the team.

“This included training for the School Governing Body, School Management Team and the Representative Council of Learners. The learner training was led by students from Unako, a community-based movement of young people based at the Missionvale Campus. We worked with all three bodies in drawing up a short, medium and long-term school improvement plan.”



Batandwa Ndondo High School is one of four schools in Cala working with the University's Centre for the Community School

From this, as well as engagements in other rural communities such as Willowvale, Mvezo and Qumbu, the CCS is developing a blueprint for rural schools to encourage higher education institutions in the province to participate in similar programmes.

“We need to move closer to each other as we support learning and teaching in the communities we serve”

“How do we start weaving these knowledges within our communities?” asks Dr Damons, with an eye on addressing the challenges encountered in a rural context.

“We are working in multiple communities of practice and it is from these that we offer the learning space for the University to think about its own approach to learning and teaching, scholarship and engagement.

“The next phase is consolidation, where we move towards the deeper understanding of the empirical material, generated through multiple forms of engagement and outputs with our stakeholders.

“The language question is an extremely important one emerging through these engagements, especially the need for mother tongue instruction. It is important to look at how we engage with one another, and to challenge the language that we use in our interactions.

“We need to move closer to each other as we support learning and teaching in the communities we serve.”



Educating the multilingual teacher

A multilingual nation like South Africa calls for a multilingual university, and Nelson Mandela University's Missionvale Campus is positioned both literally and metaphorically for this.

Where traditionally education has had a mono-linguistic ethos, Nelson Mandela University is re-shaping this with a layered approach to language inclusivity.

Professor Nokhanyo Mdzanga, deputy dean of the Department of Education, oversees initiatives which enable students to learn an additional language to use in their future classrooms, outlining three case studies in the department to illustrate this.

The programmes, notes Prof Mdzanga, also recognise that addressing a diversity of languages in a classroom is also part of social justice. In addition, it is a requirement of teacher education to include an indigenous language.

Indeed, the very positioning of the new Foundation Phase building in Missionvale gives an unspoken message to the impoverished community which surrounds it, which is that "our students are learning in *this* space to teach your children in *this* space in *their* language".

Today's multilingual classrooms mean that preparing teachers is complex, especially when teachers' own linguistic repertoires are different to those of the learners.

Case study 1: English First Additional Language in the Intermediate Phase

Dr Margie Childs capacitates student teachers to be able to teach English as first additional language within a multilingual context. During the learning and teaching process, all the students' language resources are included during group work, teaching and engaging with resources. The aim is to model how student teachers can use their learners' linguistic resources when they teach in intermediate classrooms.

Dr Childs emphasises multimodal work, that is, students are taught to express themselves through written and spoken word, gestures, images, cellphims, performance and poetry.

“It becomes a matter of concern when curricula programmes lean more on monolingual education, because there are many languages student teachers bring into the lecture room and will be confronted with when teaching in schools,” Prof Mdzanga says.

“The question is: how do we encourage the use of students’ diverse linguistic resources to promote effective and engaging learning?”

“How do we ensure that we prepare student teachers who will be able to use multilingual pedagogies as a way of supporting learning in their classrooms?”

The focus therefore should be on how curriculum developers could capacitate all student teachers to use multiple language repertoires. This means considering the languages that are useful for different purposes in the classroom.

Case study 3: isiXhosa communication in context

Recognising that African languages have pedagogical relevance in multilingual classrooms, English and Afrikaans speaking students register for an isiXhosa conversational language in their teacher preparation programme in the Foundation Phase.

Mdzanga, who teaches these modules, challenges the view that English and Afrikaans student teachers do not feel disempowered and voiceless when they are unable to draw from learners’ language resources when teaching in linguistically diverse classrooms.

In the Foundation Phase in particular, isiXhosa is offered to these students over a period of four years. The student teachers learn how they can use the language in multilingual foundation phase classrooms to support learning and teaching.



Case study 2: Literacy modules in the Foundation Phase

Ms Nadeema Musthan, Ms Pretty Magangxa and Mrs Annere Potgieter, who teach literacy modules in English, isiXhosa and Afrikaans respectively, are exploring ways they could use a multilingual pedagogy during their teaching of a literacy module in the Foundation Phase. During some lectures they have a combined class where story-telling, songs and the like are taught in three languages.






Engineering graduates with heart

Dean's Overview

Professor Dalenca Pottas, Acting Executive Dean:
Faculty of Engineering, the Built Environment and IT



The Faculty of Engineering, the Built Environment and Information Technology together place context at the forefront of the learning and teaching environment.

We meet the scholar or student where they are, in their reality. Transformation of the curricula does not happen in isolation and thus staff and students, in an iterative manner, engage in ensuring the multi-faceted nature of context is considered.

Worldviews, values and beliefs, as well as culture and traditions, must be recognised as part of the university students' journey, including their histories and philosophical and ideological orientations.

This means that Engineering, the Built Environment and Information Technology (EBEIT) is student-centred and focuses on graduate attributes that not only come from textbook learning, but also from life lessons.

Context bears relevance to our acknowledgement of the set of knowledges and skills and experiences with which our students enter university. This recognises what they do have, as opposed to the deficit approach.

This then translates into our praxis in the Ubuntu/Uluntu space, where we carry through these knowledges, skills and experiences to projects throughout their studies, as well as to capstone projects firmly rooted in their contexts.

Our students' stories do not end as they cross the stage but, rather, the journey to change the world begins for our new graduates as they enter the workplace.

Industry 4.0

The buzzword of course is Industry 4.0 and there is no other faculty that feels the impact of this more than EBEIT.

Our students are directly impacted by I4.0, as autonomous vehicles, drones and Virtual Reality are all part and parcel of a day in the life of staff and students.

It continues with the moulding of a student into a graduate who delivers on the promise of making a change in the world in a humanising environment. Students are encouraged to engage with their lecturers and they are not just a number, despite the large classes.

Transformation of the curricula does not happen in isolation and thus staff and students, in an interactive manner, engage in ensuring the multi-faceted nature of context is considered.



Professor Dalenca Pottas

Graduate attributes

In the classroom, the focus is not just on content, but also on soft skills, technological skills and social responsibility. Graduates must not only know their field; they must also know how to communicate in written and spoken word, know which technology is best suited for which job and most of all, must take their “heart” with them to work.

Their transition from student to graduate includes content, soft skills, technology skills and social responsibility. They are not only digitally ‘woke’ but also global citizens who have a social responsibility to improve their community and ensure that the world is still around for their children’s children.

Capstone projects

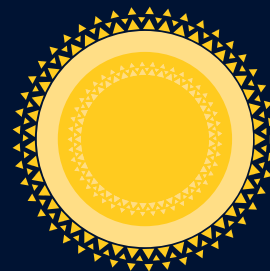
Schoolchildren, for example, are given a voice in the Learn2Code and First Lego League environments, where they are encouraged to ‘think out of the box’ and question various solutions to a problem.

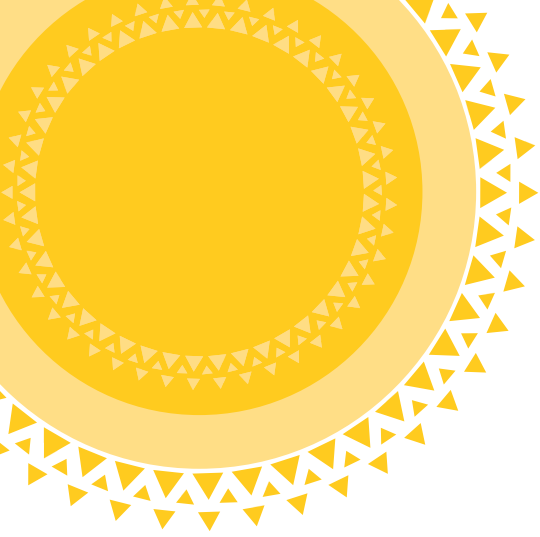
The Youth Leadership Academy and poetry workshops give scholars access to technology which allows them to be creative in expressing their personal stories, and look forward to a future not dictated by their background.

The next chapter for many of these learners is when they transition to campus and become students. This is often the outcome of the Faculty’s intervention in potential future students at a young age, which is aimed at instilling self-confidence in their own technical potential long before they are in Grade 12.

The journey of an EBEIT student may therefore start before they get to campus. Once they are on campus, there are numerous activities in which they can be involved, over and above their rigorous academic curriculum. Various institutes, centres and units are housed in each school to promote research, technology transfer, non-formal teaching, community service and outreach initiatives.

Our Women in Engineering Leadership Association – shortened to WELA, which is also the Xhosa word for change or transition – is one. This is aimed at empowering young female engineering students at the institution, giving them confidence in themselves as female engineers in a male-dominated workplace.





Building blocks

The First Lego League, an international initiative to expose young learners to robotics, is building such momentum that the Department of Applied Informatics hopes to expand it to children as young as six in 2020.



Led by department head Annelise du Preez, the First Lego League sees schools gather on North Campus in October to build robots out of Lego to complete a series of tasks.

Teams obtain training in basic coding principles and have to apply these to make their robot perform pre-determined tasks. The design of the robot is entirely up to the team and they need to ensure that the design is fit for the purpose intended. This competition allows scholars to interact with other schools, with students at university on hand, and also brings them onto the premises to excite them about furthering studies in the IT field.

DF Malherbe High School's Blu-Print team won the 2019 league in October.

"Next year we hope to have a junior league from age six to nine," says Du Preez.

The 2017 national winners were DF Malherbe's Nerds of Steel team which then went on to represent South Africa at the international level, notes Dr Sue Petratos, Director of the School of ICT.

"In 2017 we also had a team from Knysna which was self-taught, they had no guidance and they came stone last. They did not

lose confidence – they came here to learn and improve and in 2018 they returned to be the winners of the competition."

Teachers visit the North Campus of Nelson Mandela University for training before the children get started on their robots. Although each team receives the same kit, there are no design specifications to guide the learners.

Each year also has a specific theme and the 2019 theme was City Shapers, which focused on the Urban Landscape.

"It's a friendly competition, teams need to help one another; so, for example, if a team member is missing a component, someone will step in and help them," says Du Preez. "It teaches them how to work as part of a team, outside of a classroom. They need to learn to think and it's not only about the robots; there are core values."

These include pointers such as: we are a team; we do the work to find solutions with guidance from our coaches and mentors, and what we discover is more important than what we win.

"We display 'gracious professionalism and co-operation' in everything we do, and we have FUN!" says Du Preez.



"We display 'gracious professionalism and co-operation' in everything we do, and we have FUN!"

– Department of Applied Informatics head Annelise du Preez



There is poetry in learning to code

The School of Information and Communication Technology is using poetry as part of its contextual approach to generating confidence in schoolchildren.



This school in the Faculty of Engineering, the Built Environment and Information Technology goes to the source of its future student body with several innovative projects at school level.

Although a significant portion of student tuition time is spent in the computer laboratories, there are several projects which see staff and students engage with the wider community served by the University.

The Learn2Code, Poetry Society and Young Leaders Academy developed by the School of ICT's Centre for Community Technologies (CCT), under the leadership of CCT director Professor Darelle van Greunen, are among them.

"Learn2Code starts in the classroom after school hours, where kids get to play around with technology using Scratch and other tools to create code in a fun way," says Dr Sue Petratos, Director of the School of ICT.

"These classes do not only teach code but also bring out the confidence in children to ask questions and be curious about what they are doing.

"They do not simply follow instructions but fully engage - and when they are back in the normal humdrum of the school classroom, they know they must be curious, ask questions and not just be a passive learner but an engaged scholar."





ICT master's students mentor and support the children in the Learn2Code project, making it a learning and teaching experience for them, too.

Grassroots positivity

Children are also exposed to sessions that encourage their creative and leadership development in areas of Nelson Mandela Bay such as Gelvandale and Helenvale, where they are exposed to the harshness of life and gang wars.

"It is in these communities that we see our future leaders grow up beyond their years due to the environment they live in," says Dr Petratos. "Here the Poetry Society encourages scholars to express their feelings in creative ways and the workshops not only keep them off the streets, but also allow them to nurture their creativity."

"These classes do not only teach code but also bring out the confidence in children to ask questions and be curious about what they are doing."

– Dr Sue Petratos

The Youth Leadership Academy has seen hundreds of scholars through its doors at Saturday morning sessions.

"Senior learners attending this academy are introduced to skills that allow them to foster their abilities as leaders. They are addressed by leaders in industry, academia and others who are their mentors during this programme," she says..

"The skills obtained through these development initiatives prepare them better for life and in particular for future studies."

Although poetry and leadership training may seem unlikely partners to computer coding, Dr Petratos likens technology to a paste, or glue, which links together diverse fields.

