

THE CURRICULUM FRAMEWORK FOR INSTITUTIONAL INTERNALISATION OF CRIMINOLOGY AND FORENSICS STUDIES AT UNIVERSITY OF LIMPOPO, SOUTH AFRICA: A SCOPING REVIEW

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ABSTRACT

Studies offering curriculum framework for institutional internalisation of criminology and forensics studies and Work-Integrated Learning (WIL) within the Criminal Justice System (CJS) are scarce. This article gives a scoping review of these concepts, which are currently presented separately, as they are from distant study fields. As a result, the objective of this article is to establish the current link between criminology and forensic studies to enhance the South African CJS and Higher Education Institutions (HEIs) curriculum frameworks, while integrating theory and practice. This qualitative scoping review was supported by the adapted version of methodology framework by Arksey, Hilary and O'Malley, Lisa of 2005 to search for approximately 9 031 relevant studies from fundamental databases and 139 000 internet sources focusing on South African context and other international countries.

The Preferred Reporting Items for Systematic Reviews and Meta-Analyses (PRISMA) was used for data analysis, coupled with the inductive Thematic Content Analysis (TCA). This article confirmed that combining forensic criminology features could transform the South African CJS and HEIs offerings. For recommendations, the Qualifications Board should expedite the registration of forensic criminology as a profession consisting of professional qualification, guided by ethical and disciplinary rules. Overall, limited prioritisations, slow registration process to a "Scientific Board" and advancement of this discipline negatively affect immediate responses to achieve the WIL. The knowledge, attitudes, skills and values gained during participating in the South African Future Professors Programme (FPP) Phase 2 Cohort 1 2022–2023 offered contributions to the field of professorship thereof.

Keywords: criminology and forensic studies, Higher Education curriculum framework, internalisation, professorship, scoping review, Work Integrated Learning

INTRODUCTION AND BACKGROUND

Extensive research has been conducted internationally on the integration of criminology and forensic studies, both traditional and modern. Unfortunately, however, these disciplines remain under-represented in the South African context. Therefore, it is crucial to provide Lecturers and

students with necessary training to become global citizens who can effectively contribute to solving crimes, focusing on these disciplines. This can be achieved by internationalising the curriculum in HEIs, as noted by Howes (2018). In doing so, it is essential to consider the institutional and disciplinary contexts, as well as continuous improvements in the internationalisation of the curriculum. It is important to note that there are inherent biases in the content of criminology and forensic studies curricula, as highlighted by Stockdale, Sweeney, and McCluskey-Dean (2022a). The incorporation of these two disciplines into the CJS requires innovative Teaching and Learning (T & L) methods among criminal justice practitioners (Howes et al. 2023). Furthermore, decolonising the criminology and forensic studies curriculum is a vital step. This involves working with students to foster critical and reflective discussions, encouraging academic staff and students to critically examine their curriculum, and considering whose voices are present or absent in the planned programme (Stockdale et al. 2022b).

Barkhuizen (2023) explicate that criminology serves as the fundamental point of departure for criminological studies, encompassing the examination of crime in all its various aspects and effects. Criminologists commonly utilise socio-demographics to depict both victims and perpetrators of crime, with less focus on criminal justice practitioners, particularly police officers who interact with different stakeholders. Consequently, universities have established programmes in criminological studies (Phillips and Bowling 2023). To better comprehend crime itself, criminological theories employ a multidisciplinary approach, drawing on anthropology, sociology, psychology, and related disciplines rather than solely focusing on the study of crime. By integrating these theories, modern criminological approaches have been developed. Moreover, “forensic science” is not exclusively linked to criminology, it is touted to be closely associated with court proceedings and evidence presentations during criminal cases. This study field include different disciplines, not limited to “Anthropology, Biology, DNA analysis, fingerprint, digital forensics to respond to cybercrime and wildlife forensics” (Barkhuizen 2023). Although it is primarily connected to crime evidence, it is just one aspect of the broader field of crime studies (Barkhuizen 2023). However, Nkosi, Mphatheni, and Maluleke (2024) point out that limited research has been conducted on the intersection of criminology and forensics within the realm of CJS. Existing studies tend to treat these key concepts as distinct, failing to recognise the interconnectedness of criminology and forensics in describing criminality and conducting investigations within the South African CJS. These identified limitations underscore the need to draft this article.

Significantly, “criminology” emerged primarily to investigate cases, demanding a comprehensive understanding by utilising scientific knowledge, establishing factual evidence, and finding answers (Ovens 2020). This field encompasses various disciplines within the Social

Sciences. The “forensic criminology” as a term was coined in a book titled “crime’s nemesis” written by Luke May from United States of America (USA) in the year 1936, referring to a scientific approach of detecting crime and criminals, with more emphasis levelled on the analysis of “physical evidence” and the *Modus Operandi (MO)* (methods of operations) of criminals. Furthermore, the term “post-criminalistics” was first introduced in 1987, detailed in a book entitled “*Expert witnesses: Criminologists in the courtroom*”. This book looked at the administration of justice (the police, courts and correctional services), guided by existing research, theoretical foundations and subject experts (Ovens 2020).

The application of criminology and forensic studies in South Africa is currently overlooked (2024). While many international HEIs have successfully implemented these disciplines for over three decades, they have not been fully embraced by responsible lecturers and students despite significant advancements. There is a failure to prioritise a student-centred curriculum, empowering students at different academic levels (Undergraduate and postgraduate) to choose T & L methods, apply knowledge and skills directly to solve real-life crime issues, and identify potential causes of crime to propose effective crime control and prevention measures (Maudsley 1999; Barrows 2002; Ge and Land 2004; Glasgow 1997; Savery 2006).

The reviewed studies did not address the curriculum assessments of criminology and forensic studies, particularly the extensive research done by international scholars in these areas, with their HEIs offering this combination. At the same time, South Africa has conducted limited research. As a result, this article examines the curriculum framework for the internalisation of criminology and forensic studies at the University of Limpopo (UL) in South Africa, utilising a scoping review. In terms of action, the Department of Criminology and Criminal Justice provides a Bachelor of Arts (BA) programme in Criminology and Psychology (Crim & Psych), and this article aims to review the current module offerings and make necessary improvements. The approach taken aligns with the guidelines provided by the Higher Education Act (No. 101 of 1997) (Council on Higher Education - CHE 1997) and the UL’s Quality Cycle (QC), as outlined in the Academic Quality Assurance Policy. From this policy, the QC is regarded as a crux for clarifying approvals, quality assurance and academic programmes reviews, this is geared towards offering ongoing steps of designing, delivering, mentoring, reviewing and improving curriculum.

The adopted structure Adherence to requirements of the Higher Education Quality Committee (HEQC) are outlined in the “Criteria for Academic Review Booklet” of UL; in reference to page 6–7. This requires departments to address the ten main criteria and relevant minimum standards based on tangible evidence, honesty, and past experiences during the

review period. This is connected to the concept of a “curriculum framework,” which serves as an organisational tool encompassing knowledge and understanding of the world, practical skills, and the attitudes and behaviours necessary for developing competent citizens. In essence, competent individuals possess sufficient useful knowledge, practical skills, and positive attitudes to lead healthy, productive, and happy lives (Department of Basic Education 2015).

