

Makoyda

OFFICIAL NEWSLETTER OF UMALUSI

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UMALUSI



Quality Council for General and Further
Education and Training

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Umalusi mourns the death of Dr Fred Calitz

Mr Biki Lepota

Senior Manager for Public Relations and Communications, Umalusi

This edition of the newsletter is dedicated to the life and times of Dr Fred Calitz.

Death robbed us of Dr Fred Calitz on 20 October 2023. He was 87 years of age. During his illustrious career, Dr Calitz served as the Executive Officer of the South African Certification Council (SAFCERT) before the establishment of Umalusi. Upon learning of his death, Umalusi expressed its sadness in a media statement released on 26 October 2023.

Given Dr Calitz's immeasurable contribution to the systems that are used to quality assure examination marks, Umalusi saw it as fitting to honour him by way of a memorial lecture and

round table discussion held on 24 November 2023. Umalusi invited a formidable group of speakers to reflect on the life and times of Dr Calitz at this meeting, which was held in a hybrid mode to allow people from far and wide to attend.

The programme comprised a good mix of speakers who together had over 100 years of experience in the standardisation of examination marks, particularly in the school system. The speakers and members of the audience represented the school, college and higher education sectors, government departments, public and private assessment bodies and statutory bodies, among others.

All those who spoke shared heartfelt tributes and cherished memories, bringing Dr Calitz's values, passions and kindness into sharp focus. Dr Calitz leaves behind him a legacy of dedication and excellence. It is for this reason that as the programme director I remarked as follows:

"If one did a paternity test on Umalusi's standardisation principles and approaches, the DNA that came up would be that of the late Dr Fred Calitz."

This event was a wonderful opportunity to mourn but also to celebrate the life of a great South African.

The Umalusi Council, management and staff express their deepest condolences to the bereaved family, friends and colleagues of the late Dr Calitz.



A tribute to Dr Fred Calitz from the CEO

Dr Mafu Rakometsi

Chief Executive Officer of Umalusi

I take this opportunity to express my condolences to the bereaved members of the family of the late Dr Fred Calitz: Freddie and Annemie, Erik, Jannie Calitz, Retief and Esté, Japie and Martie Uys, Leonie and Johan.

On behalf of Management and the Umalusi Council, I extend my deepest gratitude to the Calitz family for graciously granting us permission to organise this Memorial Lecture and Roundtable Discussion to honour the late Dr Fred Calitz. Your presence here fills our eyes with tears of gratitude.

I would like to acknowledge the presence of the Chairperson of Umalusi Council, Professor Yunus Ballim.

Special recognition goes to the SAFCERTIANS (former employees of SAFCERT) and today's panel members:

- **Professor Peliwe Lolwana**, the past Chief Executive of SAFCERT and currently the

Chairperson of the Board of the South African Qualifications Authority (SAQA);

- **Professor Paul Fatti**, former Executive Committee member and member of the SAFCERT Council, former Chairperson of SAFCERT's Norms and Standards Committee, and retired member of the Assessment Standards Committee (ASC) of Umalusi Council;
- **Professor Moon Moodley**, former member of SAFCERT's Norms and Standards Committee, and now member of the Umalusi ASC;
- **Professor Sudan Hansraj**, former member of SAFCERT's Norms and Standards Committee, and now member of the Umalusi ASC;
- **Ms Maud van Venrooy**, former Deputy Chief Executive of SAFCERT and former Deputy Director/Manager at Umalusi;
- **Dr Rufus Poliah**, former SAFCERT Director for Assessment, Moderation and Certification and currently Chief Director for National Assessments and Public Examinations in the Department of Basic Education;
- **Ms Confidence Dikgole**, former SAFCERT Coordinator for Assessment and Moderation, former Umalusi Manager for Quality Assurance of Assessment, and currently Chief Executive Officer of the Independent Examinations Board (IEB),

I would also like to acknowledge colleagues from the assessment bodies. Amongst us here today we have:

- **Ms Violet Tshetlo** – Chief Director, Department of Higher Education and Training (DHET);
- **Mr David Diale** – Chief Director, DHET;
- **Ms Margie Luckay** – Executive Manager, IEB;
- **Ms Chipo Chibaya** – Head of ABET and NSC Departments, South African Comprehensive Assessment Institute (SACAI).

I would also like to express my appreciation to Mr Eardley Twigg, retired Umalusi manager responsible for standardisation of examination results, Dr Henri Moolman who was a colleague of Dr Fred Calitz's for 16 years, and everyone joining us on the online platforms;

Umalusi management, staff, distinguished guests, ladies and gentlemen.

We gather here this afternoon to celebrate the remarkable life of Fred Calitz who entered into rest on 20 October 2023. At the same time, we are here to pay tribute to the immense contribution he made to the foundation of the quality assurance frameworks that are used today to ensure the credibility of examination results in South African general and further education and training (GEFT).

On a personal note, I knew Dr Calitz for 25 years. I first met him in 1996 when I was the Chief Education Specialist responsible for Examinations in the North-West Province. I continued to work with him when I joined the SAFCERT Council in the early 2000s, up until his retirement from SAFCERT.

In support of the country's educational transformation agenda, Dr Calitz shared his expertise during a period when SAFCERT's role as a quality assurance body was being redefined post-1994. This involved the re-conceptualisation of narrowly focused quality assurance approaches and processes in order that they would respond to broader educational changes.

In order to achieve a smooth transition from his retirement in February 2000 to Professor Peliwe Lolwana's assuming the role of Executive Officer, Dr Calitz agreed to stay on in the post for a further three months, until the end of May 2000. After his retirement, Dr Calitz served as a member of the Audit Committee and Statistics Task Group of SAFCERT, until Umalusi took over at the beginning of April 2002.