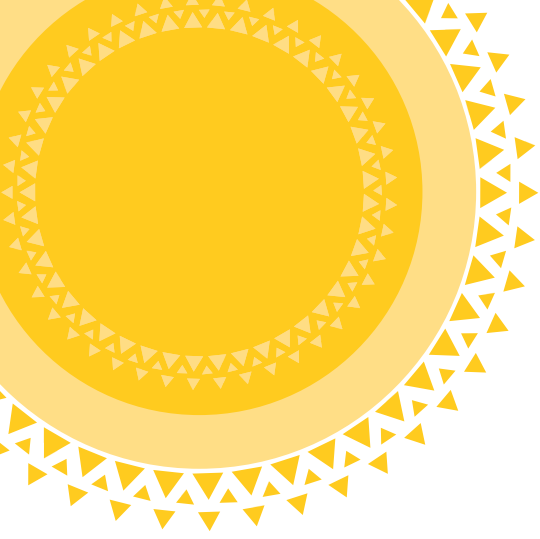
"This is how we encourage kids in a disadvantaged school to get involved with technology. They think because they don't have the equipment at their school they can't do it.

"They don't even realise they are learning, but it piques their interest and then when they get to high school they know there is a place for them to go in technology."

"The kids who come get to express themselves, girls are empowered and their voices are heard.

"At school they have been told to keep quiet and write down what they see, but here the message is, 'you can make a mistake, you won't break anything, let's try it and see how it happens'.

"Our engineering fits into humanising pedagogy as we actually start at the roots with the kids when they are still at school and we show them that they have a future by listening to them."



Flourishing growth in Health Sciences

Dean's Overview

Professor Lungile Pepeta, Executive Dean:
Faculty of Health Sciences

Our student numbers in health sciences have been steadily growing, from approximately 2800 in 2012 to about 4000 in 2019 and the new medical school offering will exponentially increase these.

The approach we are pursuing in establishing a new Medical School is to add a medical undergraduate programme onto an existing faculty and upgrade existing infrastructure belonging to the University and its broader clinical training platform of hospitals and clinics.

This is being done with the assistance of the National Departments of Higher Education and Eastern Cape Health.

From first year, our students will develop a keen social awareness and learn how to speak the same basic healthcare language when caring for people, including sharing messages such as “no smoking, no excessive drinking, sound nutrition and prevention is better than cure”. It is all about caring for people with empathy and patience – what we call a “good bedside manner” - and ultimately delivering the best healthcare for all.

All the Faculty departments, through our Interprofessional Education (IPE) project, which has the theme of “transforming

Number of students: health sciences



2 800



4 000

*Figures rounded off

health sciences education to support equity in health”, work together. Through integrated learning, integrated research and service learning in the health service delivery platform, the departments all contribute to serving communities in need.

This is the same approach that has been recommended by both the Department of Higher Education and Training (DHET) and the Department of Health (NDOH). Under our IPE projects, we have a University-sponsored mobile clinic called Zanempilo - Bringing Health - and are very involved in the Phelophepa Train Support initiative. Zanempilo Mobile Health Education Platform (MHEP) uses a converted truck as a mobile clinic from where student-run services are provided, and we plan to add more trucks.

Working together

There is also a faculty-initiated and driven Interprofessional Health Research Network which focuses in an integrated fashion on interdepartmental research and mentoring of budding researchers by established faculty researchers.

The Missionvale Campus runs the Zankhanyo - Bring Light - Clinic that focuses on developmental assessment and management of behavioural problems in children, and mental health problems of needy communities in Zwide, Missionvale, Algoa Park and other communities of the Nelson Mandela Metro. We will soon be launching the newly built occupational health and rehabilitation centre in Missionvale.

Another flagship project of the faculty is the KaziBantu (Kazi: active, Bantu: people) project, which promotes physical activity in schoolchildren and their teachers in previously disadvantaged and resource-depleted schools. This project runs in collaboration with Basel University in Switzerland and is funded by Novartis. From this, students from various departments and those from Basel have obtained, and continue to have, sponsored studies in honours, master's and doctorates through both universities.

The Faculty, together with the Faculties of Education and Science, takes part in initiatives geared towards improving high school performance in mathematics and science to improve access to graduate programmes. Other inter-faculty and transdisciplinary

“It is all about caring for people with empathy and patience – what we call a ‘good bedside manner’ - and ultimately delivering the best healthcare for all”



Professor Lungile Pepeta

initiatives include concentration on service learning, research and community engagement projects.

These include the tablet and mobile phone health education apps through the Centre for Community Technologies in the Department of Information Technology. They also include the Community Aquaponics Garden on the Missionvale Campus that produces green vegetables and fish which are supplied to resource-depleted schools in the townships of Port Elizabeth.

We hope to expand all these projects in line with the vision and mission of the United Nations’ Global Sustainable Development Goals, the National Development Plan vision 2030 of the Republic of South Africa, Strategic Goals and five-year plans of NDOH and DHET.

The most exciting news is our progress towards a Medical Practitioner training programme which is set to accept its first enrolments in 2021 – part of the development of our Medical School, which will be the 10th in South Africa.

In our agenda of decolonisation and Africanisation of our programmes, and in training health practitioners that are fit-for-purpose, we are revisiting the training platform of all our students.



Nelson Mandela University Medical School takes shape

South Africa's 10th medical school came a step closer to fruition when the Health Professions Council of South Africa (HPCSA) and the Council on Higher Education (CHE) visited Nelson Mandela University for accreditation in November 2019.

Both professional bodies sent a team of medical and education experts to the University to ensure the institution is prepared to offer the six-year Bachelor of Medicine and Bachelor of Surgery (MBChB) degree.

The delegation looked at curriculum, infrastructure, equipment, staff and all necessary student support assistance which make up the innovative educational programme in Nelson Mandela Bay.

The team not only visited Missionvale Campus, where the programme will be offered, but also the University's soon-to-be training hospitals (Dora Nginza, PE Provincial, Livingstone and Uitenhage), and the community health centres (CHCs), including the adjacent Missionvale Care Centre and Motherwell CHC, where future students will serve and train.

Health Sciences Dean Professor Lungile Pepeta hopes the "soft launch" of the new medical school will be in 2020 and the first intake of students in 2021.



"We are fortunate to have a strong base from which to establish our new medical school, using a building block approach that augments our Faculty of Health Sciences' current offerings," Prof Pepeta says.

These include a diversity of professions: Psychology, Social work, Environmental Health, Biomedical Technology, Sports Sciences and Biokinetics, Pharmacy, Radiography, Nursing Sciences, Dietetics and Emergency Medical Care.

The new school will have an impact far beyond the Nelson Mandela Metro.

"Working with the provincial health authorities becomes key because it's such a big project it requires internal and external stakeholders. We need to train for our province – and retain them for our province when they graduate!"

The University's goal is to accept its first intake of students from 2021. This will mark the culmination of a dream that began in 1946, when the idea of a medical school – one which would meet the health care needs of the people of the Eastern Cape and the country at large - began.

The revamping and refurbishment of several buildings on Missionvale Campus are on track. Various laboratories such as Basic Science, Physiology, Gross and Digital Anatomy and

Clinical Skills are either near to completion or completed, along with five existing lecture halls and new multi-purpose venues.

High-end equipment to supplement the new programme has been secured.

In line with the University's "digital first" approach for access and transformation, ICT has been engaged in an extensive Wi-Fi connectivity programme that will enable health sciences' students to connect from hospitals and various clinics in the metro.

The Missionvale safety and security plan has been procured and implemented to benefit both staff and students, and will also benefit those who live in the surrounding community.

A new Director: Medical Programme, Professor Fikile Nomvete, was among the first staff members to be appointed. To ensure all benefit from the presence of a medical school, engagement is ongoing with various stakeholders, including Government, partner universities and the surrounding community.

As Prof Pepeta succinctly puts it: "If you train a physician you must train them to do more than give out pills. We must ensure that health practitioners – including medical practitioners – are trained to offer comprehensive health care in the setting where they are most needed, and that is in the primary healthcare setting."



Professor Fikile Nomvete



"We are fortunate to have a strong base from which to establish our new medical school, using a building block approach that augments our Faculty of Health Sciences' current offerings,"

_ Professor Lungile Pepeta




Deputy Dean of Health Sciences Professor Dalena van Rooyen, a role player in the establishment of the Medical Programme and School



Transforming health sciences education to support equity in health

The Interprofessional Education programme has become a major focus for the Faculty of Health Sciences in meeting the real health needs of South Africa.



Every student enrolled in the faculty will be exposed to Interprofessional Education (IPE) as part of a transformed and Africanised curriculum at Nelson Mandela University, says Health Sciences Dean Professor Lungile Pepeta.

The initiative, which was launched in 2016, brings together groups of students and lecturers from all 10 disciplines in the faculty to work with a range of under-resourced communities to improve health care and well-being.

It is a holistic process in which they share their knowledge and competencies in collaboration with citizens of the metro, particularly those living in under-served communities.

“Plans are underway to now formally include IPE in all the curricula of the faculty, and all Health Sciences students will have to take it as a subject or course,” explains Prof Pepeta.

This means nursing and pharmacy students will work alongside social work, human movement science, radiography, environmental health, dietetics and other health sciences students. Ultimately, it means a more integrated, holistic approach towards health.

It’s an approach that the medical students will have to embrace as the faculty moves towards its goal of accepting its first cohort of students for the new MBChB degree course in 2021.

“We also must ensure that health practitioners, including medical practitioners, are trained in the setting where they are most needed, that is, in the primary healthcare setting,” says Pepeta.

Emeritus Professor Esmeralda Ricks is driving the IPE programme roll-out, which seeks that teams enter communities with an “assets-based community development” approach.

This focuses on working with communities to realise the assets they have, advance and develop those, and add new assets to ensure sustainable development. The approach also assists in establishing what works and what the University can do to improve its teaching and learning in line with the needs of those it serves.

“It is aligned with our philosophy of training primary health care physicians because right from their first year, medical students, together with the other health science students, will be visiting under-resourced areas, going into homes as well as clinics and community health spaces,” says Prof Pepeta.



“It’s getting students together with their lecturers to work and learn together and the way we are doing that is to go out to the community. It goes further than integrated learning as it also offers service learning.”

The University’s Zanempilo Mobile Health Education Platform, for example, is a 13-ton truck which travels from community to community as part of the IPE, offering student-run health services across a number of disciplines.

Community mentors are another part of the pedagogy and will act as a link between families who are in need of medical intervention and staff, such as primary health care nurses and medical students.

A key goal of IPE is to develop more socially conscious students who, early in their training, are exposed to students from other health science disciplines. This breaks down outdated professional silos and gets teams of health sciences students working together in a more effective and mutually respectful way.

“Health cannot be a question of income; it is a fundamental human right,”

– Nelson Mandela



Transforming and decolonising knowledge

Dean's Overview

Professor Avinash Govindjee, Executive Dean:
Faculty of Law

Transforming and decolonising knowledge and pedagogy is part of the ongoing process of learning and teaching in the Faculty of Law.

The Faculty and its students are particularly engaged in South African society. For example, our Centre for Law in Action (CLA) is a highly reputable and internationally connected entity that focuses on improving the levels of service delivery at various governmental levels and increasing access to justice for people in need.

The Labour and Social Security Law Unit (LSSLU) is nationally recognised for the training conducted by its members, particularly in the area of Labour Law, and the faculty's Law Clinic and Refugee Rights Centre provide key services to the broader Nelson Mandela Bay area.

Street law courses and law clinics demonstrate the ethos of service to society that is one of the cornerstones of the University's humanising pedagogy.

Building on expertise

On the research front, the Faculty is producing an increasing body of published research work in various areas of law, and a number of colleagues are in the final phase of completing



This artwork entitled 'Ancestral Kingdom' by Ezekiel Budeli was produced as part of the "Images of Human Rights" portfolio project which celebrated the adoption of the Bill of Rights in 1996. The full collection is on display at the Faculty of Law.

doctoral qualifications. The Faculty also includes a prestigious South African Research Chairs Initiative Chair in the Law of the Sea and Development in Africa and boasts NRF-rated researchers and grant-holders.

As part of our transformation strategy linked to research, we offer a Postgraduate Associate (PgA) Leadership Programme, headed by the Deputy Dean of the Faculty, Dr Lynn Biggs. The PgAs are all master's or doctoral candidates (LLMs and LLDs).

The Faculty has also made significant progress in the arena of blended learning and the digitalisation of learning and teaching. The Faculty of Law, colleagues from ICT Services and the School of Engineering developed the RADAR system, an early warning, tracking and monitoring system. RADAR allows lecturers to identify students for early academic interventions, refer them to academic advisors and start monitoring attendance of interventions, helping to establish data trends. *(Please see page 21 for a report on the RADAR system)*

The RADAR Student Dashboard allows students to track their own academic journey, reflect on it and identify interventions to assist them in successfully navigating academic and wellness challenges.



Professor Avinash Govindjee

New LLB curriculum

We look forward to rolling out the first year of our new LLB curriculum in 2020.

The National Review of the LLB and the CHE re-accreditation process called for the transformation and decolonisation of the LLB degree. The Faculty embraced this and involved staff and students in the redesign of the LLB programme to be more relevant and fit for purpose for our graduates.

The department members, PgAs, student leadership within the Faculty and other interested students compiled input on how to transform the existing LLB. Workshops were held on themes including language modules, electives vs core modules, non-law modules, Africanisation of the curriculum, and the introduction of year modules.