Subsequently, The School of Social Sciences (SSS) endeavours to fulfil its mission of producing well-rounded, knowledgeable, and critical “Criminology and Criminal Justice” graduates for African communities through academic excellence in T & L, influential research in postgraduate studies, increased community and stakeholder involvement, as well as strong corporate governance (Sithole 2023). The Faculty of Humanities, in alignment with the SSS, is not immune to the neoliberal market forces impacting the privatisation and commercialisation of education worldwide and locally. It responds to these forces by offering innovative T & L methods, research opportunities, and community engagement. The curriculum’s content is continuously assessed to meet the government’s societal and human resource strategies and the market’s demands. By facilitating the production and dissemination of knowledge with a distinctively African and globally applicable perspective, the faculty aims to push the boundaries of social research and knowledge generation (Maoto 2023). In contrast, the “UL Criteria for Academic Quality Reviews,” approved by the Senate on June 10th, 2016, and the Council on June 24th, 2016, and to be overseen by the Deputy Vice-Chancellor (Academic: T & L), Executive Dean(s), and Director of Quality Assurance, does not acknowledge “Criterion 8: Co-ordination of experiential WIL”. This criterion emphasises the effective coordination of WIL throughout relevant programmes. It encompasses adequate infrastructure, efficient communication, progress tracking, monitoring, and mentoring (UL Criteria for Academic Quality Reviews 2023). This is often practiced to accomplish the following aspects:

- Future Criminology and forensic studies programme should emphasise efficient placement of students in the WIL or experiential learning activities and logistical requirements should be taken care by the programme coordinator, while working closely with the Head of Department (HoD).
- The interested parties in this programme field are presented with detailed and relevant information. The module outcomes form part this process, with clear processes of the WIL, learning outcomes and assessments criteria. The students are assessed based on the listed expectations of each module. The local Law Enforcement Agencies (LEAs) are given opportunities of providing advices into the WIL outcomes, while working with the responsible lecturers.

- A conducive environment is introduced to offer regular interactions with the responsible lecturers, while fostering students' progress looking at the best practices of local and international landscape.
- The offered modules enable students to approve, assess and negotiate the learning outcomes and knowledge contents of the offered modules. Strict adherence to the roles and responsibilities are guided by the local and international standards.
- Progressive communication platforms are staged between the local HEIs, while considering international practices of initiating the WIL and enforcing good-working partnership and relationship.
- The university is regarded as an institution to monitor and record students' progress during the WIL.
- The adoption of "mentoring" allows students to determine their strengths and weaknesses of their academic works, to possibly develop discover and enhance existing abilities of gaining knowledge through WIL.
- The WIL is efficiently assessed, with detailed feedback to students (UL Criteria for Academic Quality Reviews 2023).

The aim of this article is to examine the curriculum framework for the internalisation of criminology and forensic studies at the UL in South Africa, using a scoping review, to aid to the future of South African professors who are content knowledge-based, to easily share the body of knowledge, relating to the facts, theories, principles, ideas, skills and values, which Lecturers and students should strictly use to be effective in their T & L practices. These parties should have a deep understanding of criminology and forensics studies subjects, in terms of T & L and corresponding curriculum.

The curriculum renewal focuses on the university's strategic plan for the years 2025-2030, which aims to establish and develop an advanced criminology and forensic studies WIL programme. This initiative seeks to promote innovative thinking and the integration of the curriculum, with a coordinated WIL programme that incorporates community engagement activities. The overarching goal is to implement practical T & L initiatives that encourage the active participation of students and staff, thus promoting these disciplines at the grassroots level (UL Annual Report 2021). The intention behind this endeavour is to create unique and adaptable T & L experiences that empower the community and foster resilience. This presents an opportunity to transform T & L, address the causes of crime, and proactively and reactively meet the needs of the community, while also strengthening resilience. Ultimately, this is a

strategic initiative with both international and local significance, and it is one that should be embraced with confidence.

RESEARCH DESIGN AND METHODOLOGY

This article utilised the methodology developed by Arksey and O'Malley in 2005 to review the existing literature studies on the subject. The scoping approach was employed to explore the research activities, identify any gaps, and summarise and share the research findings (Arksey and O'Malley 2005). The scoping review aimed to rapidly map the key concepts and sources of evidence in the research area. It can be undertaken as a standalone project, especially in complex areas that have not been comprehensively reviewed before. This article adopted the curriculum framework for institutional internalisation of criminology and forensics studies at UL (Mays, Roberts, and Popay 2001).

Identifying relevant literature studies

Identifying research question

To effectively formulate a research inquiry, researchers recommend explicitly articulating the intended aim of the study. In the absence of a clear study objective, the research question will not afford researchers the opportunity to construct pertinent strategies for collecting relevant data (Muka et al. 2020). Therefore, the objective of this article was to “explore the curriculum framework for institutional internalisation of criminology and forensics studies at UL of South Africa, while guided by a scoping review”, aimed at addressing this broad research question:

- How can a curriculum framework for institutional internalisation of criminology and forensics studies at UL of South Africa be effectively enhanced, by adopting a scoping review?

Furthermore, another three (03) specific study objectives to be addressed by this scoping review were designed as follows:

1. To determine limited applications (prioritisation) and slow progress of “forensic criminology” by the South African CJS and UL experiences.
2. To assess failures of registering forensic criminology as a combined programme at UL.
3. To showcase relevant publications on “institutional publications, reports, internet sources, journal articles, books, and chapters in a book offer (amongst others)” on forensic

criminology at UL.

Identifying relevant studies

The Social Sciences databases were visited by the researcher, limited to the “Google, Google Scholar, EbcoHost, Emerald Insight, Jstor, ProQuest, Sabinet, Sage Online, and Science Direct,” to gather relevant literature studies on this subject. The searches conducted covered a wide time range of information, from 1961 to 2024 without any specific order or priority (Maluleke, 2020). The focus was on implementing inclusion and exclusion criteria and utilising keywords to identify sixty-six (66) notable studies related to this subject. The inclusion and exclusion criteria were confined to the indicated databases, further supported by the “accredited academic journals, books, Dissertations, governmental publications, internet sources, print and online publications and UL publications/reports.” For exclusion, only publications from reputable databases and internet sources that were published in peer-reviewed accredited publications were considered trustworthy. The keywords/phrases retrieved from the research topic were used to search relevant information on this subject.

Study selections

The mentioned inclusion and exclusion criteria were guided by identifying relevant studies on this subject and the searching procedures of relevant data of this article. These selected publications formed part of the adopted scoping review while following the PRISMA (refer to Figure 1). Early consultation with the Librarian took place to develop searching strategies. The keywords from the research topic were used, and the selected databases and internet sources were visited to refine the strategies based on the studies that were found. The irrelevant studies were mostly ignored during this process. The inclusion and exclusion criteria were determined based on relevance, irrelevance, and alignment to the study objectives, as well as responding to the identified broad research question and the 03 study objectives.

Data charting and summarising: Preliminary literature review

The researcher used the PRISMA data charting method to extract the relevant data from Figure 1. The data charting process examined various aspects such as the authors, publication years, publication titles, research methodology, and findings. The PRISMA was adopted to provide a summary of the collected data, this was introduced to ensure credibility of the reviewed studies and study findings. The existing studies were explored to determine connections between forensics and criminology at UL specifically, as well as South African CJS in general, while using international lenses. The researcher followed the “narrative literature review approach”

to identify multiple sources on this subject (Campbell Collaboration 2007). To gather secondary data, researchers employed a purposive sampling technique and searched research engines such as Google Scholar, institutional Electronic Theses and Dissertations (ETD) repositories, Jstor, Sabinet, and EbcoHost. The selection criteria included restricting the data to the years 1961 to 2024, aiming to reach data saturation (Maluleke et al. 2021; Mokwena and Maluleke 2020; Creswell 2014).