Given his expertise in statistics and commitment to quality assurance, Umalusi appointed Dr Calitz in July 2005 to undertake a study to establish which requirements for passing the Senior Certificate (SC) were commonly unmet by candidates. Based on the findings, Umalusi provided advice to the Department of Education on interventions to support improvements in the system.

Dr Calitz never allowed his advanced age to become an obstacle to keeping abreast of Umalusi's standardisation processes. He visited my office twice during the first quarter of the 2021/22 financial year after the relaxation of the Covid-19 regulations. He met with me, Mr Emmanuel Sibanda (Executive Manager: Qualifications and Research), Mr Biki Lepota (then Senior Manager for Statistical Information and Research), and Ms Bridget Mthembu (Manager: Standardisation). He came to share with us his perspective on how the application of one of the standardisation principles could, in his view, have resulted in a situation where a candidate from Mpumalanga Province could have achieved more than 100%.

“Umalusi applauds Dr Calitz for spending every day of his adult life thinking about how best to improve the quality assurance processes and approaches for the benefit of South African general and further education and training sector.”

The sector has lost a committed South African.

To the Calitz family, friends and colleagues, we thank you for allowing Dr Calitz to serve his country so diligently. As Umalusi, we share in your sorrow. May you be comforted by the knowledge that Fred's spirit, his wisdom and his dedication will forever be remembered.



Hamba Kakuhle, Fred!

Professor Peliwe Lolwana

Chairperson of the Board of SAQA

Fred Calitz's name is inextricably tied to the matriculation certification processes in South Africa. It is hard to think of the history, the evolution, and the status of this certification without thinking of him. Some remember him as a signatory of certificates issued in the Republic between 1986 to 1999. He comes to the minds of others during the annual standardisation processes of this examination. His role in this high-stakes examination, a rite of passage for young people in the country, was significant.

Fred Calitz was an intellectual giant who quietly worked behind the scenes to achieve his goals and to make the country a better place for all. I say this without fear of contradiction. I will come back to narrating my personal experiences with Fred later. I want to start by giving the audience some glimpses of what I understand to be the historical background of Fred's involvement in the matriculation certification process. This is by no means a complete picture, as Fred would never talk about himself and had no need for public acclamation.

Initially, Fred worked for the Joint Matriculation Board (JMB), which was concerned with university entrance qualifications at a time when the country was undergoing political change. The 1976 student uprising, which started in Soweto, ushered in a new phase in the education debate and changed the agenda of education; the question of uniform standards was not left untouched. A 1977 Human Sciences Research Council (HSRC) study, conducted during the year following the Soweto uprisings, led to a period in the eighties in which considerable changes were recommended in the educational arena generally, and in the JMB specifically. It was felt that if all students writing the matric examinations were to be certified by a single body, this would do away with the public perception of unequal results.

As a result, SAFCERT was established to take over and centralise the certification processes, to oversee the standardisation of results of the Senior Certificate Examinations (SC) and to moderate all examination papers externally. The JMB was instrumental in establishing SAFCERT and drove a strong agenda to centralise the standards control function of the 17 departments of education currently in place. The centralisation of the certification process was seen as key to achieving a uniform standard. The new system of certification under SAFCERT was consequently seen to represent an education reform of great importance, which according to the architects could provide a solution to educational and political problems (Trümpelmann, 1991).

In 1992 Fred Calitz was appointed as the first Chief Executive Officer of SAFCERT. Unlike the JMB phase, the SAFCERT era has not been formally documented and accounts are primarily anecdotal. Fred used to send his annual report, which was a compilation of numbers concerned with the performance of candidates in the examination, to Mr Poliah, a deputy director at the Department of Education. However, Fred continued his involvement in most of the practices of the JMB in standardising the results of the Senior Certificate. It was during this time that Fred enrolled for a B Com degree in Information and Technology. During this time, studies in computer science-related fields were only

available as a specialisation in commerce degrees. The importance of this will soon become clear.

During the JMB era, passing the matriculation examinations with exemption was the focus, as this body was mainly interested in those who would enter universities. It was during Fred's time that the school-leaving certificate was given prominence for the first time and candidates of the then Department of Education and Training (DET) were encouraged to take subjects on the standard grade rather than on the higher grade. SAFCERT was accused of a selective approach to monitoring standards and of adjusting standards for different racial groups. Some examining bodies were left to operate unchecked, while others were closely monitored. Inadequate resources in the former homeland education departments and the former DET resulted in poor performance in these systems.

It was claimed that, in order to present a more favourable picture, SAFCERT upwardly adjusted raw scores in excess of accepted practice. Similarly, in order to prop up systems put in place by the apartheid government, the statistics committee of the JMB was very lenient towards administrations such as those in the Transkei. The intention was to give the impression that the former homeland systems were functioning. Adjustments to marks in the former homelands would be 10% or even more for subjects such as Afrikaans. The Government Printer as well as some examiners allegedly played a key role in undermining examination processes in African, Coloured and Indian communities prior to 1994. In addition, leakages under the old dispensation were rife. Invariably, question papers printed by the Government Printer and distributed to the various administrations responsible for candidates in these communities were often leaked. Colleagues involved with examinations under the DET have confirmed this and have indicated that certain examiners were also known to leak their papers.

During SAFCERT's time, the standard of the examinations – especially for DET candidates – continued to be a source of concern, in spite of the centralised certification processes. The centralisation that characterised the SAFCERT

era was short-lived and extremely contested (Umalusi, 2006). Fred Calitz weathered all these storms, providing scientific leadership in the attempts to be fair to all candidates and to improve the integrity of the system. He genuinely believed that through statistical control, a single system of matric results could be established. His convictions have been proved right as we are still using the formulae developed and refined by Fred today when processing matric results.