At all times, we held Nelson Mandela University's Humanising Curriculum Framework in the foreground. This encapsulates the fundamental and deep questions to be asked when engaging in curriculum transformation and redesign. The current LLB curriculum was also viewed against the backdrop of the University's 10 curriculum statements.

Further to the transformation of knowledge and pedagogy, the Faculty also responded to the need to Africanise and decolonise the curriculum. A Transformation Forum (TF), the first

“We look forward to rolling out the first year of our new LLB curriculum in 2020.”

in the institution, was established with representatives of Faculty management, academics, administrative staff, PgAs and student societies. It will serve as a platform where matters pertaining to transformation, including curriculum transformation, may be tabled and discussed.

The Faculty identified the need to introduce a module in year four called “African Regional Law” to deal specifically with relevant regional laws and to contribute to decolonisation and Africanisation of the LLB curriculum.

Staff and students are encouraged to actively put their legal knowledge to work. This is part of how the Faculty of Law advances social justice and equality, through efforts to exemplify the values of Nelson Mandela in its curricula, student support, scholarship, and engagement with the legal profession and broader society.



FishFORCE – world leader in fisheries law enforcement

Nelson Mandela University has established itself as a leading player in the training of fisheries law enforcement agencies and in research aimed at the combating of organised crime in the fisheries environment.

Organised fisheries crime ranges from illegal fishing to human trafficking and forced labour, fraud, forgery, corruption, money laundering and tax and customs evasion.

“The extent of organised fisheries crime globally is so huge that it is effectively a parallel economic system, undermining sustainable economic growth and posing a significant challenge to fisheries law enforcement agencies across the world,” says Professor Hennie van As, Director of the Centre for Law in Action and head of South Africa’s first Fisheries Law Enforcement Academy, FishFORCE.

FishFORCE was established by Nelson Mandela University in 2016, in partnership with the Norwegian Ministry of Foreign Affairs and South Africa’s Department of Agriculture, Forestry and Fisheries. FishFORCE facilitates teaching and learning, engaged research and innovation to train and equip law enforcement officers and agencies with the most up-to-date information, techniques and tools to handle the increasingly complex investigations and prosecutions of fisheries crime.

“Fisheries law enforcement is transdisciplinary by nature, requiring expertise in law, criminology, police science, fisheries science, fisheries management and marine living resources conservation,” Prof Van As explains. FishFORCE has the buy-



Professor Hennie van As

in from the world’s largest international police organisation, INTERPOL, the Southern African Development Community, African Union (AU) and the United Nations Office on Drugs and Crime (UNODC).

Critical skills

To combat fisheries crime on the ground, FishFORCE is training fisheries control officers, police officers and prosecutors in South Africa, Kenya, Tanzania and Seychelles. A FishFORCE Academy has already been established in Kenya. Others are being opened

Why prosecutions often fail

“Together with the National Prosecuting Authority (NPA), we are getting to the bottom of why prosecutions for fisheries-related crimes often fail,” says Prof Van As.

“We are now collaborating with the South African Police Service, Defence Force, National Prosecuting Authority and Home Affairs to develop a combined offensive.”

Prof Van As says the main smuggling routes for abalone and other illegally harvested marine living resources are either directly from South Africa or through Zimbabwe, Lesotho, Swaziland, Namibia and Angola. The biggest destination is Hong Kong.

FishFORCE master’s students are, inter alia, looking at the implementation of the Port State Measures Agreement (an agreement whereby vessels engaged in illegal activities can be denied access to a country’s harbours), and the effectiveness of legislation regulating marine living resources, specifically the powers and functions of fisheries control officers.

A doctoral candidate, Hashali Hamukuaya, is conducting research on drug trafficking linked to the poaching of marine living resources in Namibia, and another, Anthea Christoffels-Du Plessis is investigating the status of customary fishing rights in South African fisheries law.

in Angola, Namibia, Mozambique, Tanzania, Madagascar, Mauritius and Seychelles.

“We are also assisting with training along the Indian Ocean Rim, including countries like Indonesia. Organised fisheries crime knows no borders, and neither do many marine living resources,” says Prof Van As.

Internationally, there is a sense of urgency to protect marine living resources, as it is a source of food for almost 50% of the world’s population. This is also reflected by the UN’s Sustainable Development Goals. FishFORCE contributes towards the achievement of at least seven of the 17 goals.

“As a University, we cannot be everything to everyone,” Prof Van As explains. “For this reason it is imperative that we work with other institutions and that collaborative plans are developed. To this end, FishFORCE is engaging with INTERPOL, the United Nations Food and Agriculture Organisation (UNFAO), the Indian Ocean Tuna Commission, a research group at the University of Tasmania and the University of Wollongong, as well as NGOs such as Stop Illegal Fishing.”

Postgraduate research

FishFORCE research associates and postgraduate students conduct transdisciplinary research that includes analysis and evaluation of law enforcement gaps, focusing on the development of national and international law and policies; research on how to protect marine living resources and how to collaborate in cross-border and international fisheries crime control.

Pioneering programmes

The Centre for Law in Action (in which FishFORCE is housed) has developed a number of law enforcement-related short learning programmes (SLPs) over the years. When FishFORCE started in 2016, some of these SLPs were adapted for the fisheries environment, but new, fisheries-focused SLPs were subsequently developed.

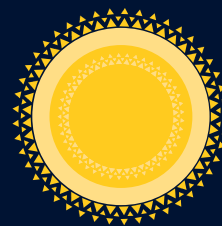
These SLPs formed the basis of two new qualifications, namely the Higher Certificate in Criminal Justice (one year full-time or two years part-time) introduced in 2016 and a Diploma in Law Enforcement (three years full-time or five years part-time) introduced in 2018. The majority of the SLPs carry credits towards these qualifications.

“We want to create career paths for law enforcement officers and professionalise the industry,” says Prof Van As.

The ultimate aim is that a number of law enforcement officers should acquire formal qualifications, which, together with a determined level of experience should form the basis for appointments and promotions.

When FishFORCE is introduced into another country, Nelson Mandela University and a reputable university in that country establish an MOU. The SLPs are then provided to those universities at no cost and academics at those institutions amend the content to fit in with local conditions and the laws of those countries.

The universities form the nodal point between FishFORCE South Africa and the law enforcement agencies in those countries. All facilitators are then trained as trainers. Administrative assistance is provided from South Africa with regard to the development of annual training plans and the hosting of training sessions. The philosophy is that local universities must take ownership for the development of capacity within their government departments.



Cases prosecuted in South Africa as Illegal, Unreported, Unregulated (IUU) fishing have had very limited success, with penalties amounting to a rap on the knuckles and being seen by culprits as ‘the cost of doing business’.

Instead, as Prof Van As argues, “they should as far as possible be addressed under the Prevention of Organised Crime Act, with severe penalties of 25 years to life. It is encouraging to see that three recent major abalone racketeering cases have done this, with sentences of 18 to 20 years.”

“Internationally, there is a sense of urgency to protect marine living resources, as it is a source of food for almost 50% of the world’s population”



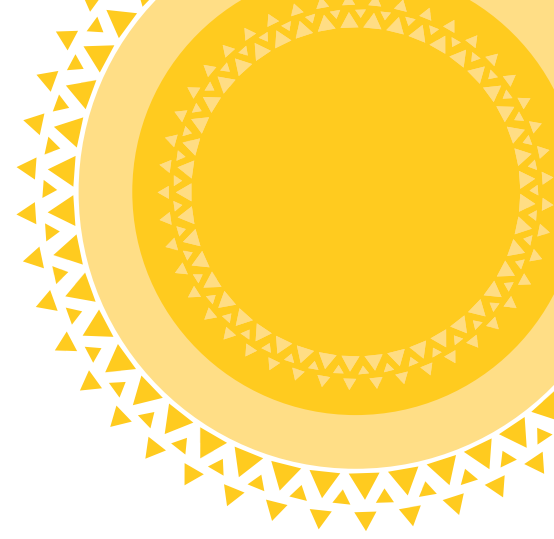
FishFORCE training in Tanzania. The FishFORCE Academy is helping to build fisheries law enforcement capacity along the east coast of Africa.

“Cases prosecuted in South Africa as Illegal, Unreported, Unregulated (IUU) fishing have had very limited success, with penalties amounting to a rap on the knuckles and being seen by culprits as ‘the cost of doing business’.”

Rotten Fish

In 2018, Prof Van As and a research associate in the Department of Public Law, Phil Snijman, contributed to a publication by the United Nations Office on Drugs and Crime titled *Rotten Fish: A guide on addressing corruption in the fisheries sector*.

In 2019 they authored an article entitled *Challenges and possible solutions concerning the inspection/ investigation dichotomy in the context of transnational organised fisheries crime: a South African perspective*. The article was published in an international journal, *Marine Policy*, and it elicited requests from practitioners as far apart as the USA and Japan for further research aimed at solving the dilemma of “residential” vs “commercial” areas on vessels.



Law on the move

The Faculty of Law's mobile law clinics incorporate learning and teaching, research and community service in an outreach which shows students that being of service can yield rich rewards.



Advocate Lindi Coetzee has been involved in the programme where staff and students are active participants in research to determine which legal problems affect residents of the Nelson Mandela Metro.

Research conducted in 2018 showed that many people were aware of legal services offered by the Nelson Mandela University Law Clinic on the Missionvale Campus as well as those offered by Legal-Aid South Africa. However, a substantial number also indicated they simply could not afford the taxi fare to make the trip to these offices.

This led to the development in 2019 of a mobile law clinic which took services to the community, not only giving students practical skills required to enter the profession, but also providing a valuable community service.

"We saw an opportunity to design something that will integrate all three pillars of academia: learning and teaching, research and community engagement," says Coetzee.

The concept involved arranging mobile law clinics in the areas where the research was conducted and students from the Legal Practice course were then invited to volunteer to work in these.

To date four law clinics have been held: two in Uitenhage, one in Motherwell and one in Helenvale.

In the final year of their curriculum, LLB students register for a course in Legal Practice which has three components: a weekly double lecture, a Street Law tutorial and practical work at the Law Clinic on Missionvale campus and in the Street Law project.

In the Street Law component, students are taught empirical research skills to enable them to conduct research to determine the legal literacy levels of members of society. Students are taught participatory training methods to enable them to teach the law to members of indigent communities.

The motivation for training students to enable them to teach others is based on the learning pyramid which shows students retain more knowledge when they teach others. When students go out into the community to teach others about the law, it improves their own retention rate.

At the law clinic on the Missionvale Campus, students see clients under supervision of attorneys. They consult with clients, identify the legal problem and advise on appropriate action. Students also draft any documents required.

From the four mobile clinics, 270 clients were consulted:

- Two law clinics in Uitenhage: 126 clients
- One law clinic in Helenvale: 57 clients
- One law clinic in Motherwell: 87 clients

Student Nsuku Rikhotso says the clinics revealed a lot of issues.

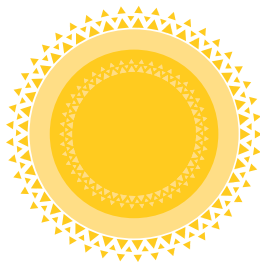
“People came in with different problems such as divorce, property related matters and one client, a really old woman, came in to have her will drafted..

“I mention this woman specifically, because after helping her, it was as if I had given her a million rands. She thanked me so much it was impossible to forget her and that moment is one of my favourite highlights from the whole programme.

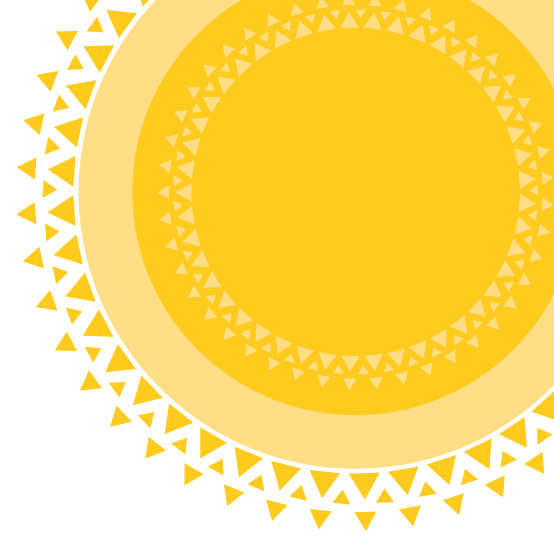
“There’s a quote that says ‘not all heroes wear capes’ and thanks to Advocate Lindi Coetzee, the Law Faculty and those involved, we all got to be cape-less heroes a few times during the programme.”



Advocate Lindi Coetzee leading a street law class



“We saw an opportunity to design something that will integrate all three pillars of academia: learning and teaching, research and community engagement”



Science for the 21st century

Dean's Overview

Professor Azwinndini Muronga, Executive Dean:
Faculty of Science



The Faculty of Science at Nelson Mandela University is at a crossroads as it reshapes its identity and assesses its role as the largest service faculty within the University. Science staff and students produce about 40% of the institution's research output.

The expansion and diversification of our teaching and learning offerings assist the Faculty in this research drive and the past few years have seen significant strategic growth.