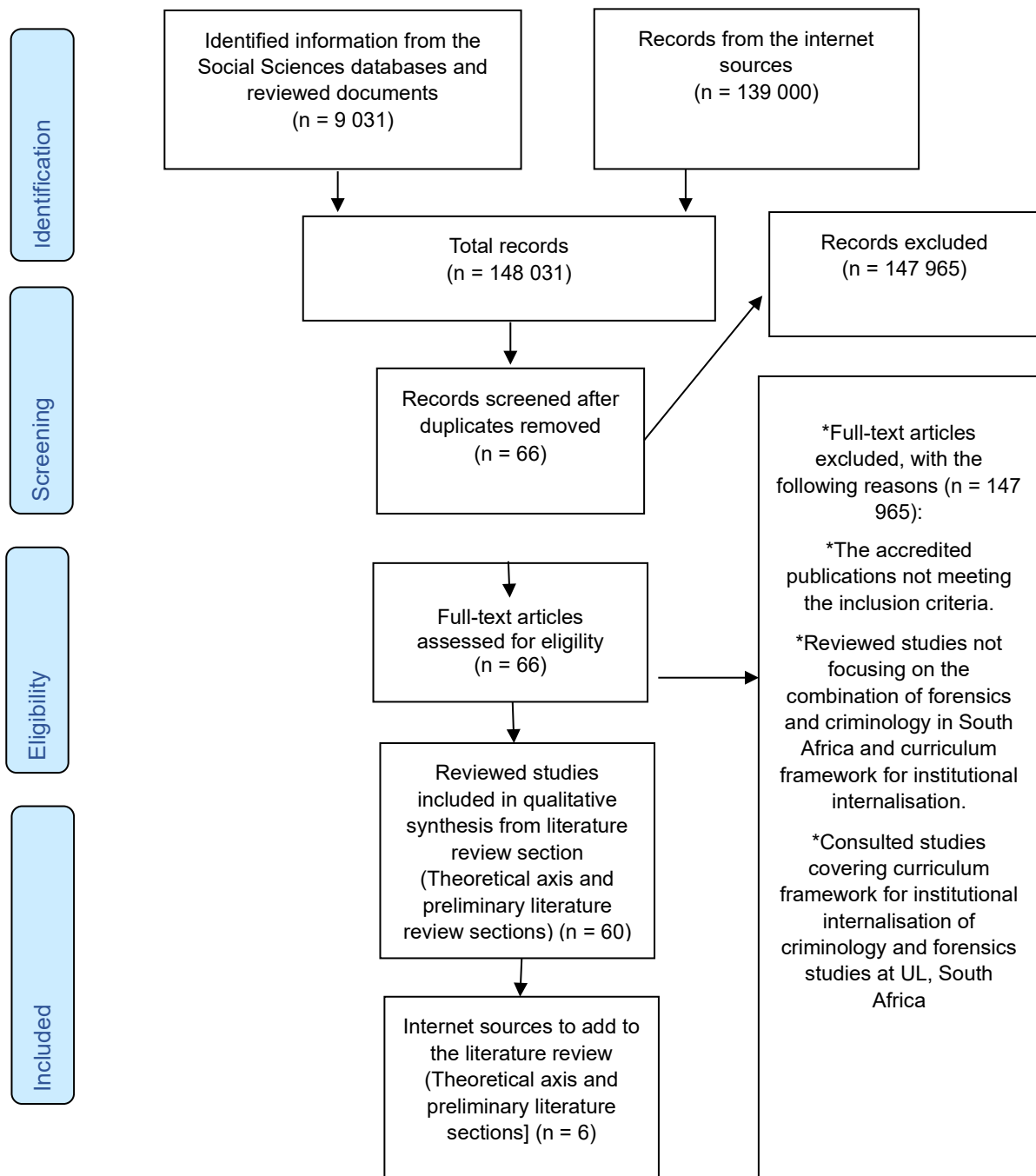


Figure 1: The PRISMA – Flow chart of study selection (Source: Adapted from Maluleke et al. 2021)

To support the “data charting and summarising” techniques, the researcher rephrased and reworded the collected preliminary literature studies, review to retain the intended meanings of the original texts. The visited Social Sciences databases and reviewed studies and supporting documents were interrogated and questioned like the participants in empirical studies. The collected data was qualitative in nature and various expressed main ideas from the databases and documents were shared (Matthews and Ross 2010). The inclusion and exclusion criteria were limited to “forensic criminology” based on “curriculum framework for institutional internalisation at UL”. The data in question was analysed using the inductive TCA, this procedure enabled the researcher to qualitatively analyse, classify, identify and report study patterns and themes of the obtained documental (Social Sciences databases and supporting documents) dataset, guided by the objectives of this article (O’Reilly and Kiyimba 2015).

As a result, the six (06) phases of the inductive TCA method were followed by the researcher, namely; 1) *Familiarisation with data* (the reviewed studies were aligned to the research topic and restricted to 1961-2024, not in sequence), 2) *Generating codes* (Identifying two (02) thematic features from the Social Sciences databases and reviewed documents), 3) *Identifying study themes* (identifying study themes, while relying on the identified relevant literature studies, the broad research question and the 03 study objectives of this article), 4) *Reviewing themes* (ensuring linkage with the objectives of this article), 5) *Defining the study themes* (guided by phase 3 and 4 to identify study themes, while using the objectives of this article, aided by the visited Social Sciences databases and other reviewed literature/documents), and; 6) *Article writing* (exploring the connection of criminology and forensics at UL, focusing on exploring the curriculum framework for institutional internalisation).

THEORETICAL AXIS AND PRELIMINARY LITERATURE REVIEW

Classical versus Positivist School of Thoughts Theories

Criminology is regarded as the “multidisciplinary and interdisciplinary” study field incorporating different disciplines, like the “criminal Anthropology, Medical Science and Psychiatry” (Ovens 2020). The origin of criminology is rooted from these disciplines to clearly understand the study of crime, supported by other, other study fields, such as “Biology, Economics, Neurology, Political Science, Psychology and Sociology, amongst others”. This study field can scientifically examine crime holistically, as a sole discipline, and it should be emphasised that has evolved since its establishment by Cesare Lombroso (1835–1909) (Ovens 2020). As the “medical” pioneer/practitioner offering criminological understanding, Lombroso is recognised for the ground-breaking and untapped research on “psychological and physical

facets of criminal behaviour” (Wolfgang 1961), which was influenced by Charles Darwin’s theory of natural selection. Lombroso’s contributions marked the initial efforts to develop a scientific theory in criminological thinking (Van der Westhuizen 2020).

Furthermore, Dr. Hans Gross, a criminology professor, made significant contributions through his publications “criminal investigation” (1906) and “Criminal Psychology” (1911). These works laid a solid foundation for both general criminal investigations and the scientific examination of physical evidence. If the knowledge gained from criminology is utilised in criminal courts to make legal decisions, criminology expands into a forensic field (Petherick, Turvey, and Ferguson 2009). The present study focused on the curriculum framework for institutional internalisation of criminology and forensics studies at UL of South Africa, using a scoping review. Inductive TCA was employed to analyse the collected data (O’Reilly and Kiyimba 2015). This method enables the identification, analysis, and reporting of patterns within a dataset, facilitating the descriptive organisation of data and interpretation of various research topics. The inductive TCA model, consisting of 06 phases (Braun and Clarke 2014), was meticulously followed by the researcher in this data analysis process.