Studies soon appeared, showing how different population groups were prepared for their positions in South African society by the different education departments, in spite of a single certification system. One of these studies was by Prinsloo (2004) and focused on the role of language in the examinations for the various subjects, leading to strong views on the inferior nature of the then DET examinations.

The new government took over a system in which the advantaged departments of education were respected, and the disadvantaged departments were denigrated. The need for a centralised system, which would ensure a single standard for all learners, persisted even when the provincial departments started to regularise their examination processes. In 1995, the new government established the first provincial public examination bodies, which came into operation in 1996.

During the period 1996 to 1999, the new examination bodies struggled to administer the existing examinations with integrity. In 1998, the poor performance of English Second Language candidates was one of the critical outcomes of an investigation of the SCE commissioned by Minister Bhengu. In 1999, in an effort to ensure fairness in the SCE, SAFCERT introduced a compensatory measure for learners whose first language was an African language. A compensation of 5% was awarded to such learners for their non-language subjects, based on the mark they obtained in the examination. Fred led the charge in developing a scientific formula to establish this compensatory measure and made it defensible on the grounds of both educational and statistical principles. Important studies commissioned by Minister Asmal included a study to benchmark the SCE against the Scottish Higher Examination in

1999, as well as a study in 2000 to establish the desirability of a single examination in South Africa. These studies were commissioned at a time of growing doubt about the quality of the SCE as pass rates increased.

As pass rates soared, so did questions about the SCE's standards. In 2002, Minister Asmal established a committee to investigate and advise on a single examination and assessment system (Ministerial Committee, 2002). The committee's report is one of many such reports that have not been made publicly available. At the heart of the report was the recommendation that considering the scope, constitutional rights, and the provincial expertise that had developed over the years in the examination area, the present system was the most viable. Again, the direction that Fred took in providing oversight to this examination was confirmed as valid. However, it is doubtful that the committee's recommendations or the department's wish to centralise all examinations would have addressed questionable standards.

During these arguments over whether to centralise examinations, Fred had already started a process of testing the process. He started by introducing common examinations for some subjects in the SC, while others would still be examined by the provincial examination bodies. This process required the establishment of common norms for the five subjects that would be set nationally. Fred led the process of preparing SAFCERT even though this system was only introduced in 2000, a year after he had retired. In so doing, Fred surrounded himself with the best brains in statistics in his formidable Statistical Committee.

I first met Fred when I was appointed as the Chair of SAFCERT in the 1990s. I vividly remember our international travels as Fred and I attended both the International Association for Educational Assessment (IAEA) and the Association for Educational Assessment in Africa (AEAA) conferences. At that time, it was the rule that both Chair and CEO attended these conferences. Although Fred was not a great talker he would provide carefully considered responses to any questions I had, and I learned a great deal from him:

- I learned that when you are funded to travel, you should make a contribution to the conference; Fred and I always presented papers at these conferences.
- Capitalising on our strengths made the organisation stronger and better; Fred was statistically strong, while I was strong on education policy.
- I learned that public service organisations grow from the development of knowledge, not only administration; Fred generated a great deal of knowledge that has stood Umalusi in good stead.
- I learned that being a leader of an organisation is not merely about delegating but also about your own hard work and expertise. Fred led by example.
- I learned the importance of improving your own knowledge as a leader; long after he had completed his PhD, Fred completed a BCom degree in order to understand IT systems and databases.
- Finally, from Fred I learned how to be a true public servant. He never criticised the government; instead, he found the best ways to implement its vision.

Just as the JMB laid a foundation for SAFCERT, so SAFCERT did likewise for Umalusi (Umalusi, 2002):

- SAFCERT developed regulations for the conduct of examinations, with which examination bodies were compelled to comply (nine provincial plus private bodies).
- SAFCERT extended its remit to monitoring and supervising the administration of the entire examination process in each province.
- SAFCERT developed sophisticated computerised systems for recording examination data from each examining authority, ensuring that the regulations were complied with, calculating results, issuing certificates to successful candidates as well as providing for sophisticated data analysis, reporting, research, historical record keeping and the like.
- SAFCERT developed and refined the process of external moderation of examination question papers.
- SAFCERT continuously refined the standardisation of examination processes.
- One of SAFCERT's most important achievements when working with the

Department of Education was to determine appropriate and educationally responsible norms and standards for use by the post-apartheid examining bodies.

- Working with the Department of Education, SAFCERT was instrumental in the incorporation of the Continuous Assessment System (CASS) in the Senior Certificate examination, and in developing procedures for standardising the CASS marks.

Fred Calitz played a part in all these achievements. Finally, the foundation left by Fred Calitz for Umalusi is more than just theoretical and academic. Until 2001, Umalusi did not receive a cent from the government to carry out its responsibilities in the senior certificate examinations.

Fred developed a funding model for the organisation by introducing a levy of R7 per certificate, using this income to fund all SAFCERT's operations.

He was also the most frugal CEO I have ever met:

- He employed the minimum staff complement (eight) and he did the bulk of the work himself.
- The furniture at SAFCERT was a conglomeration of unmatched pieces, which I am convinced Fred had found at flea markets.
- He did not believe in extravagance; there was no catering, no unnecessary travels and so on.
- He wrote programs for the organisation. Even as Word Perfect was being formalised in the country, SAFCERT made use of a version written by Fred. Fred had the only computer at SAFCERT. When I asked his deputy CEO in 2000 whether they had email, she said she was not sure, she would ask Fred.
- Fred saved the organisation's funds in 12 fixed deposits for 12 months each at various

banks. Every month one fund would mature, and he would withdraw it, take what was needed for operations and reinvest the rest. He was helped in this by the high interest rate of 23% at the time. He paid his employees in cash in brown envelopes each month. I have followed some of these lessons on simple savings approaches in my own life.