Over the next decade, the Faculty of Science will continue to prioritise growth in physical infrastructure to permit expansion of our learning and teaching alongside research activities. This includes our relationship with the University's Ocean Sciences Campus and the Medical School, who face their own crossroads and present the Faculty with interdisciplinary challenges and opportunities. We need to carefully strategise around this.

We also face the opportunities and challenges of a range of powerful emerging technologies – from artificial intelligence, to biotechnologies, from advanced materials to quantum computing – that will drive radical shifts in how we live in the era of the Fourth Industrial Revolution (4IR).

Engagement

We are engaging with the Eastern Cape Socio-Economic Consultative Council as a potential partner in the maths and science challenges in the Eastern Cape school system.

We are partnering strategically with the Department of Science and Technology and the South African Agency for Science and Technology Advancement in developing a science communication curriculum.

Our Science Engagement Strategy focuses on partnerships with other higher education institutions and research and training facilities, industry relations, African and international relations, and marketing. This includes our flagship Science Education, Communication and Outreach Programme, which focuses on science education from Grade R to undergraduate university students, with outreach programmes across the Eastern Cape.

In our communities we need to spread the word about the excitement of science!

Curriculum innovation

We strive to include entrepreneurship and innovation in the curriculum and this includes preparing students for the jobs of the future, which may not exist now, and this in turn speaks to changes in the curriculum.

Solving contemporary social issues requires that we view traditional content from new perspectives. We are redesigning our curriculum requirements to ensure all students take courses that emphasise diverse perspectives. The Faculty should rise to the importance of the 4IR and shape it for the benefit of all, guided by our vision of becoming a dynamic 21st-century African Faculty of Science.

Our Faculty is building a strong tutoring and lab demonstration programme, the backbone of the academic programme. In particular, students from under-resourced schooling backgrounds need someone to talk to. The issue of language in this will therefore be important, speaking to the ulwimi-taal-language imperative of the University's draft curriculum statements.

We need to focus our pedagogy on cultivating higher-order cognitive skills, where academics are facilitators of learning, helping students to approach, assimilate and work out how to use knowledge.

There is also more focus on cultivating students' "soft" skills. The Faculty is asking who our students are, through the lens of the University's humanising pedagogy, and this will inform us about the 'why, what, how and where' we teach.



Access for success

In line with the University's public commitment to increase access for success, we will also see more online and blended education – technology-assisted education.

We need to introduce experiential learning as part of assessment and link assessment to the real world. A focus group on learning and teaching has been established which will map out the strategic framework on learning and teaching matters, including student access for success, undergraduate and postgraduate education.

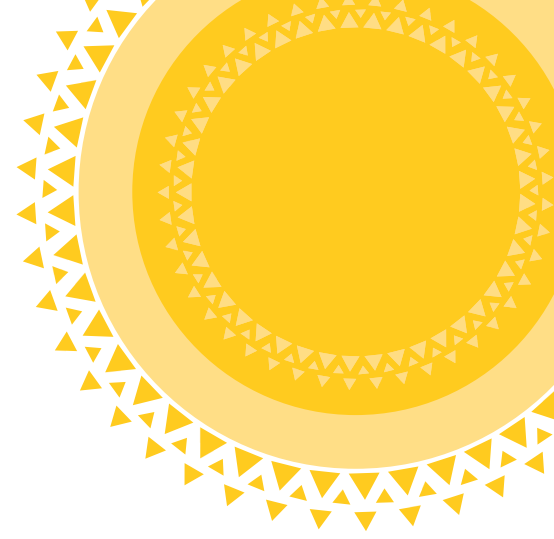


Professor Azwinndini Muronga

In shaping the future of our Faculty, our mission, vision, values, graduate attributes, strategic priorities and objectives should reflect the University's strategic direction, the National Development Plan, the Sustainable Development Goals, and be aligned with Agenda 2063 and the White paper on Science Technology and Innovation.

The Faculty is already addressing these challenges through various initiatives, such as re-curriculation and articulation redesign, faculty structures redesign, the establishment of an Engagement Committee, Science Education Forum, Computational Sciences Forum and Transformation Task Team (also known as the Diversity and Inclusion Task Team). It also has established portfolios to hone in on certain areas.

The question, "What are we good at?" addresses excellence, while "What are we good for?" addresses purpose. The Faculty should pay close attention to what we are good for, and address this with the same determination as the issue of what we are good at. The big question that the Faculty needs to grapple with is where the balance lies between growing the discipline of science and having to service other faculties in the University.



Coding on wheels (and water)

An award-winning gaming app is spreading a strong educational message across the country thanks to the Computing Sciences Department at Nelson Mandela University.



Dubbed TANKS, the fun game introduces pupils to coding concepts in the hope of sparking their interest in software development as a career choice, says the department's Professor Jean Greyling.

TANKS was conceptualised and developed by computer science honours student Byron Batteson. The game sees pupils work in teams as they compete against each other to link puzzle-piece instructions and guide a tank through obstacles to a predetermined destination. Image recognition allows the puzzle-piece instructions to be executed on the phone.

In October, Greyling unveiled BOATS, a spin-off from TANKS, that raises awareness about marine pollution. BOATS was developed by Bay computer programming company Avocado Chocolate. There is a third game, RANGERS, in the pipeline, which will focus on game poaching in Africa.

Greyling says the apps give a valuable learning and teaching experience to students as well as to the schoolchildren who play them. In addition to coding concepts, other educational principles such as problem solving, team-work, strategy and computational thinking are developed as they play.

"We are using our students to go to the schools and teach the learners how to use the game," says Greyling. "In reaching out to schools across the country, we have used students from Nelson Mandela University as well as from Walter Sisulu, Free State, Sol Plaatjies, Pretoria and North West universities".

"Varsity College lecturer Reece Wanvig and I have also used TANKS to introduce our students to coding during the first few weeks of introductory programming modules. Because of the gaming aspects, and the visual feedback, students say it helps them better get to grips with some of the coding concepts."

In addition to learning, the university students are also teaching when they show schoolchildren how to use the game.

"The feedback I am getting from our students is that the fact that they are now teaching programming, instead of learning, helps them with a different perspective. The way the learners respond to coding encourages the students tremendously and some are also coming up with innovative ideas on how programming can be taught.

"It contributes to their understanding of the subject as well as future career options and the possibilities of software. It's an exciting journey."

Greyling won the University's 2019 Innovation Excellence Award and has been nominated for several other awards. He was placed in the top 10 at the finals of the 2019 SAB Foundation Social Innovation Awards and won a R400 000 development award for TANKS. By the end of October, the apps had reached more than 15 000 pupils, which Greyling hopes will be 100 000 by the time TANKS turns five years old.

"Our vision is to make kids excited about programming as a career choice and we've already got feedback from the youngsters saying they want to study computer science when they finish matric."

Greyling urges government and corporates to invest in the app for it to reach its full potential.

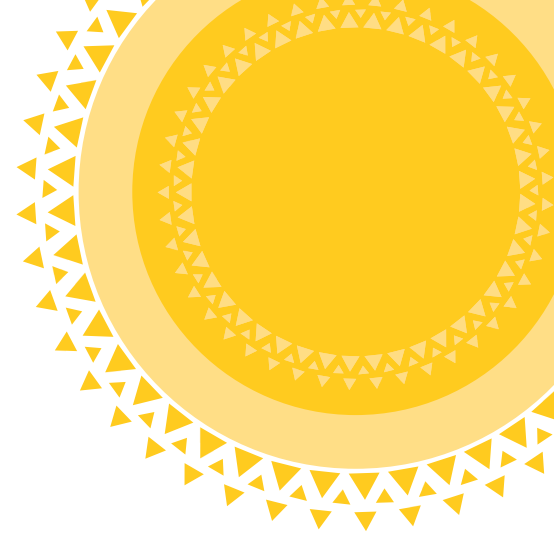


Computing Sciences Prof Jean Greyling teaching learners coding with TANKS which has reached more than 15 000 pupils by October.



"Our vision is to make kids excited about programming as a career choice and we've already got feedback from the youngsters saying they want to study computer science when they finish matric"

– Professor Jean Greyling



In our element

The Department of Chemistry has proposed a renaming of the Periodic Table of the Elements into isiXhosa and Afrikaans – research which aligns with the University’s humanising pedagogy, which aims to meet the student wherever he or she is.



It is 150 years since Dmitri Mendeleev devised the chart of known chemical elements and, as this is also International Year of Indigenous Languages, the department was motivated to propose the study in 2019.

“Our main objectives are the naming of elements in isiXhosa and Afrikaans as these are our Eastern Cape indigenous languages,” says Associate Professor Zenixole Tshentu of the Department of Chemistry.

As former South African President and institution namesake Nelson Mandela famously said: “If you talk to a man in a language he understands, that goes to his head. If you talk to him in his language, that goes to his heart.” This statement presents a strong case for the proposal.

The International Union of Pure and Applied Chemistry (IUPAC), responsible for naming standards, has set an international standard for element names, symbols and atomic weights portrayed in the table. The names of the elements have been translated into dozens of languages – even the fictional Star Trek language of Klingon.

However, in the case of isiXhosa, little to no work has been done

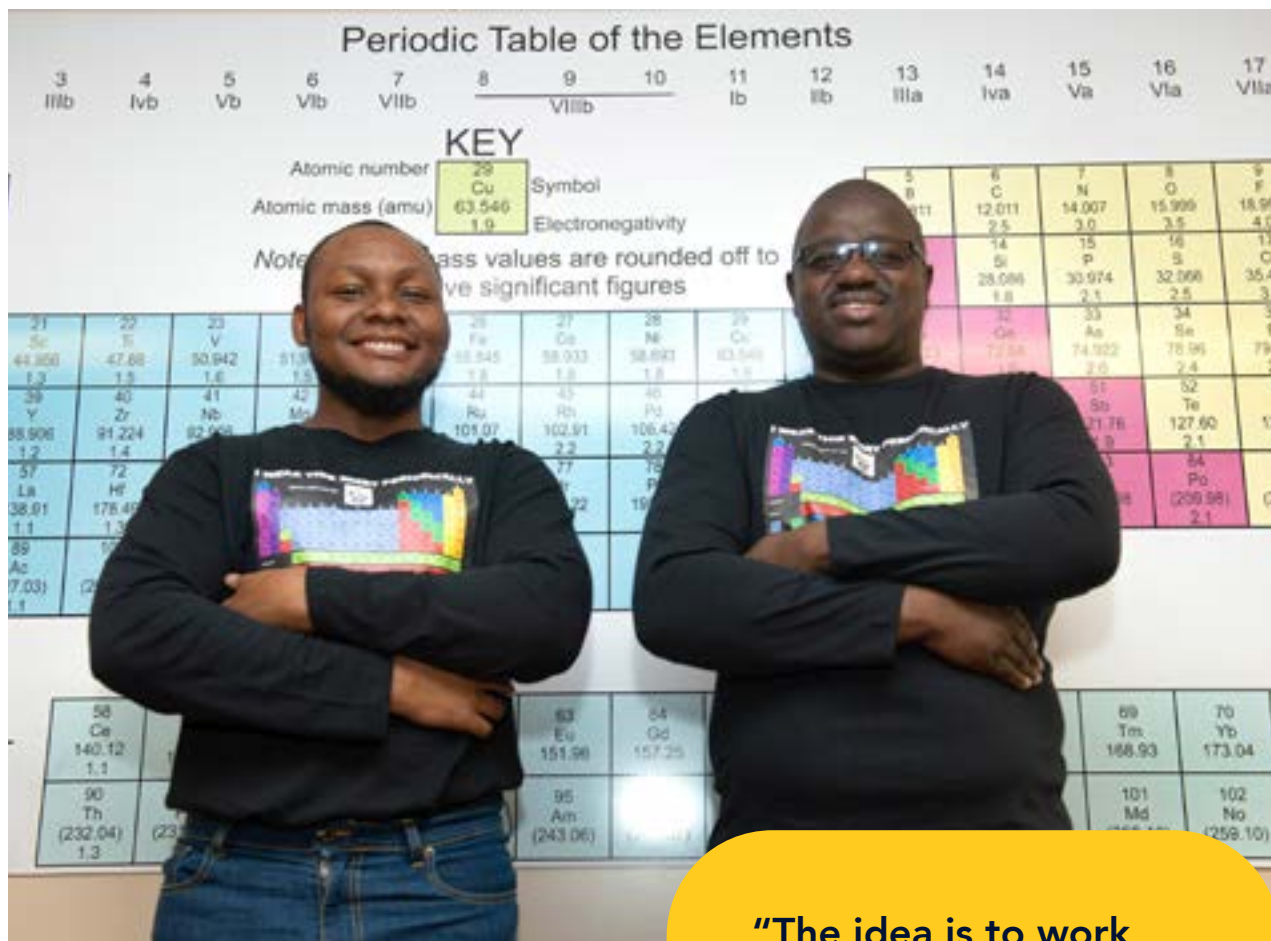
in the naming of the elements, and there also are questions over certain aspects of the Afrikaans translation.