The naturalistic explanation of crime causation and occurrence was first given by Cesare Beccaria (1738-1794), the founder of the “Classical School of Thought” (Van der Westhuizen 2020). He was a legal practitioner who believed that individuals commit crimes due to hedonism and the pursuit of pleasure. They argued that individuals have the freedom to choose whether the benefits of committing a crime outweigh the potential punishment. This article acknowledges that the Classical School of Thought primarily focuses on the forensic examination of individuals’ criminal behaviour. It requires considering all relevant factors that influence an offender’s decision to commit a crime, suggesting that forensic science applies to the Classical School of Thought.

Furthermore, the inception of the “Positivist School of Thought” is attributed to Lombroso, to presents challenges of the “Classical School of Thought”. The former school was founded by a Scientist, claiming that individuals do not commit crimes solely based on personal choice. They argue that offenders’ criminal actions are influenced by factors beyond their control, such as genetic predispositions or psychological impairments (Figueredo, Gladden, and Hohman 2011). Criminology, the study of crime, has historically focused on a narrow scope, specifically crime and the behaviour of perpetrators. However, it is necessary to incorporate preventive measures and the practices of LEAs and academics in this discipline. Therefore, this study field emerged from discriminatory legal practices in the 18th century, to the technological advanced era of the 21st century (Motsepe, Mokwena, and Maluleke 2022).

The criminological perspectives of the “Classical and Positivist Schools of Thought” in

criminology, for instance, have a subtle distinction. The former advocates for fair and proportional punishment and rehabilitation, while the latter focuses on understanding criminal behaviour by exploring factors that contribute to it and psychotherapy. The various schools of thought on crime vary in terms of their focus and interpretations of criminal acts. This evolution encompasses diverse disciplines, such as economics, ecology, sociology, and psychology, in explaining crime and criminal behaviour. The second half of the 20th century, showcase “criminology” flourishing from the traditional-to-contemporary disciplines enabling the “criminologists” from Western Europe, the USA and Canada to expand their professional associations and academic standing. In South Africa, the connection between criminology and forensic studies was strengthened through curriculum reviews utilising international comparisons (Motsepe, Mokwena, and Maluleke 2022).

Constructivism Theory

Studies by (Checkley 1997; Jonassen 1997; Murray and Savin-Baden 2000; Stephien 1997) highlight that the Constructivism Theory is based on the philosophy of the T & L, is an approach to education that enables students to actively construct their own knowledge. It emphasises that learners create meaning through their observations and interpretations, combining their prior knowledge with new experiences. According to constructivism theory, knowledge is not innate or passively acquired; rather, it is constructed by the learner. The central idea is that students build new understanding based on their existing knowledge, influencing the development of new or modified knowledge. Additionally, learning is viewed as an active process, as opposed to a passive one, where learners are considered empty vessels to be filled with knowledge. Through the applications of constructivism perspectives, students are actively engaged in creating their own meaning of their immediate environment, by using formative and summative assessments to solve real-world problems. This problem-solving technique offers meaningful connections between prior and new knowledge during the learning process.

The Constructivist Theory asserts that knowledge only exists within the human mind and does not necessarily have to align with external reality. Therefore, the WIL component, focusing on criminology and forensic studies, can effectively integrate theoretical and practical T & L practices. This integration facilitates adaptation to the working environment and offers benefits such as collaborative research, academic cooperation, staff/student exchange, and flexibility for future collaborations. Through the WIL approach, students become active participants in T & L, while lecturers assume the role of facilitators. Criminology and forensic studies students and lecturers are provided with opportunities to research real-life crime problems and propose solutions, with lecturers guiding and facilitating the process. Instead of traditional teaching,

lecturers and students actively engage and direct their T & L activities. Thought-provoking questions are posed to stimulate students' thinking patterns, drawing on international and local knowledge and guiding them to utilise appropriate resources, such as libraries, online learning technologies, experts, and textbooks, while adapting to environmental and technological changes, such as the Covid-19 pandemic (Checkley 1997; Jonassen 1997; Murray and Savin-Baden 2000; Stephien 1997).

Studies by the Centre for Innovation in Teaching and Learning (2022), Duch, Groh and Allen (2001), Lehman et al. (2001), Mergendoller and Thomas (2005), and Rockell (2009) confirm that the Constructivism Theory, as an educational philosophy, suggests that students play a more active role in their own learning compared to traditional classrooms. Collaborative and cooperative learning methods are used to help students understand difficult concepts and solve problems, where they work together in pairs and groups, sharing ideas and providing immediate feedback. Learning starts in a social environment and then progresses inward. Students should reconstruct and internalise their experiences, with the lecturer facilitating the learning process.

This involves structuring activities that allow students to gain control over real-life activities and problems that must be solved. The curriculum framework for criminology and forensics studies at UL of South Africa can benefit from applying the Constructivism Theory, using real-life crime problems and international best practices. The curriculum review can promote T & L methods, projects, and programmes by integrating the two disciplines, fostering communication, problem-solving, critical thinking, knowledge management-and-sharing skills. This also offer possibilities for the “collaborative research,” with emphasise placed on “lifelong-learning” to leverage partnership of South African and international institutions to share impactful research, innovative T & L, community engagement, and enriched academic experiences.

The future of criminology and forensics at University of Limpopo

Various challenges face the South African CJS in responding to criminal activities and treatment of crime victims by the local South African Police Service (SAPS) officials, the courts process and correctional interventions. One notable challenge is “correctional centres,” as emphasis are placed the fact that those (offenders) who violated the laws of a civilised society and must be severely punished, the establishment of the “Standard Minimum Rules and the Constitution of South Africa, 1996,” provides the importance of “fair and just treatment for both potential offenders and victims” (Ovens 2020). As a result, the “forensic criminologists can serve as court experts, providing assistance to the investigation, defence, prosecution and treatment of

offenders and victims, this can ensure effective treatment of offenders and victims, while building better communities” (Ovens 2020). Their contributions can be used to assess offenders and victims to ease burdens of sentencing and offer options to the presiding officer. They can also provide essential services to the CJS, including “victim impact statements and pre-sentence reports,” this can allow local courts to assess offenders and victims as individuals with unique characteristics and treating each case on its merits (Ovens 2020).

Significantly, it is crucial to establish and prioritise the professionalisation and ethics of criminologists to effectively utilise their expertise and regulate their behaviour. The necessity for forensic criminologists cannot be underestimated, considering their essential role in combining theoretical development on crime with empirical research on criminal phenomena (Ovens 2020). They adopt a critical approach that examines various aspects relating to “relevance of this discipline”. It is established that this programme or qualification cannot be considered a professional qualification officials attached to the “criminology and policing (forensics) or behavioural fields” do not qualify as professions as well (Ovens 2020). Moreover, trying to register them to the professional bodies to apply disciplines based on a professional code can be inappropriate, therefore, the term “professional” should be strongly avoided when referring to the “police practitioners, criminologists, penologists, police scientists and victimologists” (De Vries and Steyn 2020).

