

Case report

Exploring students' views and experiences of an acupuncture programme at a South African university: Case study

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Abstract: Curriculum transformation for 21st-century skills in higher education is gaining much attention nationally and internationally. The African continent is becoming acutely aware of strengthening the curriculum to improve teaching and learning. In this study, the focus is on transforming the acupuncture programme to align with international standards. Streamlining and aligning the South Africa (SA) curriculum programme to international standards will improve patients' health. The reason is that higher education institutions are responsible for ensuring that their students are competent in the world of work through quality educational programmes. There is an increasing demand for quality acupuncture services for the public. According to the World Health Organization, acupuncture is one of the most popular alternative medicines worldwide. However, there is a lack of research to explore contextualised acupuncture programmes on the African continent. This study aimed to explore the content of the South African acupuncture programme and align it with international standards. To undertake this study, the author employed a qualitative, single-case study by interviewing the students of the programme using a semi-structured interview schedule. The findings of this study revealed that students shared positive views towards the acupuncture programme. They had a clear and accurate understanding of the outcome of the programme. However, participants reported that there was limited clinical exposure in the acupuncture programme, which negatively affected students' competencies in the working world. This study concluded that there was a need to ensure the contextualised acupuncture programme was benchmarked against international standards. Furthermore, there was a need to improve the infrastructure at the university to ensure adequate training facilities. This study is of profound significance since the identified higher education institution is the only university that provides an acupuncture programme in South Africa.

Keywords: acupuncture; clinical training; curriculum transformation; higher education; programme development

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1. Introduction

Transformation in higher education has gained much attention globally, particularly among African countries. Higher education institutions (HEIs) are responsible for ensuring their students are competent in the world of work. This is of particular importance in the field of health sciences, such as acupuncture. The reason is that there is an increasing demand for high-quality acupuncture services worldwide^[1]. This view concurs with Hu et al.^[2] who reported that acupuncture has gained increasing popularity globally in recent decades. According to the WHO^[1], acupuncture is one of the most popular and effective therapeutic approaches for many diseases. Hu et al.^[2] concurred with Gold et al.^[3] that the reason is due to the safety and efficacies of

acupuncture treatment. Acupuncture is a technique in which practitioners stimulate specific points in the body by inserting thin needles through the skin^[4]. Lim et al.^[5] indicated the importance of acupuncture in improving public health due to its effectiveness and cost-effectiveness. Despite acupuncture treatment being safe, Hu et al.^[2] argued that higher education institutions must provide high-quality programmes to ensure the safe practice of acupuncture for the public. In this study, the authors asked the research question: What are South African students' views and experiences of the acupuncture programme at their HEI?

In South Africa (SA), acupuncture is classified into the “scarce skills” category because of the limited number of qualified acupuncturists^[6–8]. The authors contend that the reason for the limited number of qualified acupuncturists is the lack of a well-developed, sustained programme in acupuncture in SA. To bridge the gap, one HEI in SA has developed a four-year acupuncture programme to improve the capacity of acupuncture. This study aims to explore students' views and experiences towards the acupuncture programme. The study is of particular significance since this is a newly developed programme at an HEI in the African continent. Furthermore, there is also a lack of research on African students' views and experiences with acupuncture programmes.

In this study, the authors adopted a qualitative case study design to explore students' views and experiences on the acupuncture programme at the identified HEI. The findings of this study will contribute to ensuring that the acupuncture programme benchmarks against international standards while accommodating and contextualising African HEIs. This study is significant since the identified HEI is the only HEI that provides an acupuncture programme in SA.

2. Literature review

2.1. Importance of the acupuncture programme

Evidence of the global development of acupuncture can be found in the field of education, which enhances the capacity of training acupuncture service providers. The first guideline on acupuncture training was published in 1999 by the WHO to ensure the quality of acupuncture services for the public^[9,10]. In 2020, the WHO published a second set of guidelines for acupuncture to promote continuous improvement in acupuncture education and practice^[10]. The reason cited by WHO for the second publication was to ensure that, by providing high-quality training criteria, acupuncture professional education would be recognised internationally. The author contends that the acceptance of international standards for training acupuncturists will further ensure the quality of acupuncture services, which will benefit public health.