Various considerations, including language, are important when planning educational programmes. However, sociolinguistic aspects of education may contribute to exclusion of some students. The research proposes a contextual approach to the naming, rather than direct translation and “Anglicisation”. The renaming of the periodic table is not only to better foster mother tongue speakers’ understanding of chemistry as a subject, but also to facilitate meaningful learning which is contextual and concerned with the heart.

Rising to the challenge

“The idea is to work with communities of these languages, find connections and disconnections, ask the tough questions – and ask the right questions,” says Prof Tshentu.

“The elements named after places and people cannot really be changed except to bring into the language construction, but there is room to name those that are named after colours, physical properties, chemical properties, minerals, celestial bodies (such as planets and the sun, for example, Helios, after which Helium is named) and so on. Some are even named after



Professor Zenixole Tshentu of the Department of Chemistry (right) and PhD student Nehemiah Latolla.

mythology and superstitions; for example nickel and cobalt are named after evil spirits.”

In other instances, the name of the element rubidium stands for deep red (from Latin word “rubidus”), due to the red spectral line of this element. Caesium is derived from the Latin word “caesius” meaning heavenly blue, coined for its bright blue spectroscopic lines.

“On the chemical properties, hydrogen comes from the Greek words ‘hydro’ (meaning water) and ‘genes’ (meaning creator). It was named so because when it burns it ‘creates water’. One could easily translate that to IsiXhosa as ‘eyenza-amanzi’. Afrikaans somewhat also got this right as they could have easily called it ‘hydrogien’, but it was named ‘waterstof’.”

The renaming process will also contribute to conversations around decolonisation, which question Western epistemologies and develop African epistemologies. This allows for the development of pedagogical agency that enables learning and empowers the learner.

Naming elements in indigenous languages seeks to challenge these colonial relationships of knowledge production. It also addresses issues of Language Policy and is student centred, given that more than 51% of the University’s student body are home language isiXhosa speakers.

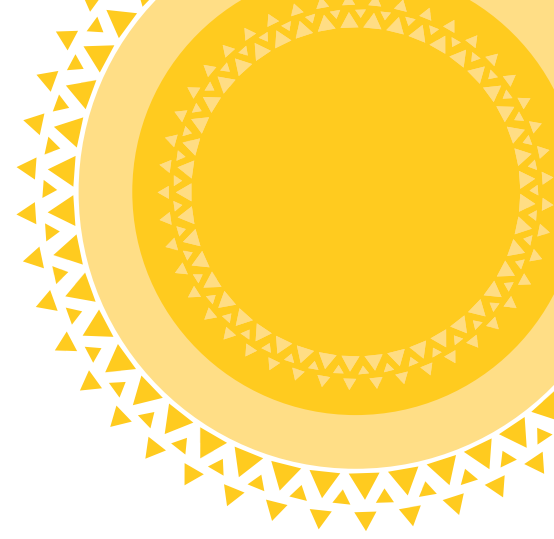
“The idea is to work with communities of these languages, find connections and disconnections, ask the tough questions – and ask the right questions.”

– Professor Zenixole Tshentu

“We see this work as formulating a framework from which other similar indigenous languages can exploit. In this case the Niger-Congo-Kordofanian language family which comprises the Bantu and Non-Bantu language, of which isiXhosa is partly formed,” says Prof Tshentu.

“We see a framework that can spread throughout South Africa and Africa.”

The team includes Nehemiah Latolla, Richard Betz, Gletwyn Rubidge, Mohau Phiri, Anita Noah, Zandile Kondowe, Buyiswa Hlangothi and Zenixole Tshentu. The department is now waiting for feedback from the University’s ethics committee to start the process of engaging with the wider community.



Blue growth = greener South Africa

An overview

Professor Heather Nel, Senior Director:
Institutional Strategy



Our dedicated Ocean Sciences Campus is a first in South Africa and houses a range of academic, research and innovation offerings to support the growth of a sustainable, well managed blue economy.

Inclusive economic growth, social inclusion and environmental protection are vital, interconnected prerequisites for a sustainable future.

It is estimated that the ocean has the potential to contribute R177-billion to South Africa's GDP, while creating up to one million new jobs by 2033. However, our oceans are vulnerable to many threats, ranging from plastic pollution to rising sea levels and over-fishing. In the face of these environmental concerns and climate change, it is a priority to embrace responsible stewardship of ocean resources.

It is encouraging that a growing network of outstanding research and innovation initiatives in South Africa, the continent and internationally are collaborating to better understand the ocean. Nelson Mandela University is privileged to form part of this global network.

In the context of learning and teaching, the University is focusing on how to expand the pool of skills available to the oceans economy by:

- cultivating learner interest in ocean sciences through a comprehensive career advising strategy from basic to post-school education levels
- investing in infrastructure, facilities, ICT and specialised equipment to ensure that ocean sciences education and research remains at the cutting edge of the latest advances
- promoting closer cooperation between educational providers and industry to improve the absorption of graduates into the labour market, whilst also stimulating the economy to open up opportunities for entrepreneurship and small business development.

With South Africa's coastline spanning approximately 3000 kilometres, bordered by three oceans, the University is perfectly placed to contribute to harnessing the potential of the blue economy.

Over 40 years of excellence in coastal and marine research at Nelson Mandela University led to the launch of the Institute for Coastal and Marine Research (CMR). CMR provides a forum for transdisciplinary collaboration among academics, researchers, professionals and postgraduate students to advance our understanding of coastal and marine environments. CMR also serves as host to the University's four SARChI research chairs in marine food security, the law of the seas and development in Africa, marine spatial planning, and shallow water ecosystems.

The University collaborates with many international partners in countries such as Britain, Norway, Finland, France and several coastal countries in Africa. In partnership with Norway and the South African government, the University established the FishFORCE Academy to equip enforcement agencies to handle the increasingly complex investigations and prosecutions of fisheries crime throughout Africa and the world.

The training delivered by FishFORCE includes formal qualifications, such as a Higher Certificate in Criminal Justice and a Diploma in Law Enforcement. These were specifically developed to professionalise the sector and promote fisheries law enforcement as a career choice.

A highlight for 2019 was the announcement of the University's partnership in the One Ocean Hub, under the auspices of UK Research and Innovation's Global Challenges Research Fund (UKRI GCRF). This £20-million (R358-million) global research initiative will see a number of our leading researchers and postgraduate students working together with the other partners in the hub to promote sustainable ocean governance.



Professor Heather Nel

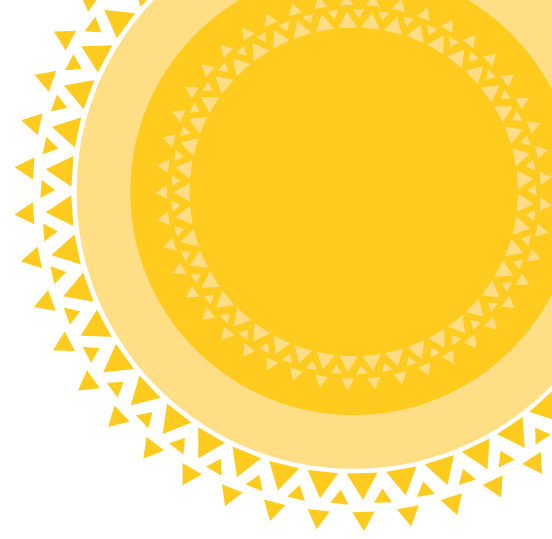
The focus of the University's ocean sciences strategy aims to promote the sustainable and inclusive growth of the South African oceans economy while protecting ecological integrity and marine biodiversity. This strategy is underpinned by four overarching goals:

- Scale up current and potential niched ocean sciences programmes and qualifications at under- and postgraduate levels. These include fields such as maritime studies, ports and shipping, marine and coastal tourism, marine sciences, marine engineering and naval architecture.
- Develop a wide variety of short learning programmes and flexible continuous professional development opportunities which respond to the skills needs of various sectors of the oceans economy.
- Harness inter- and transdisciplinary research, innovation and technology across all faculties to address the complex challenges confronting our oceans.
- Promote engagement with relevant ocean sciences stakeholders to forge mutually beneficial partnerships with civil society, industry, government and other post-school educational institutions nationally and internationally.

All faculties have been invited to contribute to the medium- and long-term strategic trajectory to position the University as a first choice destination for ocean sciences nationally and on the African continent. As an example, the Faculty of Engineering, Built Environment and Information Technology (EBEIT) launched a bachelor's degree in Marine Engineering in 2018, and in 2019 the Marine Robotics Unit was established.

The University hosted two major international ocean sciences conferences in Port Elizabeth in March this year, namely the Second International Indian Ocean Expedition (IIO-E2) and the South Africa–Norway Research Co-operation on Blue Economy, Climate Change, the Environment and Sustainable Energy (SANOCEAN). Both conferences sought to enable informed decision-making by increasing knowledge aimed at sustainable ocean development.

To echo the words of Vice-Chancellor Sibongile Muthwa, we welcome the United Nations declaration of the Decade of Ocean Science for Sustainable Development from 2021 to 2030. It will hopefully be the largest driver ever to bridge science, policy and practice in our quest to protect our oceans and promote sustainable livelihoods.



A hub with many spokes

The ocean sciences campus will house academic and research offerings that span coastal livelihoods and cultures, marine sciences and oceanography, marine spatial planning, the law of the seas, marine and coastal tourism, and maritime studies.



The University's Ocean Sciences Project Manager, Yusuf Adam, concedes that the seventh – and newest – campus at Nelson Mandela University is unusual.

“It is not a faculty or an institute. Rather, it is a vibrant space intended to facilitate and foster problem-based, multi-disciplinary research and postgraduate studies to address the grand challenges confronting the planet and society,” explains Adam.

As a coastal university, located in one of the world's only cities with two ports, the institution has a long history of involvement in ocean sciences. The Ocean Sciences campus in Summerstrand, launched in 2017, is a “hub” for transdisciplinary postgraduate qualifications and research complementing academic offerings on the other six campuses in Port Elizabeth and George.



Ocean Sciences Project Manager
Yusuf Adam

Its phased development as a centre of excellence is careful not to denude resource capabilities on the other



campuses to support its efforts. The “spokes” of the hub extend to include fieldwork and engagement at other facilities and sites across the region such as ports, industrial development zones, the Cape Recife conservancy, Algoa Bay, Swartkops River, Sundays River and beyond.

As an example, a bachelor's degree in marine engineering with fully equipped labs is being offered on the North Campus and other exciting offerings are in the pipeline.

"The campus has thus far predominantly been the home of postgraduate studies and research in the fields of science and law, but we expect to phase in a whole raft of new academic directions across various faculties, including anthropological research on oceans cultures, the palaeontology of early humans along the coast, as well as maritime studies, port management and coastal tourism," says Adam.

As former Vice-Chancellor Professor Derrick Swartz noted when the campus was launched, there is a real need to grow the contribution of social sciences and humanities in promoting sustainable oceans.

"Due to South Africa's colonial history and apartheid, people were dispossessed of land and this also removed access to the resources of the ocean," says Adam.

"It is a fundamental point of reference that the occupancy of land and resources along the coastline is completely skewed, and we need to redress this to promote access to marine resources and enable the participation of coastal communities in the development of new small ports and harbours."

Strong sea links

The University was instrumental in establishing the South African Maritime Institute (SAIMI) in 2015 in partnership with the South African Maritime Safety Authority and the Department of Higher Education and Training.

SAIMI is a national, multi-faceted asset headquartered on the ocean sciences campus. It engages widely with the maritime industry, education, government and civil society stakeholders across South Africa, and similar institutes in Africa and beyond.

Through its coordination and advocacy role, SAIMI is the lead institution facilitating the skills development needed to support growth of the blue economy for South Africa and aims to play a role in advancing the African Integrated Maritime Strategy (AIMS 2050).

"Many resources are national assets and are accessible for use by external stakeholders and partners," says Adam.

One such facility is the hyperbaric chamber – the only one in the Eastern Cape province. Similarly, plans to build a multi-purpose ocean sciences centre and digital dome with a virtual oceanarium are at an advanced stage. This facility will play an important role in educational outreach and community engagement, and this is designed to develop a national maritime consciousness and excite school learners about the possibilities of pursuing careers relating to the oceans.

"There are a lot of technologies which come together on the campus, but we are only at the beginnings of transdisciplinary research, it will take time to fully achieve this although we do have the building blocks in place," Adam says.

The campus houses four national South African Research Chairs funded by the National Research Foundation:

- Professor Patrick Vrancken, SARCHI Chair in Law of the Sea and Development in Africa
- Professor Mandy Lombard, SARCHI Chair in Marine Spatial Planning
- Professor Janine Adams, SARCHI Chair in Shallow Water Ecosystems
- Professor Mike Roberts, UK-SA SARCHI Bi-lateral Chair in Ocean Sciences and Marine Food Security.

There are also other entities whose work is related to studying different dimensions of the oceans, such as the Coastal and Marine Research Institute, the South African Earth Observation Network (SAEON) and the FishForce Academy.