Furthermore, it is necessary to have a “Professional Standards Unit” responsible for conducting tests and monitoring the professionalism of the police officers. These standards should also address the behaviour of male police officers towards women, which is a significant concern. The unit would implement educational initiatives aimed at improving professionalism and interpersonal skills among the police officers. Additionally, the use of dashboard-mounted cameras and the requirement for interactions with civilians to be recorded could contribute greatly to enhancing professional conduct. At the same time, it is essential to empower civilians with education and access to reliable complaint systems to effectively address corrupt and criminal police officers. To deter corruption and crime within the police service, it is crucial for the police to apprehend civilians attempting to engage in illicit exchanges with them. Without the risk of exposure for both parties involved in corrupt activities, there will be limited incentive to change. Continual distrust between civilians and the police, with each blaming the other, will not contribute to the much-needed improvement in the public image of the Department of Police (De Vries and Steyn 2020).

According to (Ovens 2020), the Department of Police lacks awareness of the existing oversight and complaint structures available to civilians wishing to file complaints against the police. Increasing public awareness through awareness campaigns can partially address this issue. While many individuals are aware that the first step for filing complaints is going to a

police station, none of them trust this system enough to utilise it. The local Department of Police need to acknowledge that civilians' lack of knowledge regarding complaints could be attributed to the failure of the complaint systems themselves, this can be accomplished by promoting awareness across the country and neighbouring countries about the importance of this discipline, while providing advanced training, better education and improved resources to the interested parties. This may enhance responses of the LEAs, academic discourse and crime reporting (De Vries and Steyn 2020).

It is pivotal to notes that the future of forensic criminology at UL calls for the professional registration of this study field. It should belong to a professional board, with strict Code of Conduct and guiding work ethics, professional ethics and guidelines. Establishing a regulatory body for this profession would enhance its recognition and enable these experts to make valuable contributions to issues related to questioning and improving public policies to assist the South African CJS in functioning effectively (Ovens 2020).

For consideration, the researcher asserts that there has been a gradual decline in formal research projects within the realms of Criminological Sciences and Victimology disciplines at South African universities in recent years. However, postgraduate studies programmes have seen an exception. This decline encompasses sub-disciplines, related disciplines, and cognate fields such as crime and criminal justice studies, policing, corrections, social work, sociology, psychology, and Law. The reasons behind this decline lie partially in the fact that research centres, such as the Centre for Criminology at the University of Cape Town (UCT), Institute for Criminological Sciences at the University of South Africa (UNISA), as well as the Institute for Human Rights and Criminal Justice Studies at the former Technikon South Africa increasingly prioritised T & L workloads over research activities and the research staff were either transferred to academic teaching departments or research posts were phased out.

Additionally, the mounting academic workloads have hindered many academics from participating in research due to time constraints and lack of support funding. Although there are still a few privately or donor-funded research centres active in the field of crime studies in South Africa, such as the Institute for Security Studies (ISS) in Pretoria, their numbers are limited (Barkhuizen 2023). Despite this situation, curriculum renewal offers an opportunity to address the scarcity of focused "criminological/victimological" research activity. The UL, through its identified department under the Social Sciences School (SSS), can serve as a central research centre to revive, rejuvenate, and establish sustainable long-term research projects focusing on the mentioned disciplines, sub-disciplines, and related fields in a holistic and coordinated manner. This would encourage the participation of different departments at the UL. Eventually, these research programmes, consisting of multiple projects with specific focuses, can be expanded to involve other South African and African universities and governmental

departments as research partners (Barkhuizen 2023).

Overall, within the UL's *vision* ("to be a leading African university focused on the developmental needs of its communities and epitomising academic excellence and innovativeness"), with the *mission* statement, which presents provision of excellence with reference to "... research and community engagement initiatives which respond to the development needs of communities"; and in fulfilment of Strategic Goal 5: "[To] improve the University's research standing and status" (UL Annual Report 2021) this proposal for the establishment of a Centre for Research sited within the Department of Criminology and Criminal Justice dedicated to research solutions to overall Community Safety and Security as one of the University's strategic initiatives under the auspices of the University's Community Engagement Programme, is here presented for your consideration (UL Annual Report 2021). Positively, as depicted in Figure 2, the Minister of Justice and Correctional Services (JCS), as well as the Department of Correctional Services (DCS) of the Republic of South Africa (Mr Ronald Lamola) announced a key partnership with the Department of Criminology and Criminal Justice of UL during the 2023/24 Budget Vote speech. This is what he said in verbatim:

"We will also increase the number of victims who participate in restorative justice programmes in the new financial year. Plans are also at an advanced stage to collaborate with the Department of Criminology and Criminal Justice at the UL." (Lamola 2023).

This Memorandum of Understanding (MoU) between the Minister of JCS and the Department of Criminology and Criminal Justice aims to address the missing component of the WIL programme (Criterion 8). It will involve the implementation of an "Experiential Learning Programme" for the attached post-graduate students. These students will voluntarily participate in various activities, including assessments, profiling, presentation of correctional programmes, community profiling, and forensic profiling. The students will be given the opportunity to gain practical experience and understand the operational requirements of the DCS, with the support of stakeholders from JCS and the Department of Criminology and Criminal Justice (JCS and Department of Criminology and Criminal Justice 2023; Lamola 2023).

The BA programme in Criminology and Psychology at UL currently has a limited focus on the CJS holistically. There needs to be a better balance between the theoretical and industry-related modules, specifically to meet criterion 8 (WIL). The curriculum should provide a comprehensive theoretical foundation that covers the entirety of the CJS rather than just focusing on specific role players. This improvement can be achieved by prioritising theoretical underpinning in the first year across all areas of study, as opposed to the current fragmented and repetitive approach. The researcher examined various universities in South Africa and globally to assess the balance between available theoretical standings and similar degree

programmes at other universities. These universities offer modules that integrate industry knowledge and theoretical foundations in criminology and forensics, aiming to enhance understanding of the CJS.

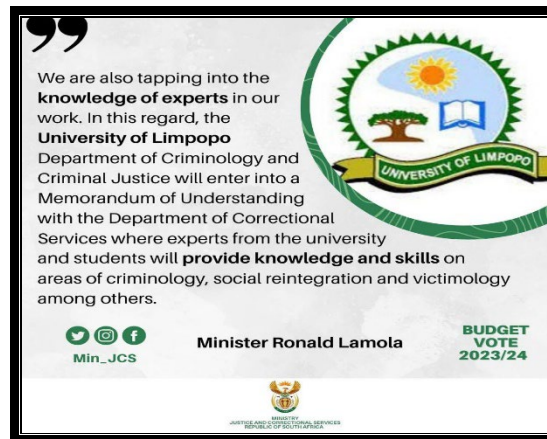


Figure 2: Snapshot of Minister of Justice and DCS, and Department of Criminology and Criminal Justice partnership of UL (Source: Adapted from Lamola 2023)

Furthermore, the curriculum renewal at UL involved benchmarking academic programmes with both local and international comparisons, specifically in the fields of Criminology and Criminal Justice, to ensure international comparability:

- Monash University: Bachelor’s degree: Criminology.
- University of Free State (UFS): Undergraduate courses in Criminology.
- University of KwaZulu-Natal (UKZN): BA: Criminology and Forensic Studies.
- UNISA: BA: Criminology.
- BA in Police Science: Vaal University of Technology (Republic of South Africa) (UL SER 2019).