As a result, Fred Calitz left Umalusi with a great endowment in terms of funds. When I came in to assist in the transformation of SAFCERT to Umalusi there were demands for an expanded service, and government did not fund SAFCERT. As I watched the funds declining and I feared that we would soon exhaust this inheritance. I knew it would be wrong to spend all Fred's efforts on operations; there had to be a living monument to Fred that future generations could appreciate. In the end, we were able to buy our building for R18 million cash. This was unheard of in the public service at the time and I doubt it would happen now. I will always regard this building as Fred's greatest gift to Umalusi.

As we say farewell to Fred I would want his family to know that he will never be forgotten. He will be remembered as a strong pillar of the education system in this country. Umalusi and organisations like it stand on the shoulders of a strong giant – those of Fred Calitz.

We thank the family for Fred.

Hamba kakuhle, Fred.

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My interactions with Dr Fred Calitz

Professor Paul Fatti

Retired member of the Assessment Standards Committee (ASC) of Umalusi

I first heard about the statistical moderation of examination marks in the early '90s, when I was approached by the head of the Independent Examinations Board (IEB) to advise them on statistical techniques that the recently established South African Certification Council (SAFCERT) would be using in the moderation of matriculation marks. My enquiries led me to Dr

Calitz, the recently appointed head of SAFCERT, who explained the reasons for and the methods used in mark adjustment.

Shortly afterwards, Dr Calitz invited me to join SAFCERT as a member of the Statistics Committee (now the Umalusi ASC). From him I learnt the methodology of statistical moderation of examination marks, as we visited the various examination authorities across the country to moderate their matriculation examination marks. **He wrote the first software for implementing the mark adjustment process (in Basic), which formed the basis of the current system used by Umalusi.**

He was a friendly, humble person with his colleagues, but was nevertheless critical of, and alert to possible attempts by the education authorities to subvert the mark judgement process. This happened at least once in my experience, in the so-called 'Mpumalanga affair'.

Fred Calitz will be remembered as a truly influential figure in the history of South Africa's statistical moderation processes.





My association with Fred goes back to the late '60s and early '70s

Professor Moon Moodley

Member of the Umalusi Assessment Standards Committee (ASC)

It is a privilege for me to join my colleagues on this occasion of honouring Dr Fred Calitz, who headed SAFCERT before and during its transition to Umalusi.

My association with Fred goes back to the late '60s and early '70s when we served as academics at the Salisbury Island campus of the then University College, Durban. He became head of the Statistics Department and later joined senior management on the Westville campus of the university. While serving on several University and Senate committees, I came to admire his statistical expertise and his even-handedness when dealing with academic and administrative matters.

In the late '80s he left the University to head the newly established SAFCERT and set up structures to take over from the Joint Matriculation Board (JMB).

His mandate included the all-important standardisation of matriculation results through statistical adjustment of examination marks. He was well placed in that he was among the few academics who had gained expertise in basic programming when computers were being introduced.

In the early '90s he invited me to serve on the Statistics Committee of SAFCERT, with the main task of standardisation and statistical adjustment of marks. My appointment was both humbling and intimidating as my academic background was not in statistics but in mathematics and education research. I found myself among academics who were seasoned pure statisticians, the likes of Professors Paul Fatti and Cas Troskie. Fred reassured me that my experience in mathematics education and as a matriculation examiner and moderator would stand me in good stead when engaging in the standardisation processes.

Historical Average as Norm: Fred Calitz had conceived the standardisation process using the moving Historical Average or Norm, which was the cumulative distribution. This became the fundamental basis for the statistical adjustment of raw marks within a margin of 10% up or down. This remains the core principle to this day. For technical/vocational subjects with smaller cohorts the Kolmogorov-Smirnov band was used successfully but discontinued in favour of using a uniform system for all subject offerings.

The use of raw scores over three to five years in constructing the historical average distribution by discarding outliers serves to capture the recent developments in performance,

reflecting improvements or otherwise. Preliminary investigations tracking the norm over some 10 years have shown encouraging positive development, pointing to a maturing and improving system. Why standardisation? Based on international best practice, there are good reasons for standardisation, chiefly to mitigate variabilities due entirely to the examination itself and not to the ability and knowledge of candidates.

Structural changes affecting STD: Apart from change from the Joint Matriculation Board (JMB) to SAFCERT, several structural changes affecting the standardisation process had to be accommodated during the transition period and immediately after the democratic dispensation.

From segregated departments of education to nine provincial departments: Norms were developed for the provinces by aggregating the historical data from each province and constructing cumulative distributions that served as useful guides to view the raw marks, until proper norms could be established. Standardisation meetings entailed visits by small groups of Statistics Committee members to each of the provinces. We often did scaling with the help of a ruler (a trick from Fred) – incidentally, I still carry one!

From a provincial to a national approach to STD: In the next phase, the move from provincial to national standardisation entailed aggregating the nine sets of provincial data and constructing the norm, initially for six (gateway) subjects as a pilot. Later another six subjects were added, and finally all subjects.

Merging of higher grade (HG) and standard grade (SG): The merging of HG and SG grade for each subject presented many challenges, including major curriculum changes. For instance, Geometry was excluded from Mathematics. Norms were established as useful guides by scaling SG marks to HG and then producing distributions.

