

## The Use of International Perspectives in Forensic Science Pedagogy

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### Abstract

This paper explores the integration of international perspectives into forensic science education, emphasising the pedagogical value of global engagement and authentic learning experiences. Drawing on constructivist theories and first-hand experiences in countries such as Nepal, I argue that exposure to diverse forensic practices enhances student understanding of legal frameworks, cultural contexts and scientific adaptability. I advocate a balanced, evidence-based approach that fosters critical thinking, inclusivity and global awareness in forensic science pedagogy.

**Key words:** authentic learning, Equality, Diversity and Inclusion (EDI), global awareness, forensic science

### Introduction

Education must be not only a transmission of culture but also a provider of alternative views of the world and a strengthener of the will to explore them (Bruner, 1996).

Forensic science, also known as ‘medico-legal science’ in other countries across the globe, is defined as ‘the application of science principles and methods to support legal decision-making in matters of criminal and civil law’. During a criminal investigation forensic science is governed by the legal standards of admissible evidence and criminal procedure. It is a broad field, involving the analysis of deoxyribonucleic acid (DNA), fingerprints, toxins and narcotics, as well as of digital data (on mobile and other media devices and social media).

Forensic practitioners and scientists collect, preserve and analyse evidence during an investigation. While some forensic officers travel to the scene of the crime to collect the evidence themselves, others occupy a laboratory role, performing analysis on exhibits brought to them. Yet more are involved in the analysis of financial, banking or other numerical data for use in financial crime investigation. In addition to their laboratory role, forensic scientists testify as expert witnesses in both criminal and civil cases and can work for either the prosecution or the defence. While any field could technically be forensic, certain sections have developed over time to encompass most forensically related cases.

## Context

Bruner's constructivist theories in his book '*The Culture of Education*' were influential in aspects of teaching, such as curriculum design, discovery learning and scaffolding. The book emphasises the importance of exposing learners to global perspectives and encouraging them to engage with different world views, a core principle in international pedagogy (Bruner, 1996). In a criticism of this approach, Kelly (2009) argued that to add too many international perspectives favours breadth over depth. Other arguments suggest that a bias towards the acquisition of international knowledge may be seen as more academic than practical (Lauder and Brown, 2011).

Most recently, in March 2025, I was asked to prepare a critical review – for the purposes of evaluation and advice – of the provision of forensic services for Nepal Police, as part of continuing support for the United Nations Office for Project Services (UNOPS) Security and Justice Programme. The primary objective of the visit was to assess the current practices and capabilities of key criminal investigation offices, with a specific focus on forensic processes, particularly the 'automated fingerprint identification system' (AFIS). This assessment included site visits, multidisciplinary engagements and discussions with various stakeholders. It worked towards their goals of building trust between the Nepal police, government agencies and local communities. I would argue that this multidisciplinary approach helps to foster intercultural awareness, which is vital not only in the forensic science industry, but in academia too.

## Opinion

In his work, Bruner (1996) explores how education is deeply embedded in cultural contexts and argues that its purpose goes beyond mere knowledge transfer: it should foster critical thinking, creativity and cultural participation. I believe that first-hand experience of the challenges faced in other countries is beneficial to our programmes. It enhances the learner experience, as it allows students to see different perspectives. Furthermore, students may see themselves or their cultures represented in the curriculum, allowing them to recognise that diversity and inclusivity are intrinsic to the application of the scientific disciplines involved. From personal experience, I have been able to apply different perspectives in forensic science from Nepal and, less recently, Thailand and Pakistan, to engage students in an exercise of researching and presenting the challenges faced by forensic service providers and law enforcement agencies. This encourages self-directed learning and group participation by reflecting on how different countries use forensic science. Through this approach, students develop a broader understanding of the difficulties faced in producing evidence within different legal frameworks, of how international standards are applied and of the cultural context of crime.