The curriculum renewal and the component modules will be compared with similar qualifications and training courses from the following countries:

- USA.
- Australia.
- New Zealand (NZ).
- South America.
- Europe.
- United Kingdom (UK).
- Canada (UL SER 2019).

In general, the qualification and its component modules are generally comparable to their international counterparts. The differences observed are mainly in the formatting and scope of module coverage or focus. The curriculum renewal is found to be similar to some of the internationally offered courses:

- Bachelor of Sciences (BSc) Forensic Science and Criminal Investigation: University of Central Lancashire (UK).
- BSc in Criminal Justice: Virginia College (USA).
- BSc in Criminal Justice: Kaplan University (USA).
- BSc Criminal Investigation: Birmingham City University (UK).
- BA: Criminal Justice: Monash University (Australia).
- BSc in Criminal Justice: Concentration on Forensic Investigation: Colorado Technical University (USA).
- BSc in Forensic Investigation: Keiser University (USA).
- Bachelor of Technology in Forensic Investigation: British Columbia Institute of Technology (Canada).
- Bachelor of Criminology: University of New England (UNE).
- Bachelors in Criminal Justice – Crime Scene Investigation: South University (USA).
- Graduate Diploma in Criminal Justice: Open University (UK).
- Bachelor of Criminology and Criminal Justice: Griffiths University (Australia).
- BA in Criminology and Criminal Justice: Griffiths University (Australia).
- Associate Degree in Criminal Justice: Ashford University (USA) (UL SER 2019).

Finally, it is acknowledged that there is still much work to be done for the curriculum renewal. This renewal hopes to shed light on the current state and challenges the existing curriculum offerings face and catalyse progress. Drawing upon these findings, it is determined that this curriculum will offer necessary improvement plans.

STUDY FINDINGS AND DISCUSSIONS

The identified study themes on connection of criminology and forensics at University of Limpopo, South Africa

Theme one: Limited prioritisation and slow progress of forensic criminology studies applications at University of Limpopo

The article emphasises that the integration of criminology and forensic studies at the HDI, like

UL, can play a crucial role in accelerating and providing a more comprehensive understanding of the commission of crimes, especially in contemporary times. The conceptual combination of “forensics and criminology” is very essential, as the “forensic criminologists,” can contribute additional dimensions of utilising forensic data during investigations of crime (Van Rooyen 2008). They can also offer lessons on the importance handling “non-physical evidence” to assist in forensic investigations (Williams 2014).

The “criminology” discipline encompasses many sub-specialisations, including the “crime mapping and crime analysis,” employing unique combinations of criminological concepts, methodologies, and governmental policies (Williams 2014). Whereas, the term “forensic criminologist” integrates the investigative works of a criminologist who often collects, examines, and presents physical (real evidence) and microscopic evidence (including the “documentary, testimonial and demonstrative evidence”) in during legal proceedings (Van der Hoven 2003).

The University of Pretoria (UP) (UL included) emphasises the significance of forensic criminology in South Africa, underscoring the requirement for forensic criminology, victim impact statements, and pre-sentencing reports in overcrowded correctional centres. The expertise of forensic criminologists is essential in these phases (University of Pretoria 2023). In the criminal courts of South Africa, forensic criminologists fulfil two roles: to a lesser extent, determining the innocence of the accused and to a greater extent, following conviction but prior to sentencing (Labuschagne 2023).

This assertion transforms criminologists from mere theoreticians to practitioners. Forensics is employed in the investigation of different types of crime and each crime is treated differently. The “fingerprint identification, ballistics, and analysis of questioned documents” can be used to solve crimes such “bank robbery, burglary at residential premises, carjacking, and Cash-In-Transit” (CIT). Hence, the combination of forensics with criminology is important in South African context, as this country is subjected to high crime rates, highly organised and sophisticated in nature. Crimes like the “attempted murder, rape, indecent assault, murder and other ordinary assault” can also necessitate fingerprint identifications during the DNA analysis (Omar 2008). Therefore, “criminology,” as the discipline shares the processes of studying crime holistically, leading to evidence gathering and analysing scientifically often resulting from real events, this can be used to elucidate criminal offences and societal reactions, while playing effective role in crime prevention, combating and investigations, as well as analysis, this is in accordance with the make-up and nature of “forensic” investigations (Conklin 1998).

According to the article, some academic institutions in South Africa, such as the University of Johannesburg (UJ) and the UKZN (UL taking inspiration), offer modules in

criminology and forensics. UNISA has developed a Forensic Criminology honours curriculum to provide students with the specialised training needed to testify as expert witnesses in court. While qualifications and occupations are available under forensic criminology in South Africa, it remains uncommon to find research combining the two disciplines within the South African CJS. Conversely, in other countries, the amalgamation of these fields is well-established and has been in practice for many years (Beukman 2008).

Theme two: The failure to register forensic criminology as a profession in South Africa and related impacts, based at Criminology and Criminal Justice curriculum of University of Limpopo

This article suggests that further attention and effort are required to enhance the functions of criminology and forensics in South Africa. It is worth noting that the absence of criminology as a formally registered profession may present a challenge to the integration of criminology and forensic studies (Beukman 2008). Unlike South Africa, other countries have established independent criminology professions that function autonomously (Herbig and Hesselink 2009). In South Africa, Criminology is still grappling with its identity (Mphatheni et al. 2020).

The clear definition of “criminology” is lacking resulting in the revelation of various academic problems hindering the “forensic criminologists” from performing roles during courts proceedings and in drafting pre-sentence reports. The slow progress in establishing this discipline as a profession negatively affects progress of advancing this study field. The emergent and established scholars in this study field are still failing to present convincing argument on the conceptualisation of “criminology, forensic criminology” in South African context (Singh and Gopal 2010). The reality that “criminology” as forensic science in South Africa is not been fully academically explored by the South African CJS is worrying. The witnessed lack of recognition of this study field in the South African CJS may be attributed to the unfamiliarity of criminology as a science by the local courts (Van der Hoven 2003). The criminology as a science, should be recognised by the local courts system to permit expertise of forensic criminologists to be admissible and act as expert witnesses (Van der Hoven 2003). Until recently (2020–2024), criminologists did not feature in the South African CJS for more than a decade (Ovens 2020).

CONCLUSION AND RECOMMENDATIONS

The field of forensic criminology necessitates a comprehensive understanding of systematic and scientific criminal investigations. This specialised knowledge plays a critical role in clarifying crime and its associated complexities. Forensic criminologists are called upon to

serve as expert witnesses in both civil and criminal investigations and are often sought after by reputable media outlets to provide commentary on high-profile cases. As such, it is imperative that this profession be professionalised at all costs (Klopper 2020). As the South African citizens are aware of their respective Constitutional rights, and crime touted to be affecting everyone, resulting into ever-increasing demands for of service delivery by the LEAs and academic responses, moreover, the conducts of the latter is consistently scrutinised by the courts, media and citizens/public (*Iqabane* 2006). The decrease in confidence and trust between and the citizens negatively affects National government ability to combat, investigate and prevent various crimes and improve public safety. Therefore, to enhance “policing standards,” the LEAs and citizens, decisive actions are required for them not be placed at unnecessary risks of injuries and possible death (*Iqabane* 2006). Burger (2011) addresses the contributing factors to issues faced by the LEAs and proposes strategies in response.