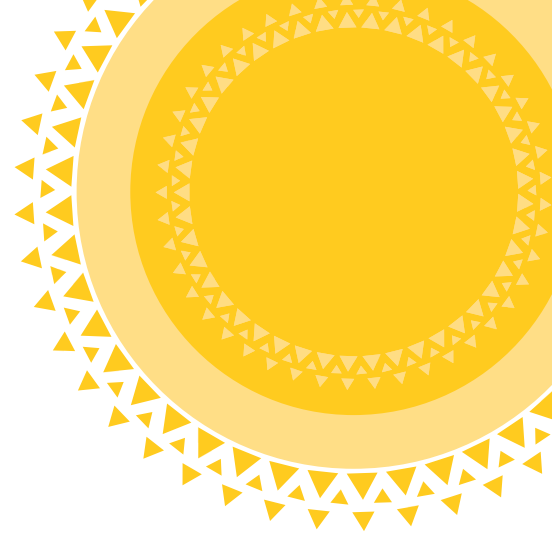
For example, the transdisciplinary Marine Robotics Unit launched in 2019 is based in the Faculty of Engineering, the Built Environment and Information Technology but works across all departments and faculties. This focuses on developing innovative solutions through deployment and operation of robotics such as autonomous underwater vehicle and gliders.

The inter- and transdisciplinary connections extend farther. Earlier in 2019, the UK Research and Innovation's Global Challenges Research Fund announced the One Ocean Hub, led by Scotland's University of Strathclyde, and the University is one of its partners.

Leading researchers from the University are contributing to this £20-million (R358-million) programme aimed at tackling threats to the world's oceans such as plastic pollution, rising sea levels and acidification due to over-fishing.

Although Ocean Sciences is not a faculty or institute, it does span the alphabet from A to Z, with disciplines ranging from Anthropology to Zoology in its vast pool.





Waves of interest

Now in its second year, the new bachelor's degree in Engineering Technology in Marine Engineering, an initiative in partnership with the manufacturing, engineering and related services SETA (merSETA), is increasingly popular.



The full-time three-year qualification offered in the Faculty of Engineering, the Built Environment and Information Technology (EBEIT) drew 18 students in its first year and 34 this year. For 2020 there are 75 students already provisionally accepted.

"There is such enthusiasm about our marine engineering degree and we plan to register 75 first year students each year," says Howard Theunissen, EBEIT's Marine Engineering and Nautical Science Project Manager, and programme leader for this unique qualification in South Africa.

"The degree is endorsed by the South African Maritime Safety Authority and the Engineering Council of SA, which is a signatory to the body of engineering councils around the world."

The merSeta is the sole sponsor of the degree programme Erasmus+ as of 2019. It has provided funding to allow for further research and benchmarking against international European universities, namely Solent in the UK, SAMK in Finland and Wismar in Germany. Nelson Mandela University is the lead South African university in the consortium.

The faculty is engaging with the Royal Institute of Naval Architects (RINA) and Philip Wilson, a world-renowned professor of naval

architecture from the University of Southampton, to ensure that its postgraduate curriculum meets international marine engineering education standards.

EBEIT plans to offer a Naval Architecture honours degree from 2022 and a master's thereafter.

Theunissen highlights the imperative of meeting international standards.

"The maritime industry in South Africa is growing, and forms part of the Operation Phakisa Ocean Economy growth drive, but at the moment there are limited posts available here, which means that currently most of our marine engineering graduates will need to work overseas.

"Hopefully South Africa will provide future opportunities for employment in the sector, including ship's officers, engineers and technologists for the shipping and leisure craft construction sector.

"As a faculty we intend to play a significant role in developing Port Elizabeth as a manufacturing hub for all marine vessels, including ships in the 80m to 130m range. This includes our

biggest navy vessels – our 130m corvettes – and modernisation of our fishing fleet.”

The new degree will significantly contribute to the learning and teaching offerings at the University, and also to the maritime future of South Africa. The Operation Phakisa Ocean Economy has a policy goal of growing GDP value to R177-billion and creating one million jobs by 2033 by stimulating economic activity in our oceans and coasts.

The faculty has received much support for its marine and maritime focus, including funding from the merSETA.

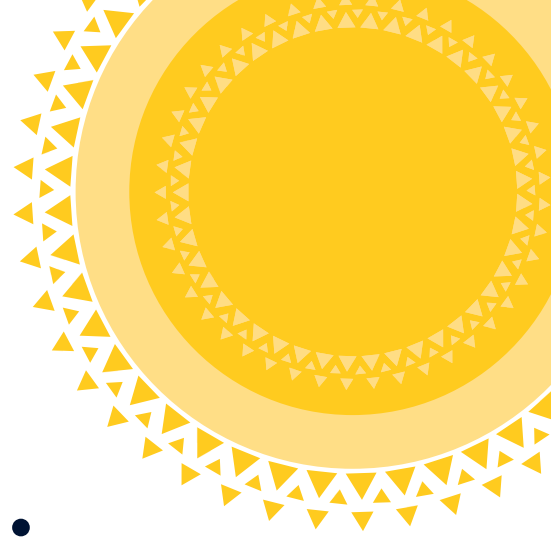
The Marine Engineering degree equips graduates for two possible career paths:

- Marine Engineer: Engine Officer (Seafarer) - The Engine Officer is responsible for all the engineering and technical departments on a merchant vessel.
- Naval Architecture/Marine Engineering Technician: Applying mathematical and engineering principles to the design, development and operational evaluation of self-propelled, stationary or towed vessels operating on or underwater.



“The new degree will significantly contribute to the learning and teaching offerings at the University, and also to the maritime future of South Africa”





Creating a Conducive Environment that Fosters Learning and Success

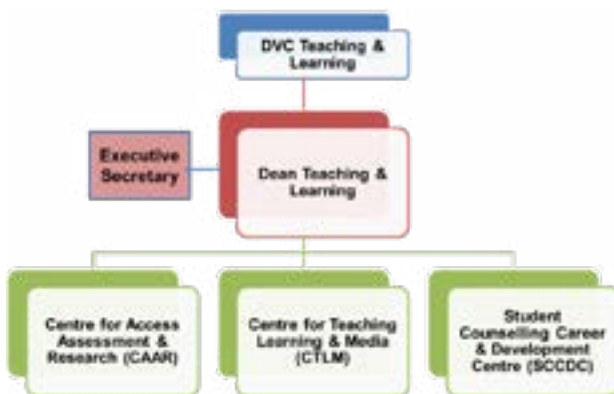
The Story So far

Professor Cheryl Foxcroft, Dean of Learning & Teaching



Framing the story

From the start of Mandela University in 2005, a range of centres that had a strong academic-related focus were grouped into a structure called Higher Education Access and Development Services (HEADS). The diagram below provides a synopsis of the HEADS' structure in the 2018-2019 period.

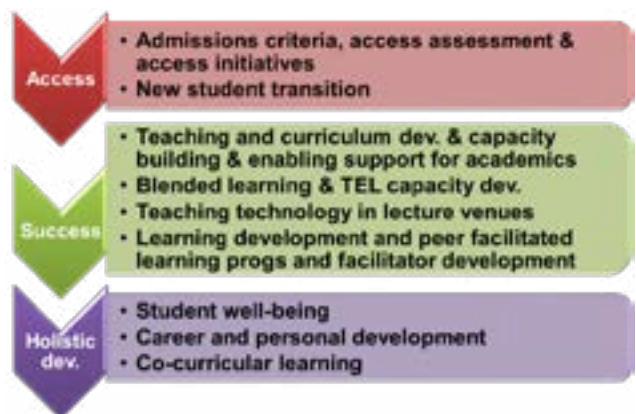


This structure has served the University well and has particularly focused on our strategic priority of creating a responsive environment to foster student access and success.

The main threads of the story

HEADS aims to be a valued centre of excellence that provides institution-wide and research-led services and programmes that focus on optimising human potential and contribute to creating and sustaining a responsive environment conducive to fostering access, learning, student success, development and scholarly teaching practices.

The three main threads that run through the work of HEADS are summarised in the diagram below.





Professor Prof Cheryl Foxcroft

The sections below highlight some of the work done in these three areas for the 2018 period, together with information on our development in each area.

Access for success

• A new approach to undergraduate admissions criteria

To broaden access, Nelson Mandela University has used a two-tier admissions process in that applicants either met the direct admissions requirements for undergraduate programmes, or they were tested by the Centre for Access Assessment and Research (CAAR) and the access test results were used together with school performance to make an admissions decision. The tested-admitted route provided a pathway into Higher Education studies, which accommodated the uncertainties of the various schooling systems and broadened access.

Evidence of impact: In the period 2005 to 2019:

- On average, more than 2200 first years were admitted via the test-admitted route annually.
- More than 2000 graduates each year were admitted to university studies via the test-admitted route. Some of these graduates enrolled and graduated with postgraduate degrees. Had there not been a test-admitted access route, these graduates would not have had the opportunity to study at our University, let alone graduate from it.

As national research findings over the past few years indicated that NSC results had stabilised, and given the growth in the number of applicants from diverse backgrounds who met our direct admissions requirements, it was prudent to review the need for continuing with CAAR's access testing programme despite the many successes and graduates this programme has produced. Consequently, CAAR, in collaboration with the faculties and other key stakeholders, including academic administration and the student leadership, conducted a research study in 2018. This culminated in the decision to discontinue the access-testing route and to develop a new set of undergraduate admissions criteria based on a large sample of tested-admitted students. The new admissions criteria are being implemented for the 2020 Intake.

The new criteria use NSC achievement percentages rather than achievement levels and the composite score is known as the Applicant Score (AS). The six school subjects excluding Life Orientation are used when calculating the AS. CAAR's research also indicated that different AS requirements are needed for applicants with Mathematics as opposed to those with Mathematical Literacy. Details of 2020 AS requirements and a more detailed explanation of the AS can be accessed from: myfuture.mandela.ac.za/Applicant-Score

The perceived value of the AS is that:

- criteria are based on research of successful tested-admitted students
- there is better alignment with criteria of other universities
- there is potential to facilitate and speed up the internal admissions processes
- it is simple and quick to calculate
- it is easy for an applicant to see what they qualify for and assists in guiding appropriate study choices to achieve their ultimate career goals
- it enables the provision of developmental recommendations for all accepted applicants, where appropriate – not just the tested applicants

The research further identified markers that may enable the early identification of students requiring additional support to facilitate success. These include the following:

- applicants with Applicant Score (AS) between the 25th percentile and the median
- applicants with Mathematics/Technical Mathematics/Mathematical Literacy scores between the 25th percentile and the median
- applicants presenting with Mathematical Literacy
- quintile 1 to 3 learners who may require additional transitioning support
- English First Additional Language learners.

The AS process is currently being used to select the class of 2020. The rate of processing applications has improved with overall a higher number of acceptances compared to the same time last year. Furthermore, proportionally the number of Quintile 1 to 3 learners accepted is on the increase (see graph on page 83).

Graph (4 September 2019)



The challenge as we move into the 2020 academic year will be to convert these acceptances into registrations.

• New student orientation

A critical factor that fosters academic success is that students can transition from school to university studies. At Nelson Mandela University, we offer an orientation programme for new first-years. There are five phases to the First-year Orientation programme, namely:

Phase 1: Pre-Uni Connect, where senior students connect with, welcome and increase first-year students' excitement about university life, before arriving, via WhatsApp.



Phase 2: The offering of the HOW2@Mandela programme which covers topics that are helpful for first-year students to bridge the gap from school to university and thrive academically. This is facilitated by How2@Mandela Buddies who are senior students that act as 'buddies' for a small group of first-year students. A condensed How2 programme is offered for those who register late and this is complemented by online materials.



Phase 3: Activities such as Connect with Your Lecturers (staff-student fun event), Library Tour, Rock and Roll and Bulges, City Bus Tour and the First-year Picnic.



Phase 4: Takes place later in February, when first-years are oriented to the social and cultural events offered at Mandela University.



Phase 5: How2@Mandela Buddies 'buddy' and support their group of first-years at least during the 1st semester, mainly via social media such as WhatsApp, Facebook groups or email.

Here are some of the numbers related to the 2018 How2@Mandela orientation programme:

- **205 How2 Buddies** were selected, trained and offered **190** How2@Mandela sessions
- **3479 first years** (about 60%) attended the How2@Mandela sessions (attendance increased by 1200 first years from 2017 to 2018)
- The **orientation website** was expanded and received **46 812 views** (12 000 more views than in 2017). See website orientation.mandela.ac.za
- How do first-years rate the How2@Mandela programme?
- 70% of first years rated the delivery of the How 2 programme as being effective
- 88% of first years rated what the How2 programme covered as being "just right"
- 67% of first-year attendees found the programme informative and helpful and the Buddies indicated that 68% of the first years were receptive to the programme.

The first-year retention rate at Mandela University is high. The retention rate for the 2018 first years was 88%, which is 1% higher than that of the 2017 first years. The intentional orientation programme and the supportive environment created in and out of class contribute to our high first-year retention rate.



How2 Buddies

Teaching and Learning development

Two key components of creating a supportive learning environment that fosters student success is to enable academics to develop curricula and use teaching and assessment methods that engage students in active and collaborative learning and to provide opportunities for students to be developed and supported as learners. Both teaching and learning development increasingly include digital components as learning and work environments are digitally rich in nature.