Flesch^[11] and Lim et al.^[5] stated that the professionalisation of acupuncture through professional education contributes to the increasing acceptance of acupuncture. In the updated guideline, a minimum of 1568 h is recommended for full training in acupuncture to ensure students acquire adequate content knowledge in the field of acupuncture. Xue et al.^[12] reported that the People's Republic of China (PRC), the United Kingdom, Canada, and Malaysia offer acupuncture programmes to provide professional acupuncture education to train acupuncturists to improve their population's health and well-being. In the PRC, qualifications in acupuncture are provided at Traditional Chinese Medicine (TCM) universities, western medical universities, and comprehensive universities, all of which are public higher education institutions^[5]. Kim^[13] further stated that more than ten private higher education institutions in Malaysia offer acupuncture programmes at bachelor or diploma levels to meet the need for alternative healthcare services in their countries.

It is of great importance that students receive good-quality training to ensure their competencies in promoting public health using acupuncture. The core modules include knowledge of TCM, acupuncture, conventional medicine, and other relevant areas, such as laws, regulations, and ethics^[14]. According to WHO^[10],

a minimum of 400 clinical hours is required for entry-level acupuncture training due to the critical role of clinical training in acupuncture in ensuring students' competencies.

WHO^[10] proposed that acupuncture service providers at the entry level should acquire knowledge in the following four categories: Firstly, they must be able to discuss the history of acupuncture, and they should understand meridians and acupoints. They should also be able to demonstrate various needling techniques and prescribe and perform acupuncture treatments. Secondly, acupuncturists should understand the fundamental theories of TCM, such as the theory of yin and yang, the theory of five elements, the theory of essence and qi, and diagnostic methods. Thirdly, knowledge of biomedicine is essential, including the anatomy, physiology, and biochemistry of the human body; a basic understanding of diagnostic procedures, their uses, and their limitations from a conventional medical perspective; and hygiene and patient safety principles. Lastly, practitioners should comprehend laws and regulations related to acupuncture practice, ethical considerations, and professionalism.

Since the WHO acknowledged qualifications in acupuncture and these qualifications gained international recognition, HEIs in the PRC, Australia, and SA have recognised the value of acupuncture treatment and the need for quality acupuncture programmes to train students. For this reason, universities in these countries have included renowned higher education qualifications in acupuncture^[15]. In the author's view, there is a necessity to ensure that the contextualised acupuncture programme satisfies the diverse requirements in different countries, in particular, with regard to the different scopes of practice.

2.2. Acupuncture programmes in South Africa

The South African government recognised the importance of acupuncture in promoting public health. Therefore, in 2001, the South African Minister of Health adopted the Regulations in terms of the Allied Health Professions Act, 1982^[16] to regulate acupuncture education and practice to promote public health^[17]. According to the Regulations in terms of the Allied Health Professions Act, 1982^[16], a three-year diploma in acupuncture followed by an internship is a minimum qualification requirement for the registration of acupuncturists. However, this regulation does not specify the required duration of the internship. The minimum curriculum requirements were further stated in the Act, which were listed as follows: (i) anatomy; (ii) biochemistry; (iii) botany; (iv) chemistry; (v) electro-stimulation; (vi) evaluation and treatment of myofascial pain syndromes; (vii) moxibustion; (viii) needling techniques; (ix) neuroscience; (x) pathology; (xi) pain research; (xii) physics; (xiii) physiology; (xiv) psychology; (xv) theory of myofascial pain syndromes; and (xvi) zoology. The ancillary subjects were (i) emergency care; (ii) ethics and jurisprudence; and (iii) practice management.