Authentic learning encourages engagement and enhances inclusivity especially where there are cultural differences and economic limitations in so-called 'less developed' countries. Adapting the provision of forensic services is critical to solving these problems. With the United Kingdom (UK) system of legal frameworks, legislation, quality management and international standards (such as ISO 17025 and 17020), questions such as 'Would the process of collection and analysis of evidence in Nepal be accepted in the UK Criminal Justice System?' encourage students to use critical thinking, in order to 'see how others do it', so challenging assumptions

and deepening understanding (Clifford and Montgomery, 2014). Examples of this approach are:

- From a previous visit to Pakistan: here, the scientific principles of DNA evidence were limited to serology, in stark contrast to the advanced levels of DNA profiling currently used in the UK (Houck and Segal, 2018). To know this allows insight into both hi-tech and low-resource approaches, demonstrating the need to adapt approaches to meet constraints.
- Within a legal framework in Nepal, the findings of forensic scientists may be interpreted in ways that differ from those in the United Kingdom. This possibility can be understood only by speaking to representatives of both judicial systems and can be attributed to the education of those expected to apply the legal principles. For students, this is enlightening because there is an understandable expectation that an educated and qualified barrister in any culture should have a grasp of the basic principles of forensic science and the interpretation of that evidence. Only through research can this truly be explained.

The challenges from both a cultural and legal perspective may be seen in navigating the relationship between cultural beliefs and legal frameworks, often requiring an approach different from conflict resolution. Advocates of community-focused legal rights – such as those of the victims of gender-based violence – often lack support and face harassment and threats for their efforts.

In reply to the critics of this approach, I acknowledge that too many perspectives can lessen the impact of critical thinking and also that local practice may have limited relevance, so inevitably reducing time for in-depth study of local procedures (Kelly, 2009). However, a good balance, with directed questioning, does provide the depth needed to enhance learning. Lauder and Brown's (2011) argument that international perspectives can be seen as academic rather than practical is also true, but only when the learning isn't provided through lived experience with a structured approach to gathering the evidence through live visits, interviews and assessments. Although it's not always possible to provide national/international visits in every programme, guest speakers and network contacts are a reliable means of enabling the students to benefit from up-to-date knowledge as well as simultaneously providing continued professional development for lecturers.

It is not difficult to accept that, to have a true understanding of a culture and of how it influences a subject area, you have to see it and experience it in person. We enrich our cultural understanding through travel, through engaging with people who live in different countries and hold different beliefs, or through hearing the views of those fortunate enough to have first-hand experience. By using the lived experience of academic researchers, we can enrich the views of our students.

It can also be argued that Western nations dominate forensic literature, while global perspectives from less developed regions are often under-represented. By providing the findings of the capability gap review, students can relate directly to the evidence gathered as part of their critical analysis. Evidence of the value of this may be found in higher satisfaction scores in the evaluation system (Evasys) survey and positive feedback on the application of real-world case studies that demonstrate the work of forensic science globally.

## Conclusion

Forensic science transcends borders; it requires careful pedagogical framing to ensure that students are both scientifically grounded and globally informed. The importance of authentic academic research with lived experience provides a balance so that opinions may be formed on the basis of evidence and facts rather than being just an academic view.

Each global region and country is faced with different obstacles: geographical, cultural, social, economic, political and legal. It is important to understand these when reflecting on forensic service provision. The legal system in Nepal faces significant difficulties, owing to the deeply ingrained cultural and religious beliefs of the Nepali people. These beliefs often conflict with the legal framework leading to problems in enforcing the law and protecting individual rights.

The strongest pedagogy may not be either to embrace fully or to reject international perspectives, but to integrate them selectively and critically. A balanced approach, using international cases, comparative legal analysis and critical analysis, helps to acknowledge the value of international perspectives. This approach works both within science and the humanities and is something to embed in every programme, for skills are transferable; it allows for genuine connection/collaboration and that in turn could lead to better graduate outcomes for universities.

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