Introduction of new subjects, e.g. Mathematical Literacy: In order to assist with adjustment decisions for new subjects with no history, the method of pairs analysis was

introduced as an added tool to compare the performance of the same candidates in other subjects.

Eigenvalue Rankings: While pairs analysis is useful to compare mean performances of the same candidates in pairs of subjects, it does not indicate conclusively that subject A is "easier" than subject B or vice versa. I posed this problem to Prof. Fatti, who suggested Eigenvalue ranking. Currently, we have such rankings for the major subjects over a 10- year period. This method indicates conclusively the performance rank of a subject for a particular assessment body; for example, Mathematics has a lower mean than Physical Science for the same candidates over 10 years. Should this be reversed in any year, the Assessment Standards Committee (ASC) would have good reason to consider an upward adjustment in Physical Science.

Standardisation principles and other developments:

At Umalusi: The Statistics Committee was merged with the Moderators Committee to constitute the Assessment Standards Committee (ASC). The Statistical Information and Research (SIR) Unit was established to provide research support to the ASC and other arms of Umalusi. The formalisation of standardisation principles was communicated to all stakeholders at standardisation meetings and this promoted a high level of transparency and consistency.

Monitoring: The development and growth of an extensive system of monitoring of examination setting, moderation, conduct, marking, verification and reporting has contributed to the trust and confidence placed in the raw marks that make up the distributions. Qualitative Inputs: There is a perception that the standardisation process relies mainly on statistical and quantitative analysis. However, it is well known that Umalusi has developed a complex system of monitoring and reporting. Furthermore, qualitative reports and presentations by assessment bodies are also taken into consideration by the ASC.

It is often erroneously assumed that qualitative inputs are made in the final stages of quality assurance, namely standardisation involving the adjustment of mark distributions. However, the standardisation process begins much earlier in the cycle, when examiners and moderators are recruited and entrusted with the task of producing high quality questions in line with detailed subject assessment guidelines. These guidelines ensure balanced question papers that are fair, valid and reliable.

Pass rates: NSC pass rates are never known at the time of standardisation and the adjustment of mark distributions per subject. Pass rates are ultimately dependent on the rules of combinations of subjects passed.

Independence of Umalusi: Umalusi enjoys a high degree of independence that has been achieved over many years by commanding the respect of all stakeholders. Dr Peliwe Lolwana has played a crucial role in Umalusi's gaining ownership of the standardisation meetings.

Conclusion: I have been particularly privileged to have witnessed and participated in standardisation processes involving significant changes and developments. Given the complex nature of standardisation and quality assurance, the transitions have been remarkably smooth. This can be attributed to Umalusi's following of sound principles and building on solid foundations, while **always ensuring that processes are fair, valid and reliable**. We must keep in mind, however, that even with the best will and systems, the ills of a society cannot be adjusted on graph paper!

We are always encouraged by positive feedback when Umalusi management participate in international conferences, and from international visitors to our standardisation meetings. All this must serve to engender trust and confidence in our quality assurance processes and hence command respect for our qualifications.

Umalusi to host the 40th AEAA Conference

Ms Nthabiseng Khotlele

Manager for Public Relations and Communications, Umalusi

Umalusi will host the 40th Annual Conference of the Association for Educational Assessment in Africa (AEAA) at the Century City Conference Centre and Hotel in Cape Town. The conference will be hosted from 19 to 23 August 2024 under the theme:

“Re-imagining educational assessment in the age of multiple dimensions of learning in a global society”

The AEAA conferences normally have a mix of delegates and speakers from countries with different histories and demographics (such as those from Africa, Australia, Europe and North America). This creates an invaluable opportunity to discuss and debate assessment-related issues.

Umalusi is excited about the AEAA descending on South Africa to bear witness to the organisation having passed its teen years since the 21st AEAA Conference was held in Cape Town from 25 to 27 August 2003. This was immediately after the birth of Umalusi.

Any queries relating to this conference can be sent to aeaa2024@umalusi.org.za. Detailed information about the conference is available on Umalusi's website (www.umalusi.org.za/aeaa2024).



Reflections on the life of Dr Fred Calitz: SAFCERT 2002–2006

Professor Sudan Hansraj

Member of the Assessment Standards Committee (ASC) of Umalusi & Professor at the University of KwaZulu-Natal's Astrophysics Research Centre

Today, we gather to honour and remember Dr Fred Calitz, a towering figure in the realm of examination standardisation in South Africa. His passing marks a significant loss in our field, but he leaves behind a legacy of dedication and excellence.

Dr Calitz was instrumental in ensuring fairness and credibility in our national examinations, a task he approached with remarkable skill and integrity. His contributions during the pivotal transition from SAFCERT to UMALUSI from 2002 to 2006 were foundational. I had the honour of working closely with Dr Calitz during this period,

and his ability to make precise adjustments with simple tools was nothing short of inspirational.

In those early days, when data analytics were still evolving, Dr Calitz's expertise shone brightly. He navigated the politically and emotionally charged atmosphere of the standardisation meetings with a calm and endearing demeanour, never swayed by skepticism or criticism.

His presence alone was often enough to turn doubters into believers, especially when their provinces stood to benefit from his fair and well-justified adjustments.

Dr Calitz's unflappable nature was especially evident when faced with challenges from departmental officials. To him, serving the nation's youth was paramount, far above appeasing political interests. His commitment to this cause was unwavering, aligning with the high standards expected by our nation's leaders and mandated by Parliament.

As we bid farewell to Dr Calitz, we do so with immense gratitude and respect. His contributions have left an indelible mark on our education system, ensuring equal opportunities for countless young South Africans. His legacy of fairness, integrity and dedication will continue to inspire us for many years to come.