Teaching and curriculum development

The Centre for Teaching, Learning and Media (CTLM) facilitates strategic projects and provides a variety of professional learning programmes and resources to support curriculum design, development, implementation, evaluation and review. Key teaching and curriculum development activities offered in 2018 are summarised below.



Programme	Attendance/Focus	Evaluation/Comment
Induction of newly appointed academics	75 academics from all (7) faculties participated	Usefulness ratings ranged from 80% to 98%. Participants identified various strategies modelled during the sessions that they could implement in their classrooms
Supporting Early Career Academics	This was a new initiative to create an enabling environment for early career academics. Four discussion sessions were held; participants could attend the HELTASA pre-conference workshops, and a writing retreat	This programme was more fully conceptualised in 2019 to include the holistic development of early career academics
Teaching Enhancement Programme (TEP)	Summary of 2018 activities attended by 107 academics: <ul style="list-style-type: none"> • Being a university teacher in the SA context • Reconceptualising curriculum development and Carpe Diem • Writing to learn and learning to write • How to integrate academic literacies and multilingualism in teaching and learning • Assessment of student learning • Teaching and learning in large classes • Towards a reflective practitioner: developing a teaching portfolio • SoTL: professionalising and demystifying research • Blended learning development and LT in 4IR 	<ul style="list-style-type: none"> • 93% satisfaction rating • 93% satisfaction rating • 91% satisfaction rating • 91% satisfaction rating • 85% satisfaction rating • 89% satisfaction rating • 96% satisfaction rating • 89% satisfaction rating • 125 academics participated in activities to enhance their use of technology in LT
Teaching Development: Innovation and Recognition	<p>Teaching Development and Innovation funded projects: Funding was provided to implement and support 25 TDIF projects.</p> <p>Recognition:</p> <ul style="list-style-type: none"> • Faculty Emerging Excellent Teacher Award • Faculty Excellent Teacher Award • Mandela University Excellent Teacher Award • Mandela University Emerging Excellent Teacher award • Mandela University Teaching Excellence Team Award 	<p>The projects focused on creating online learning materials and readying students for online learning; aspects related to teaching (demos, multilingualism, pedagogy of hope); curriculum design; using poetry, story-telling and music in learning & teaching; developing student writing.</p> <p>3 awards made</p> <p>8 awards made 1 award made 1 award made</p> <p>1 award made (6 team members)</p>



Teaching Enhancement Programme Certificate Ceremony (George Campus) with back, from left, Shann Kieswetter, Tatenda Mapeto and Catherine Fourie and front Monica Correia, Prof Jenny Clarence-Fincham, Lelanie Scholtz-Coetzer, Lenore van den Berg, Eunice Champion and Dr Noluthando Toni.

Below are six themes that emerged from the evaluations on how the teaching development opportunities influenced the participants' teaching practice, assessment and learning facilitation:

- a. developing a teaching identity
- b. developing a scholarly approach to teaching
- c. encouraged to become reflective teachers who continuously develop their teaching practice
- d. valuing peer interaction to develop teaching practice
- e. boosted confidence in their "becoming" as a teacher
- f. raised awareness of student learning needs and strategies to use when facilitating learning in multicultural and multilingual contexts.



Mandela Uni's first cohort of OpenEdInfluencers 2018/9, from left Sumaya Daffala, Kirsty Meyer, Kelly Liberty and Gino Fransman

Learning development

Key learning development and support activities offered in 2018 are summarised in the table below.

Programme	Focus	Evaluation/Comment
Supplemental Instruction (SI)	Modules supported by SI: 164 SI Leaders: 102. SI Leaders (SILs) attend compulsory training and voluntary ongoing training based on need. SILs facilitate 2 SI sessions per week, attend 2 lectures per week in the module for which they facilitate to ensure they know the work, prepare for SI session, and meet with lecturers and SI Coordinators. Total number of SI sessions: 1559 Total contacts (1 contact = 1 hour of SI attendance): 35 580 hours	70% of SI attendees rate their experience as "excellent" or "good".
Mentors	Mentors: 8 were appointed, trained, supervised and offered mentoring to UG students in the Faculty of Engineering, the Built Environment and IT (especially in the School of Engineering – to 418 students)	The mentor programme in engineering is part of a network that intentionally connects a range of success initiatives with a group & individual focus for greater impact.
Tutors and bilingual tutoring	CTLM trains tutors on request from faculties. A growing focus is on the training of bilingual tutors. 32 bilingual tutors were appointed, trained and supervised to run tutorials using a multilingual approach.	Being able to grapple with concepts in their home language assists students to develop a better understanding of key concepts.
Writing Development	Writing respondents: 36 (25 appointed from UCDP funding) appointed, trained & mentored. With the TDG & UCDP we have grown the number of writing respondents by 109% since 2017 and now have at least one in each faculty. Engagements with students around their writing: 1425 In class workshops: 94 and a range of workshops for students. Academic Writing Support Interventions: 3 university-wide workshops were held for academic staff on Turnitin and Enhancing Writing Development. The development of an App for academic writing and referencing (Refer Easy) – which was launched in February 2019. Multilingual language resources – 5 module guides and PowerPoint slides for two modules were translated from English into Afrikaans and isiXhosa. Workshops were conducted for academics on bi/ multilingual strategies to use during T&L.	80% of the students indicated that their overall writing ability has improved after contact with Writing Centre. 1 writing respondent was appointed as associate lecturer. Publication: Baty, T.T. (2018). Multilingual glossaries: a solution for epistemological access in higher education (50-76). Journal for Language Teaching, Vol 52, No 2 (2018). Access from www.ajol.info/index.php/jlt

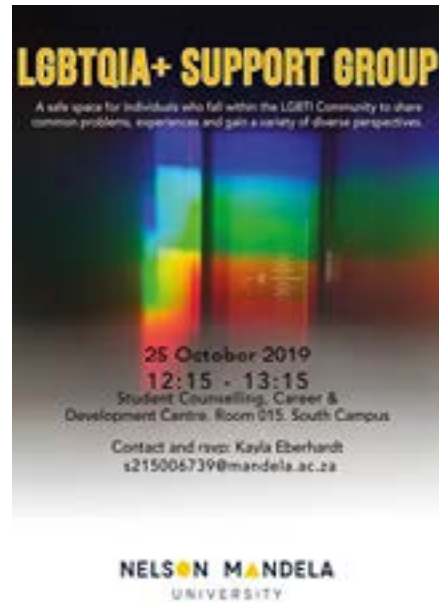
Programme	Focus	Evaluation/Comment
Open Education resources	#OpenMandelaUni aims to activate and increase student- and staff-driven engagements and experiences with Open Education Resources (OERs). The #OpenEdInfluencers at Nelson Mandela University project was launched in 2018 to increase awareness, access, adoption and creation of OERs at the institution, and beyond. OpenEdInfluencers (OEl) are trained and strategically deployed student advocates in Open Education, active across multiple campuses. OEl's research student experiences with textbooks and with OERs, as well as assisting educators to find Open materials to use in L&T. A special online course – Becoming an OpenEd Influencer (BOEI) - has been developed to capacitate OEl's.	See: openedinfluencers.mandela.ac.za Comment from an OpenEdInfluencer: "Being an OEI has been an enlightening experience. As a student I have experienced the struggle of expensive education and the difficulties faced with the high prices of textbooks. The work that we have engaged in has brought a new perspective to minimising expensive education. Being an OEI is forward thinking, in that I ... am finding solutions for issues that I face. I'm part of the solution. I have a seat at the table!"
Academic advising	In the Siyaphumelela Project, Nelson Mandela University instituted an academic advising pilot in the Faculty of Law and the School of Engineering through the appointment of two academic advisors in 2018. Other than providing advising services, a research study was conducted. Findings indicated differing patterns of student use across the two faculties, as well as high levels of student satisfaction and positive perceptions from both law and engineering students. Findings supported the need for academic advising services and will inform further conceptualisation of academic advising at the University.	While the overall first-year retention rate increased by 1% from 2017-2018, the Faculty of Law's retention rate improved from 84% to 91% in 2018 and EBEIT's retention rate improved from 84% to 86% in 2018. Greater improvement was thus seen in the two faculties that added academic advising and intentionally structured a network of developmental support for students.



Peer helpers assisting at Nelson Mandela University Open Day 2019.



The blue pillow is a symbol of the Mindfulness sessions.



The LGBTQIA+ Support Group has been implemented at the Student Counselling, Career & Development Centre to provide an opportunity to address the current needs and build a healthy empowered queer community at Nelson Mandela University.

Psychosocial student wellness and development

The Student Counselling, Career and Development Centre’s (SCCDC) focus is access, on-boarding, and retention of students. In 2018, the total number of clients seen for individual counselling was 2381; these clients were counselled over 6220 sessions.

SCCDC has observed a shift in the nature and extent of mental ill-health among the students. Depression accompanied by suicidality is on the rise as can be seen in the table below.

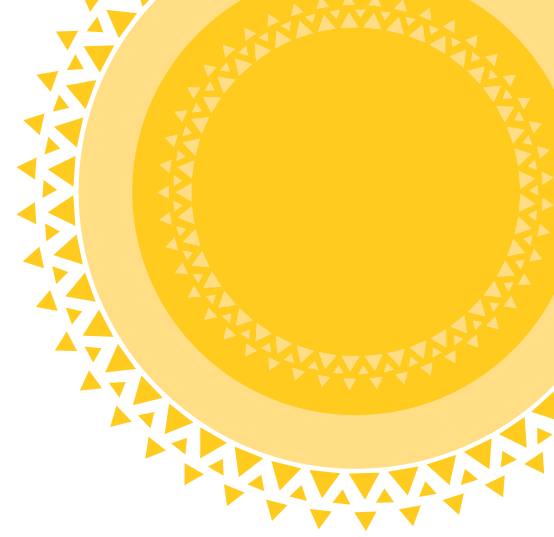
To extend SCCDC’s reach, group interventions were offered. In total, 315 group sessions were offered to 3389 attendees. These sessions were held during student lunch breaks, in the evenings and weekends at different residences and covered topics related to career, learning and personal development.

The findings from the Learning Enhancement Checklist (LEC) are

key in tailoring the learning development programme. Among the key barriers to learning identified on the LEC in 2018 were: not asking questions and preparing for lectures, not switching cell phones off in class, struggling with time and study management, test and exam anxiety, and financial problems.

SCCDC collaborates closely with Campus Health (CH) and Transformation Monitoring and Evaluation Unit (TMEU) to manage gender-based violence (GBV) cases. Priority was given to all GBV cases. A total of 142 cases were counselled by SCCDC and CH in 2018. Of the 142, 68 were new cases. Alcohol or substance abuse was involved in 21 of the new cases. Between August and November 24 awareness sessions were held, with a focus on the revised Sexual Harassment and Offences Policy. This awareness led to more students requesting psychological assistance. To extend SCCDC’s reach, eight Peer Helpers were trained as GBV Peer Helpers. This training was offered by Rape Crisis Centre and paid for by TMEU.

	2014	2015	2016	2017	2018
Depressive symptoms	130	169	201	338	492
Major depressive disorder	9	10	3	1	1
Depressive disorders	10	20	30	53	73
Suicidal ideation	20	33	41	71	141
Suicide attempt	16	12	13	23	47
Hospitalisations	3	1	6	2	23



How we are doing overall

As part of the Siyaphumelela project, we administered the South African Survey of Student Engagement (SASSE) twice over a three-year period. Both times, our students rated the responsive learning environment created at Mandela University as being above average.



The supportive environment tapped by the SASSE includes:

- providing academic support, tutoring, mentoring, SI, writing centres, library and information services
- encouraging students to interact with diverse students
- providing opportunities for social interaction and integration
- attending campus events and public lectures
- support for the overall well-being of students (recreation, health care, counselling, etc.).

Given the core foci of HEADS in terms of student success initiatives, near peer learning academic support, and student wellness, it is reasonable to assume that the HEADS functions contributed to the creation of the highly rated supportive learning environment at Mandela University.

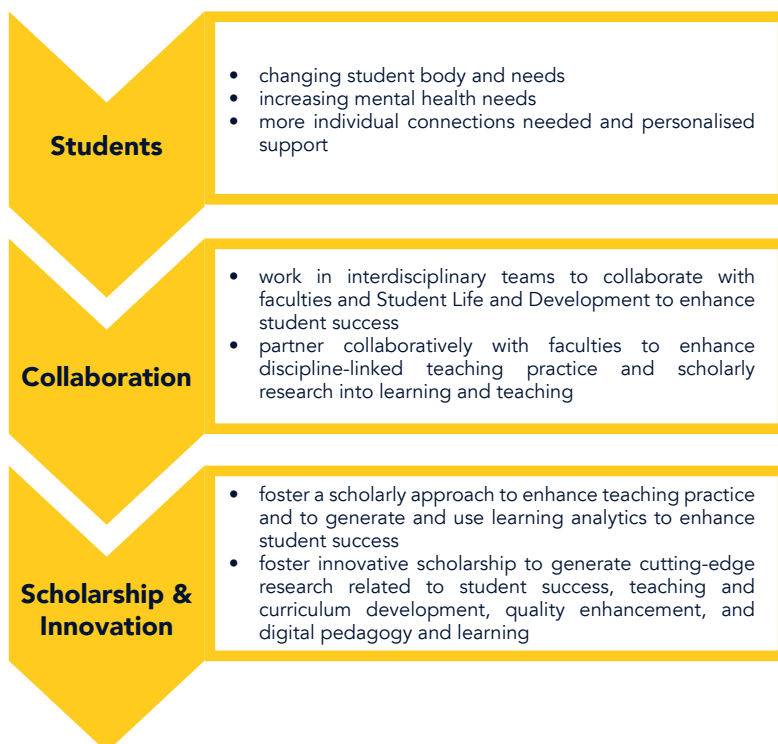
Furthermore, the findings of the 2018 Universum survey confirmed those of the SASSE. In the Universum survey, our graduates rated strong student support as the top attractive attribute of Mandela University and the rating they gave us is higher than the rating obtained across universities nationally.