This article informs the practical applications of forensic criminologists’ expertise, integrating and including them as functionaries within the South African CJS (Ovens 2020). Equally, the following recommendations are made to renew curriculum, involving “criminology and forensics” within the Department of Criminology and Criminal Justice, under the Faculty of Humanities and SSS of UL, South Africa:

- The South African Department of Higher Education and Training (DHET) should formulate a comprehensive research strategy to offer the professionalisation forensic criminology.
- The mandate of providing credible data to the CJS and citizens by the forensic criminologists is highly sought.
- A “forensic criminology” qualification should be authorised in South Africa to enhance the CJS, operations of the LEAs and academics responses.
- The LEAs officials and academics should gain more knowledge in the field of forensic criminology to enhance their expertise, while improving their professional ethos and profession etiquette.
- The conducts of the LEAs officials and academics as forensic criminologists should be exemplary as the State servants.
- The LEAs officials and academics as forensic criminologists should uphold the Constitutional rights of the citizens/public, victims and perpetrators.
- The LEAs and academics as forensic criminologists should always be compliance with the law.

- The basic human qualities of the forensic criminologists should be inclusive to “good manners, punctuality, discipline, leadership, good interpersonal skills and positive attitude.”
- The profession forensic criminology, should they should be constantly nurtured and developed to accommodate the cited human qualities.
- The forensic criminologists should be respected and always project a professional image, while emphasising that they are not above the law.
- The forensic criminologists should acknowledge the societal demands of their profession, while earning community respect and credibility. They should not practice the following: “Arrogant attitude, dishonesty, lack of empathy, incompetence and rudeness” (*Iqabane* 2006).
- The disciplinary professional board should be initiated to police and guide forensic criminologists, with resources geared towards improving their mandates and disciplinary systems, while using the DHET guidelines, policies and regulations.
- The complaints logging system should developed to offer effective responses against the forensic criminologists.

Moreover, the development qualities of the integrated criminology and forensic studies academics should be prioritised in the HDI like UL, this will enable grounded academics, striving for excellence and leadership in university scholarship to easily contribute to the development of a future South African professoriate, who are well vested in these subjects, as an integrated concept. The creation of the next generation (future) South African professors in the South African HEIs, focusing on curriculum renewal of these subject can largely contribute to the disciplines of criminology and criminal justice, as well as forensic science, while positively responding to the society’s shifting needs. Through the envisaged combination, the criminology and forensic studies professors will act as academics provided with knowledge, skills, values and tools to deal with the social root causes of crime phenomenon, rather than acting only in terms of its consequences, they can win back the dented respect and trust of the communities (International Training Committee 1994).

REFERENCES

- Arksey, H. and L. O’Malley. 2005. “Scoping studies: Towards a methodological framework.” *International Journal of Social Research Methodology* 8(1): 19–32.
- Barkhuizen, J. 2023. “Motivation for the establishment for a centre for research in/at the Department of Criminology and Criminal Justice.” Electronic-mail. Head of Department: Criminology and Criminal Justice, University of Limpopo. Sovenga. (Original E-mail in possession of the

- researcher). 5 May.
- Barrows, H. S. 2002. "Is it truly possible to have such a thing as PBL?" *Distance Education* 23: 119–122.
- Beukman, B. 2008. "Professionalising criminology in South Africa." *Acta Criminologica: African Journal of Criminology and Victimology* (3): 11–23.
- Braun, V. and V. Clarke. 2014. "What can 'thematic analysis' offer health and wellbeing researchers?" *International Journal of Qualitative Studies on Health and Well-being* 9(1): 1–2.
- Burger, J. 2011. "To protect and serve: Restoring public confidence in the SAPS." http://search.sabinet.co.za/WebZ/images/ejour/iscrime/iscrime_n36_a3.pdf?sessionid=01-59837-125758003&format=F. (Accessed 15 October 2023).
- Campbell Collaboration. 2007. *An author's guide to writing articles and reviews for educational research review*. <https://www.huidziekten.nl/diversen/>.
- Centre for Innovation in Teaching and Learning. 2022. [https://citl.illinois.edu/citl-101/teaching-learning/resources/teachingstrategies/problem-based-learning-\(pbl\)](https://citl.illinois.edu/citl-101/teaching-learning/resources/teachingstrategies/problem-based-learning-(pbl)). (Accessed 17 January 2023).
- Checkley, K. 1997. "Problem-based learning: The search for solutions to life's messy problems." *ASCD Curriculum Update*, 1–8.
- Conklin, J. E. 1998. *Criminology*. 6th Edition. Boston: Allyn and Bacon.
- Council on Higher Education. 1997. "Higher Education Act (No. 101 of 1997)." <https://www.che.ac.za/publications/legislation/higher-education-act-101-1997#:~:text=To%20regulate%20higher%20education%3B%20to,assessor%3B%20to%20provi de%20for%20the>. (Accessed 28 October 2024).
- Creswell, J. W. 2014. *Research design: Qualitative, quantitative and mixed method approaches*. Thousand Oaks, California: Sage.
- Department of Basic Education. 2015. *The South African national curriculum framework for children from birth to four*. Pretoria: Department of Basic Education.
- De Vries, I. and J. Steyn. 2020. *Is the status of professionalism appropriate to police Scientists and practitioners in the South African context? A scientific perspective from a house divided*. Geneva: International police executive symposium Geneva Centre for the democratic control of armed forces.
- Duch, B., S. E. Groh, and D. E. Allen. (Ed.). 2001. *The power of Problem-Based Learning: A practical "How-to" for teaching undergraduate courses in any discipline*. Sterling, Va: Stylus.
- Ge, X. and S. M. Land. 2004. "A conceptual framework for scaffolding ill-structured problem-solving processes using question prompts and peer interactions." *Educational Technology Research and Development* 52(2): 5–22.
- Glasgow, N. A. 1997. *New curriculum for new times: A guide to student-centred, problem-based learning*. Thousand Oaks, California: Corwin Press.
- Figueredo, A. J., P. R. Gladden, and Z. Hohman. 2011. "The evolutionary psychology of criminal behaviour." In *Applied evolutionary psychology*, edited by S. C. Roberts, 201–221. Oxford: Oxford University.
- Herbig, F. J. W. and A. M. E. Hesselink. 2009. "The role and function of criminologists within the criminal justice and private sector." *Journal of Psychology in Africa* 19(3): 441–447.
- Howes, L. M. 2018. "Internationalisation of the higher education curriculum in criminology: A role for the southern criminology project." *Teaching in Higher Education* 24(3): 1–18.
- Howes, L. M., R. Julian, T. Oosthuizen, C. A. Reid, K. Cashman, and R. White. 2023. "Redrawing the boundaries of criminology: Increasing forensic literacy by including forensic studies in the curriculum." *Journal of Criminal Justice Education* 34(2): 250–268.
- International Training Committee. 1994. *Training in the South African Police Service: A report of investigation*. Pretoria: South African Police Service, SA Police Service Head Office Library.