'Professor' Calitz taught for more than 30 years at the University of Durban-Westville.

Under his leadership the Department of Statistics grew from a department that provided only a service course in statistics for BCom students to one that offered full BSc undergraduate and post-graduate courses up to doctoral level.

Tribute to 'Professor' Fred Calitz

Dr Henri Moolman

A former colleague at the University of Durban-Westville

While the rest of you refer to him as Dr Calitz, I used to call him 'professor'. My first conversation with 'Professor' Calitz was when he phoned me and enquired whether I would be interested in applying for a lecturing position in the Department of Statistics at the University of Durban-Westville, of which he was the head. At the time I was a temporary lecturer at the University of Natal, and so I applied for the position and was thrilled to be appointed to the department where I worked with 'Professor' Calitz for 16 years.

When I started at the University of Durban-Westville I was a young and inexperienced lecturer. 'Professor' Calitz helped me to find my feet and was always available with academic advice if I needed it. He also provided insight when I was completing my master's and doctoral studies. I owe a great deal of my development as a lecturer and researcher in statistics to the guidance of 'Professor' Calitz.

I found 'Professor' Calitz to be an extremely knowledgeable academic in his field and its related disciplines. Besides a doctorate in statistics, he also completed an honours degree in Operations Research, and first, second and third-year courses in Computer Science through UNISA. He introduced Computer Science as a subject at the University of Durban-Westville and taught it until more lecturing staff had been appointed.

To my knowledge, 'Professor' Calitz had two major research interests:

- The lognormal distribution, the topic of his doctoral thesis. He published several articles on this topic.
- Studying patterns of examination marks, fitting mathematical curves to such data, and performing statistical tests on patterns of the data. This research formed the basis of the work he did at Umalusi after he left the University of Durban-Westville.

I was extremely saddened when I read the notice of 'Professor' Calitz's death. My deepest condolences to his family. I salute 'Professor' Calitz for the work he did as a statistician, and as a colleague and very a kind person.

Rest In Peace.



Tribute to the late Dr Fred Calitz

Dr Rufus Poliah

Chief Director for National Assessment and Public Examinations, Department of Basic Education

It is indeed, a signal honour, as a representative of the of the Department of Basic Education, to pay tribute to one of the founding fathers of national examinations in the Republic of South Africa, and more specifically standardisation and certification, Dr Fred Calitz. At the outset let me extend the sincere condolences of the Minister, Ms Angie Motshekga, the Deputy Minister Dr Reginah Mhaule and the Director General, Mr Mathanzima Mweli to the Calitz family on the loss of a brother, husband, father, and grandfather.

Let me also extend the appreciation of the Department of Basic Education to Umalusi for hosting this Memorial Lecture to honour the legacy of Dr Calitz. This is indeed a befitting manner to bid farewell to a man who has made such significant contributions to national examinations in this country.

Public exit examinations in this country have a

165-year history, dating back to 1858 when the University of the Cape of Good Hope conducted the first examination for 25 students. In 1918, the Joint Matriculation Board was established to take care of university admissions, and then in 1992, the need to centralise the certification process across the then 19 education departments was mooted and this resulted in the establishment of the South African Certification Council. The founder and creator of this council was Dr Fred Calitz.

The history of national examinations in our country is indeed chequered, with policies and practices that favoured specific groups at the expense of others. However, what is noteworthy is that each new era built on the successes and strengths of the previous one. The robust and resilient 2023 national examination system that we currently have is built on the good practices of SAFCERT.

In fact, our standardisation model was designed by Dr Calitz and this model has stood the test of time. In its early days, there was an avalanche of criticism levelled against this model but over the years a deeper understanding of its merits in maintaining standards from year to year has been established.

I joined the then National Department of Education in 1996 as a Deputy Director responsible for curriculum policy and implementation in Biology and Agricultural Sciences. By the end of 1996, I was drawn in to support the integration of the examination systems from the previous 19 education

departments that were now to be reorganised into nine provincial education departments. This was indeed a mammoth undertaking but given the astute leadership of officials like Dr Morgen Naidoo, Dr Koot Myburgh, Mr Brian Schreuder and Mr Prem Govender and many others, we were able to gradually steer this large examination ship through stormy seas to where it is today. One of the first assignments in the amalgamation process was to liaise with SAFCERT on the moderation of question papers, the standardisation of results and the certification processes. In all these engagements we were in awe of this academic and statistical giant, Dr Calitz, who derived great pleasure from being immersed in figures and statistics.

From 1996 to about 2003, standardisation was conducted provincially and various teams travelled to the provincial education departments to conduct the standardisation processes. I would accompany the SAFCERT teams as the Department of Education representative. I must admit that I was out of my depth at that stage with regard to standardisation and I would sit in these meetings, holding onto my title as Deputy Director as my only source of comfort. But, through all this Dr Calitz, together with the rest of the statistics team, which included Prof. Moodley and Prof. Fatti, was extremely patient in taking us through this very complex process, step by step. This was the same patience and perseverance demonstrated at all provincial meetings and which has today built a team of officials who understand the standardisation process and are able to engage constructively when executing this process.

In 2000 I was appointed to SAFCERT as a director responsible for the quality assurance

of assessment and examinations. This was when Dr Calitz retired and Prof. Lolwana was appointed as the CEO. This was an exciting phase, in that Prof. Lolwana, a real visionary, was tasked with the responsibility of overseeing the transformation of SAFCERT to Umalusi. Throughout this transition phase, Dr Calitz was there to assist and offer guidance where necessary. I left Umalusi in 2005 to return to the Department of Basic Education, but by then Umalusi was already the mature shepherd guiding the basic education flock.