Supplemental Instruction (SI) is a student-driven programme that students attend voluntarily, where senior students who have successfully completed the module and have received intensive training facilitate sessions for students to integrate content with learning skills and study strategies.

From HEADS to LT Collab – the next chapter

While HEADS has served a useful purpose, the organisational redesign process provided an opportunity to reimagine HEADS linked to the factors outlined in the diagram below.



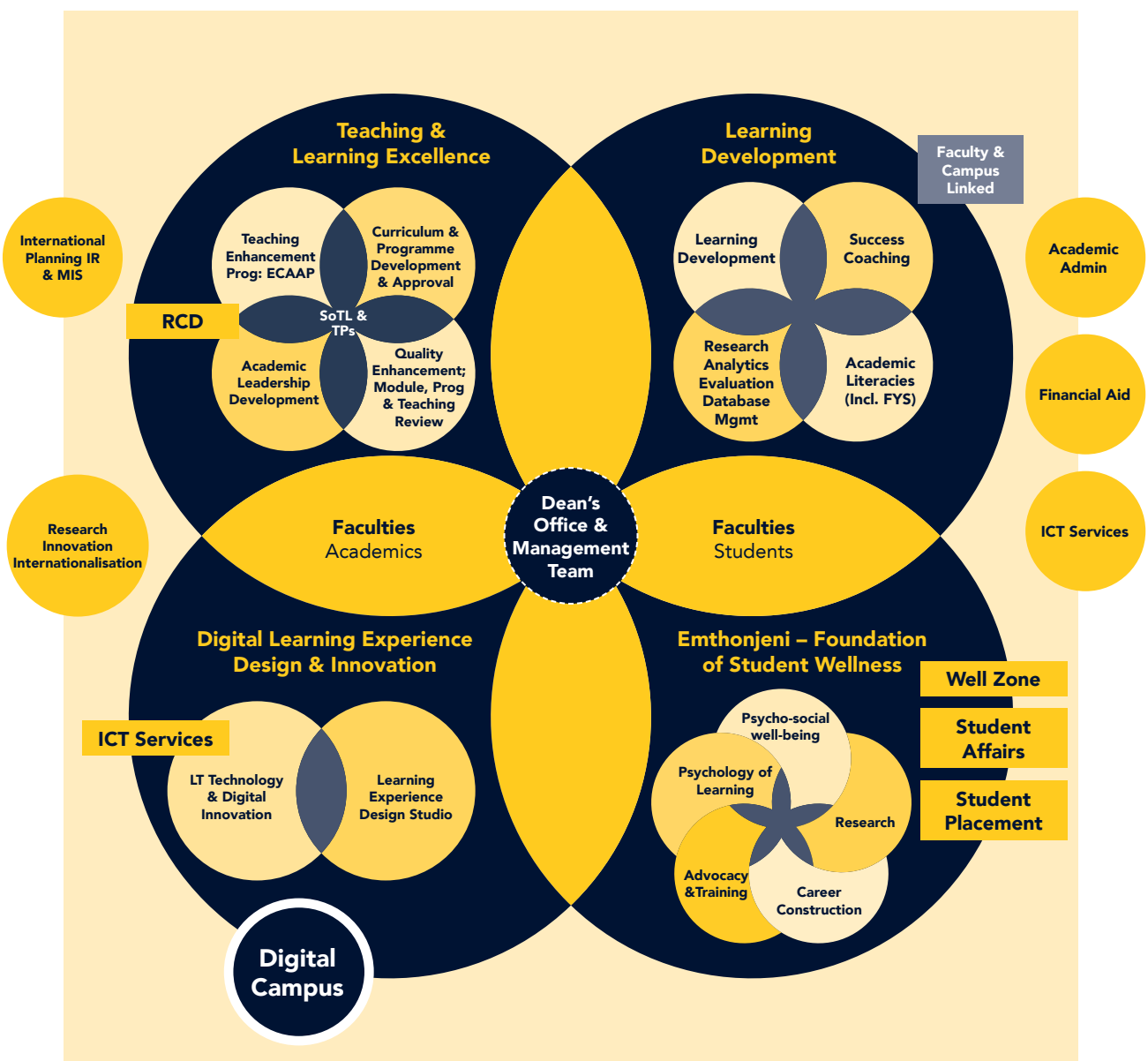
From this reimagining work, the following emerged:

- A **new overarching name** and way of working: **Learning and Teaching Collaborative for Success (LT Collab)** in which LT enabling opportunities take the form of collaborative partnerships with students, academics and other institutional services to learn together, socially construct knowledge, develop understanding or personal insights, and care for our students. These collabs are facilitated by LT staff from a range of disciplines with different roles and expertise who work together for the mutual benefit of fostering LT success. A LT Helpdesk on each campus will assist students and staff as an interface to source and find out where a function/activity is located.
- A **revised purpose**: “Enabling learning and teaching development, innovation and success to change the world” – in line with Mandela University’s strategic priority of “access for success”.

- New structure:** Addition of new/revised functions that are grouped into four intersecting clusters (not centres) to signify the inter-disciplinary nature of the way of working. The boundaries among the clusters are permeable to allow staff greater freedom to work across clusters when tackling collaborative, inter-disciplinary and multi-divisional projects.

By having a stronger focus on harnessing technology to enhance learning and teaching and the way of working in LT Collabs, together with embracing humanising approaches, we will be assisting in preparing students and staff for the 4th industrial revolution.

Learning and Teaching Collaboration for Success (LT Collab)



Programmatic Approach



Responding to the challenge of rapid knowledge and skill acquisition in the field of digital learning. The report was in response to the 7 Questions posed by MANCO which Mike Swanepoel produced in the form of a publication. The document is aimed at stimulating discussion, clarify strategic approaches as well as proposed plan of action. It is intended to be one of a series of publications that deep dive into key issues in the digital learning context at Mandela University.



Mike Swanepoel

Digital Transformation of Learning and Teaching

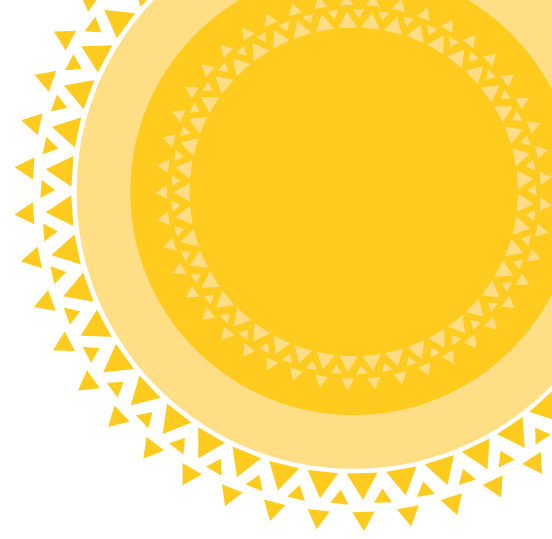
The University has recognised the importance of preparing for the Digital Transformation (Dx) of Learning and Teaching and to this end seconded the former Head of Department of Applied Design, Mike Swanepoel, to the position of Project Leader: Digital Learning Design and Innovation from late 2018 until mid-2020.

The goal of the project is to scan the South African and global Digital Learning and Teaching landscape in order to correctly position Mandela University for Learning and Teaching in the 4th Industrial Revolution context.

A key aspect of Dx is that it places people at the centre of the transformation process - technology is simply an enabler, and the project will strategically guide the process of transforming Learning and Teaching at both the human and the technological levels.

The project is intended to dovetail with and inform the institution-wide organisational redesign process.

The redesign is a 'fit-for-purpose' exercise and the establishment of a Learning Design section is anticipated as part of a coherent institutional response to educational landscape changes stemming from technological changes in Learning and Teaching.



Marking the progress

Epilogue

Professor Denise Zinn, Deputy Vice-Chancellor:
Learning and Teaching

In the foreword to this publication I wrote that the journey of learning and teaching is neverending, and has no real final destination. It is nevertheless vital, at this time, to celebrate our progress and milestones as we travel this journey at Nelson Mandela University.

This Learning and Teaching Review has tried to give a sense not only of our philosophical orientation and approach, but also provide glimpses into some of our educational projects and activities, as well as document some of our stellar innovations and achievements.

The stories on these pages reflect the integration of the institutional missions of teaching and learning with community engagement, research and innovation. Learning and teaching are implicit in the “search” embedded in “research”.

We see in these stories the foundations for the “Hubs of Convergence” between the University, the various communities we serve, and the manner in which we try to live our vision, mission and values.

Mandela University has become recognised as a torch-bearer and advocate for a humanising pedagogy, which has as its goal the humanisation of education and the academic project, given our

country’s long history of dehumanising educational experiences for the majority of its people.

It is gratifying to read how each faculty has embraced these principles, with a strong focus on meeting the student where she or he is. This includes paying attention to the fact that staff and students are a multilingual group and that “language matters/ulwimi lubalulekile/taal maak saak”. We recognise that all languages are assets and can be used as resources to enhance and deepen learning and teaching.

Our academics are also increasingly using online and blend educational resources and methodologies to provide access to more students in creative and innovative ways. We are fully cognisant of the technological demands and skillsets needed in the 21st Century. Our institutional support services have helped to enable this office to share innovative opportunities for students to be developed and supported as learners. These increasingly include digital and technology-enhanced learning components. After all, access to higher education is meaningless unless it is access for success.

This publication has tried to show how the University’s 10 curriculum statements are given expression across all faculties and departments. Much content focuses on the ethos of



“It is ... vital to celebrate the progress and milestones we reach as we travel this journey at Nelson Mandela University”

– Professor Denise Zinn

service to society that is also fundamental to our humanising pedagogy. These efforts to exemplify the values of Nelson Mandela are revealed in programme offerings and curricula as well as in student support, scholarship and engagement with the wider world of Nelson Mandela Bay and the rest of South Africa.

As we seek to engage with and serve the diverse communities in which we are rooted and which surround us, we must be mindful that our efforts towards learning, teaching and research are there for a purpose. The rich body of theory and praxis drawn on and developed by the staff, students and stakeholders must be used to propel this institution further on its journey towards being a dynamically African university. Historic inequalities and future realities cannot be ignored; transformation, including the decolonisation, Africanisation and digitalisation imperatives, is ongoing.

As this publication goes to press, Mandela University has reached the end of the first phase of institution-wide organisational redesign. This project has been a mammoth undertaking, reviewing how we have been structured since the merger¹. During this year we have redesigned every aspect of our current structure to enable us to be more fit for purpose and to provide greater ability and agility to meet the changing needs of our students, staff and society in our offerings. The large portfolio

¹The University of Port Elizabeth and the Port Elizabeth Technikon merged in 2005 to form Nelson Mandela Metropolitan University, renamed to Nelson Mandela University in 2017.

that was previously known as Teaching and Learning, made up of all the faculties and the teaching and learning support division, is now called Learning and Teaching – signifying our emphasis on student and learning-centredness. Our teaching and learning support division previously known as Higher Education Access and Development Services (HEADS) will from 2020 be known as the Learning and Teaching Collaborative for Student and Staff Success (or LT Collab for short).

In conclusion, we need to point out that there were many other stories that we could have included in this publication, as they similarly represent the manner in which this portfolio and all its constituents demonstrate their passion for, and pride, in the work in this arena at Nelson Mandela University.

However, space constraints have limited us to present only two or three stories per faculty this year. We have no doubt that there will be a publication of similar or larger scope in 2020 – and in the years to follow – which will provide an ongoing view of the learning and teaching transformation journey at our institution.

We hope you have enjoyed travelling with us, as you made your way through this publication.

Our vision and mission

Our vision and mission define our long-term aims and purpose for existence.

Vision

To be a dynamic African university, recognised for its leadership in generating cutting-edge knowledge for a sustainable future.

Mission

To offer a diverse range of quality education opportunities that will make a critical and constructive contribution to regional, national and global sustainability.

Diversity

Excellence

Ubuntu

Social justice
& equality

Integrity

Environmental
stewardship

Content: Learning and Teaching Portfolio academics and PASS staff • **Production:** Communication & Marketing
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