- Iqabane. 2006. *JUTA Law in association with the South African Police Service*, Mercury Crescent: Cape Town.
- Jonassen, D. H. 1997. "Instructional design models for well-structured and ill-structured problem-solving learning outcomes." *Educational Technology Research and Development* 45(1): 65–94.
- Klopper, H. 2020. "The coordinating nature of forensic criminalistics." In *A Southern African perspective on fundamental criminology*, edited by C. Bezuidenhout, 594–639. Cape Town: Pearson.
- Labuschagne, I. L. 2003. "The role of the Criminologist as expert witness in court in comparison with those of other specialists, such as psychologists, psychiatrists of social workers." Paper presented at Honours Student Workshop. May. Pretoria.
- Lamola, R. 2023. *APPs Political Overview for 2023 for Ministry of Justice*. Pretoria: Department of Justice and Correctional Services.
- Lehman, J. D., P. A. Ertmer, K. Keck, and K. Steele. 2001. "In-service teacher development for fostering problem-based integration of technology." *SITE (Society for Information Technology and Teacher Education) 2001 Conference Proceedings*. Charlottesville, VA: Association for the Advancement of Computing in Education.
- Maluleke, W. 2020. "The African scare of fall Armyworm: Are South African farmers' immune?" *The International Journal of Social Sciences and Humanity Studies* 12(1): 207–221.
- Maluleke K., A. Musekiwa, K. Kgarosi, E. M. Gregor, T. Dlangalala, S. Nkambule, and T. A. Mashamba-Thompson. 2021. "Scoping review of supply chain management systems for point of care diagnostic services: Optimising COVID-19 testing capacity in resource-limited settings." *Diagnostics (Basel)* 11(12): 1–29.
- Maoto, S. 2023. "Faculty of Humanities – Message from the Executive Dean: Prof S Maoto." Sovenga: University of Limpopo.
- Mergendoller, J. and J. W. Thomas. 2005. "Managing project-based learning: Principles from the field." <http://www.bie.org/tmp/research/researchmanagePBL.pdf>. (Accessed 17 January 2024).
- Matthews, R. and E. Ross. 2010. *Research methods: A practical guide for the social sciences*. Pearson Education Ltd.
- Maudsley, G. 1999. "Do we all mean the same thing by 'problem-based learning'? A review of the concepts and a formulation of the ground rules." *Academic Medicine* 74: 178–185.
- Mays, N., E. Roberts, and J. Popay. 2001. "Synthesising research evidence." In *Studying the organisation and delivery of health services: Research methods*, edited by N. Fulop, P. Allen, A. Clarke, and N. A. Black, 188–220. London: Routledge.
- Mokwena, R. J. and W. Maluleke. 2020. "South African rural communities and the land restitution process: The application of criminological and legal theories in identifying obstacles to rightful allocations of land." *Gender and Behaviour Journal* 18(3): 16145–16156.
- Motsepe, L. L., R. J. Mokwena, and W. Maluleke. 2022. "A Systematic study on South African Police Service leadership crisis towards supporting Section 205(3) as the Constitutional foundation for public policing." *International Journal of Social Science Research and Review* 5(7): 172–195.
- Mphatheni, M. R., S. L. Nkosi, O. J. Tutu, and N. Gopal. 2020. "An analysis of criminology as a profession in the republic of South Africa." *International Journal of Criminology and Sociology* 9: 1822–1828.
- Muka, T., M. Glisic, J. Milic, S. Verhoog, J. Bohlius, W. Bramer, R. Chowdhury, and O. H. Franco. 2020. "A 24-step guide on how to design, conduct, and successfully publish a systematic review and meta-analysis in medical research." *European Journal of Epidemiology* 35: 49–60.
- Murray, I. and M. Savin-Baden. 2000. "Staff development in problem-based learning." *Teaching in Higher Education* 5: 107–120.
- Nkosi, S. L., M. R. Mphatheni, and W. Maluleke. 2024. "Exploring the Connection of Criminology and Forensics in the Criminal Justice System Realm: A South African Perspective." In *Forensic*

- Justice: A global perspective*, edited by B. Shekhar and P. Pokhariyal, 136–151. Routledge Taylor and Francis Group: London and New York.
- Omar, B. 2008. “Are we taking physical evidence seriously? The SAPS criminal record and forensic science service.” *South African Crime Quarterly* 23: 29–36.
- O’Reilly, M. and N. Kiyimba. 2015. *Advanced qualitative research: A guide to using theory*. Thousand Oaks, California: Sage.
- Ovens, M. 2020. “Forensic criminology in South Africa.” In *A Southern African perspective on fundamental criminology*, edited by C. Bezuidenhout, 558–593. Cape Town: Pearson.
- Petherick, W. A., B. E. Turvey, and C. E. Ferguson. (Ed.). 2009. *Forensic criminology*. United Kingdom: Academic Press.
- Phillips, C. and B. Bowling. 2023. “Racism, ethnicity and criminology.” *The British Journal of Criminology* 43(2): 269–290.
- Savery, J. R. 2006. “Overview of problem-based learning: Definitions and distinctions.” *The Interdisciplinary Journal of Problem-Based Learning* 1(1): 9–20.
- Rockell, B. 2009. “Challenging what they all know: Integrating the real/reel world into criminal justice pedagogy.” *Journal of Criminal Justice Education* 20: 75–92.
- Singh, S. and N. Gopal. 2010. “Criminology in the 21st century: ‘Through the eyes’ of academics.” *Acta Criminologica: African Journal of Criminology and Victimology* 1(2): 11–24.
- Sithole, S. 2023. *School of Social Sciences – Welcome Message from the Director: Prof Sello Sithole*. Sovenga: University of Limpopo.
- Stephien, W. 1997. *Facilitator’s guide: Problem-based learning video series*. Alexandria, VA: Association for Supervision and Curriculum Development.
- Stockdale, K. J., R. Sweeney, and C. McCluskey-Dean. 2022a. “Exploring the criminology curriculum – Using the intersectionality matrix as a pedagogical tool to develop students’ critical information literacy skills.” *Journal of Criminal Justice Education* 33(4): 567–585.
- Stockdale, K. J., R. Sweeney, C. McCluskey-Dean, J. Brown, and I. Azam. 2022b. “Exploring the criminology curriculum – Reflections on developing and embedding critical information literacy.” In *Teaching criminology and criminal justice*, edited by S. Young and K. Strudwick, 13–34. Switzerland: Springer Nature.
- UL Annual Report 2021. 2021. *University of Limpopo Annual Report 2021*. Sovenga: University of Limpopo.
- UL Criteria for Academic Quality Reviews 2023. 2023. *University of Limpopo Criteria for Academic Quality Reviews 2023*. Sovenga: University of Limpopo.
- UL SER 2019. 2019. *University of Limpopo Self Evaluation Report of the Bachelor of Arts [BA] (Criminology and Psychology stream) in the School of Social Sciences*. Sovenga: University of Limpopo.
- University of Pretoria. 2023. “Forensic Criminology in South Africa.” <https://www.studocu.com/en-za/document/university-of-pretoria/criminology/chapter-15-lectures-7-9-forensic-crim-in-sa/7989787>. (Accessed 28 October 2023).
- Van der Hoven, A. 2023. *Forensic Criminology (HCRFOR-8). Tutorial Letter 501/2003*. Muckleneuk: University of South Africa.
- Van der Westhuizen, M. M. 2020. “Criminological theories.” In *A Southern African perspective on fundamental criminology*, edited by C. Bezuidenhout, 137–194. Cape Town: Pearson.
- Van Rooyen, H. J. N. 2008. *The practitioner’s guide to forensic investigation in South Africa*. Henmar Publications.
- Williams, A. 2014. *Forensic criminology*. United Kingdom: Routledge.
- Wolfgang, M. E. 1961. “Pioneers in Criminology: Cesare Lombroso (1825–1909).” *Journal of Criminal Law, Criminology and Police Science* 52(4): 361–391.