In conclusion, I would like to say that I am honoured to have been intimately involved in the genesis of national examinations in this country and I can attest to the fact that the national examination system has benefitted from transitioning through three critical phases:

- **The Calitz phase:** SAFCERT laid the basic foundation for public examinations in this country.
- **The Lolwana phase:** Transforming a certification council into a quality assurance council, with all its legislative frameworks and procedures, and placing this structure firmly on the national education map.
- **The Rakometsi phase:** Taking Umalusi to its current position that has earned the respect of the South African public.

Let us leave this memorial lecture with this important message: we are stronger when we build, when we harness and consolidate. Let us use this as the model for all our future endeavours.



The wisdom of Dr Fred Calitz in dealing with examination irregularities

Ms Confidence Dikgole

CEO of the Independent Examinations Board

I joined SAFCERT in 2000 at a time when Dr Lolwana had just become the new CEO, having taken over from Dr Calitz. I was the ninth employee of SAFCERT. Dr Poliah joined us later in that year.

At that time, Dr Calitz had agreed to stay on for a few months to hand over to the new CEO. I must admit I was intimidated by the towering figure of Dr Calitz. He commanded respect even before he opened his mouth to speak.

Maud and I shared an office and he would drop in to visit Maud who had been his former Deputy CEO. It was on these occasions that I tapped into his knowledge of examination moderation and monitoring systems.

Once, Godfrey Mataboge, who worked very

closely with Dr Calitz in the certification unit, related a story to me of how Dr Calitz dealt with a serious irregularity that had occurred in Mpumalanga in 1998 when results had been inflated by 20%.

Dr Calitz sent the Mpumalanga examinations officials a list of subjects and asked them to take out the examination scripts for these subjects so that he could have a look at them. He and Godfrey then went to Mpumalanga to conduct the investigation.

On arrival in Mpumalanga, having driven at 120kph all the way (Dr Calitz never exceeded the speed limit), the examination officials presented him with the scripts he had asked for. However, he told them, "I've had a change of mind; please take out the scripts from the following subjects: Mathematics HG, Biology SG."

Once Dr Calitz had examined the scripts he convened a meeting with the officials in charge. Mr DD Mabuza, former Deputy President, was MEC of Education at the time, and he said to his team, in IsiZulu, "This old white man is going to catch us out if we don't tell the truth."

On their way back to Pretoria Dr Calitz said to Godfrey, "Did you hear what the MEC said?" It turned out that Dr Calitz understood IsiZulu.

Fast forward to 2009, and Mpumalanga was hit by another massive irregularity: examination papers in Mathematics, Science and Accounting were leaked. Learners faced the threat of not receiving their results, and in fact on 4 January 2010 Umalusi decided not to approve the release of their results.

Between 4 and 6 January 2010, Umalusi conducted a thorough investigation. Officials were asked to draw specific scripts and Dr Calitz was called in to investigate. He travelled with us to Mpumalanga, and when we arrived he once again called for a different set from those that had originally been requested. In his investigation he looked at the standard deviations and means of the 2008 and 2009

examinations and concluded that the papers had indeed been leaked, but there was no evidence of a systemic problem. Umalusi released the results on 7 January 2010.

Godfrey also told me that Dr Calitz was always punctual. He worked from 9:00 in the morning to 18:00 in the evening. He drove into the parking lot at 8:55 every morning, would sit in his car for a few minutes and at 9:00 sharp he would enter his office. He wore a suit every day.

He was known as an astute academic, a consummate thinker, and a creative innovator. He lived and breathed statistics. The examination system still in use today was his brainchild.

Why am I relating this? I am trying to demonstrate the calibre of a man that he was.

Reflecting on the contribution Dr Calitz made to education one thing is clear to me: all of us are where we are for a purpose but very few of us are able to realise and fulfil this purpose.

Dr Calitz was one of the few: he left an indelible mark, a huge impact, a great legacy and he will be remembered for this for decades to come.

It would be fitting if this occasion could lead to an annual memorial lecture. There is still a great deal of work to be done in educating the public on the role of the standardisation of results. There are many critics out there who sometimes speak from an uninformed position on these issues. Such a lecture could go some way towards enlightening the public on this issue.

May Dr Calitz rest in peace.





How I knew Dr Fred Calitz

Mr Brian Schreuder

Superintendent General of the Western Cape
Department of Education (retired)

I had the privilege of knowing Dr Fred Calitz for almost thirty years, and of working with him for over ten years. I served on the South African Certification Council's (SAFCERT) Monitoring and Statistics Committee and was also a member of the last SAFCERT Council and of the first Umalusi Council.

In these capacities I got to know Dr Fred Calitz very well and I reflect fondly on my association with him over the years. He had a sharp intellect and was a very astute mathematician and statistician. These characteristics served him well in his role as the Chief Executive of SAFCERT.

His passion for assuring the quality of assessments was infectious, as was his passion for ensuring the fairness and the validity of qualifications and certificates. He moved mountains in the interests of fair and reliable examinations.

Many will attest to this, but I wish to reflect briefly on Dr Calitz as a human being.

Fred Calitz had a deep love for what he was doing. His insights and his knowledge of examination systems and quality assurance served as an inspiration to many. **He truly cared about matriculation students and wanted the best for them.** I recall his keen sense of humour, although he could also be intimidating at times: he would ask a question and then pause for a moment, waiting for a response and giving you time to think, all the while fixing you with his penetrating stare. Nevertheless, I thoroughly enjoyed my interactions with him.

I was privileged to be involved in the transition of SAFCERT to Umalusi. I noted the energy Dr Calitz put into getting the legal framework and the processes and procedures right. He genuinely wanted to make the transition work seamlessly, and he wanted Umalusi to succeed.

I will always remember Dr Calitz for these things: for his intelligence, his knowledge, his skills. But, I will also remember him for his deep commitment, his sense of humour, his enormous heart, his caring and his empathy.

A true South African. He will be missed and remembered fondly by many.



Closing remarks at Dr Fred Calitz's Memorial Lecture

Professor Yunus Ballim

Chairperson of Umalusi Council

Whenever there is a death of a loved one it raises unanswerable questions about life and its meaning. We gather in rooms like this with people who have some shared history with those who have passed, because we seek comfort in others and it helps us, and those unanswerable questions become less frightening. We speak of the person who touched our lives in ways that we may not have understood before.

Speakers may have mentioned things the family did not know about their loved one and we have heard family experiences we may not have known. It does help when we have these memorial services.

I thank you all for being here to say farewell to Dr Fred Calitz. We have taken comfort from each other by drawing on our humanity and sharing memories of the person we knew as a colleague, a loved one a family member.

Although I did not know the man we are honouring today, Dr Fred Calitz, I know his work. I know the impact that it had and I have heard others speak of him. I have the sense that his was a life well lived, more so because of the meaning it had for other people. He has left a legacy that those left behind will continue in their work in the pursuit of fair and equitable examinations.

The tributes were profound. Speakers mentioned Dr Calitz's passion for mathematics and his contribution to statistics, and to our understanding of what it means to standardise the matriculation results. No one disputes that the greatest service we can do young people who choose to build their lives on education is to give them a certificate that has credibility. And Fred Calitz's name and character are in the very DNA of that process. **Future generations may not know his name, but they will enjoy the benefits of his work.**

Beyond the mathematics, the standard deviations, the R-squared values and the means and the norms, is the fact that we continue to stand for the values that Fred Calitz upheld, and for that we are grateful.

Thank you for sharing these moments with us. Let this not be the last time that we hear from the family. Dr Rakometsi agrees that we should introduce an annual Dr Fred Calitz Memorial Lecture and make it an important date in the Umalusi calendar. We will put this proposal before the Umalusi Council.

Thank you very much for sharing in this occasion.

THE LIFE AND TIMES OF DR FRED CALITZ

Dr Fred Calitz was born in Elliot, a small town in the heart of the Karoo. He spent most of his childhood in this part of South Africa, matriculating in Beaufort West with distinction. His marks placed him fourth overall in the then Cape Province. Fred went on to enrol in the Faculty of Commerce at Stellenbosch University. It was here that he met Jeanette Compion from Keimoes, his sister's roommate. The couple married in December 1960, and over time they were blessed with two sons.

At the age of 24, Fred was appointed as senior lecturer at the University College of Durban (later the University of Durban-Westville, now part of the University of KwaZulu-Natal) where he was tasked with the establishment of a new faculty of commerce. Being a pioneer par excellence, he lectured in Accountancy, Auditing, Statistics, Computer Science, Operations Research, Financial Mathematics, Actuarial Science, and Teaching Methodology in Accounting. After obtaining his doctorate, he was promoted to Professor in Statistics, a specialist niche that he excelled in.

The year 1990 saw Fred saying goodbye to academic life, relocating to Pretoria and taking up the post of Chief Executive Officer of the South African Certification Council (SAFCERT, now Umalusi). Here his primary focus was the establishment and enforcement of a

uniform standard for the national matriculation examination, a challenge that he took on with alacrity. Fred officially retired from SAFCERT in 2000 but stayed on in the capacity of advisor to Umalusi.

In 2005, Fred and Jeanette settled into their cozy retirement home in the east of Pretoria. From here, they regularly travelled the country and abroad in a spirit of adventure and wonderment until Jeanette's passing in June 2021. Although he did not lose his love for travel and the solving of puzzles, the loss of his life partner affected his health adversely over time. An unfortunate fall in September 2023 caused a rather serious head injury, requiring hospitalisation in the high care unit of Kloof Hospital. Although he initially responded well to treatment, the trauma was eventually too much for his frail body. At the age of 87, after a full and rewarding life, Fred was welcomed home on 20 October 2023.

Although his space on this side of the veil is now empty and his voice is stilled, his sense of adventure and his positive outlook on life endure in his and Jeanette's children and grandchildren. We have enormous shoes to fill, and it is a great privilege to be able to call Fred our father.

Fred and Jaco Calitz (children)



Thank you to Umalusi

Mr Jan Calitz

Family representative

Dear Dr Rakometsi

On behalf of the Calitz family members who attended the memorial lecture on Friday 24 November 2023 at the offices of Umalusi I wish to thank you from the bottom of my heart for hosting this occasion. I am so proud that Fred worked with people of such high standing who all paid tribute to him, even after a period of more than twenty years.

I can assure you that he was very proud of Umalusi (SAFCERT in his time) and enjoyed every moment of his career there. In many telephone and face-to-face conversations between my brother and I over the years he was filled with enthusiasm about what was being built and achieved at Umalusi.

I will treasure every word that was spoken at the memorial and the hospitality with which the Calitz family were received.

I would appreciate it if you could share my letter with the people who attended, especially the speakers; it was a great honour to meet them all and I congratulate you all for the magnificent work you are doing for South Africa.

Kind regards

Jan Calitz (brother of Fred Calitz)



Mr Jan Calitz

Dr Eva Sujee
(Executive Manager)

Dr Mafu Rakometsi
(CEO of Umalusi)

Prof. Yunus Ballim
(Chairperson of Umalusi Council)



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