In alignment with the Regulations in terms of the Allied Health Professions Act, 1982^[16], TCM (including acupuncture) higher education was first introduced at the University of Western Cape (UWC) in 2003^[18]. This was a five-year, double bachelor's degree programme, consisting of 420 credits^[19]. This programme consisted of two separate degrees: the Bachelor of Science Degree (Complementary Health Sciences) and the Bachelor of Complementary Medicine Degree in Chinese Medicine and Acupuncture. The Bachelor of Science Degree was designed for three years, followed by the Bachelor of Complementary Medicine Degree in Chinese Medicine and Acupuncture, which was completed over two years. The core curricula focused on both TCM and biomedicine content^[19]. However, this institution has discontinued all new enrollments as of 2019 because of the failure to satisfy the quality evaluation^[18]. In 2019, the University of Johannesburg (UJ) started offering an acupuncture programme as an integrated part of the Bachelor of Health Sciences in Complementary Medicine (BHScCM) programme^[20]. Another acupuncture postgraduate programme, the Postgraduate Diploma in Acupuncture, has been offered since 2021^[20].

The BHScCM is a four-year, full-time course with a total of 480 credits (one credit equals ten notional hours), offering training in acupuncture therapeutics with the choice of electives in other complementary medicine modalities. According to the South African Council on Higher Education (CHE)^[21], a professional bachelor's degree aims at preparing graduates for professional training, postgraduate studies, or professional practice in a wide range of careers. The BHScCM programme was designed in consultation with the AHPCSA, which was in alignment with the requirements of CHE^[21]. A minimum of 480 credits is required for this degree. This programme comprises theoretical and practical content in acupuncture and biomedicine. Students are required to participate in no less than 370 notional hours of clinical practice to meet the requirements of this programme.

The authors are of the opinion that there is a need to acquire an in-depth perception of the current acupuncture education in SA. This view concurs with Brosnan et al.^[22], who highlighted the importance of studying the contextualised experience of acupuncture programmes to adapt to particular contexts. **Table 1** provides a comparison of the core content knowledge of acupuncture programmes to ensure students acquire adequate knowledge and skills for acupuncture clinical practice, according to the recommendations by WHO, Fujian University of Traditional Chinese Medicine (FJTCM), and a South African HEI.

Table 1. Comparison of core content knowledge of acupuncture programmes among WHO, FJTCM and a South African HEI^[10,23–27].

Content	Descriptions	WHO (Hours)	FJTCM (Hours)	South African HEI (Hours)
The history of Chinese Medicine	The comprehensive Chinese Medicine history is introduced.	16	32	10
The basic theory of Chinese Medicine	Various theories in Chinese Medicine are explained.	96	80	80
The diagnostics of Chinese Medicine	The key diagnostic techniques are explained, including inspection, listening and smelling, inquiry, and pulse diagnosis. Various syndrome differentiation methods are made explicit.	96	80	80
General introduction to Chinese materia medica	Knowledge of Chinese Materia Medica is introduced briefly.	-	80	4
General introduction to Chinese medicinal formulas	Knowledge of Chinese Medicinal Formulas is introduced briefly.	-	80	4
Acupoints and meridians	Extensive knowledge of acupoints and meridians, as well as different needling techniques, are explained.	128 (locations & indications) 128 (needling techniques)	176	165
Therapeutics of acupuncture and moxibustion I	The definition, aetiology, symptoms and signs, treatment principles, and treatment plans of various diseases are explained, including gynaecology, paediatrics, dermatology, and internal medicine.	208	304	48
Therapeutics of acupuncture and moxibustion II	The definition, aetiology, symptoms and signs, treatment principles, and treatment plans of various diseases are explained, including gynaecology, paediatrics, dermatology and internal medicine.	-	-	112
Guideline for sterilisation and disinfection	A guideline for the sterilisation and disinfection is introduced briefly.	-	-	2
General introduction to Chinese Medicine food therapy	Knowledge of Chinese Medicine Food Therapy is introduced.	-	Elective	4
The legal framework of acupuncture in South Africa and code of ethics	The legal framework of acupuncture in South Africa and the code of ethics are discussed.	80	48	10
Clinical practice I	Students are required to see 120 patients under supervision, including a minimum of 40 new patients and 10 follow-up patients. The rest of the case can be calculated in the form of a case presentation or clinical observation.	400	960 (Internship)	240
Qigong exercises	The Qigong exercise is introduced.	-	48	2
Total hours	-	896	1888	761

3. Methodology

In this study, the authors employed a qualitative approach to explore students' views and experiences of the acupuncture programme at a South African public university. A single-case study design within the interpretivist paradigm was adopted. The authors believed this was an appropriate approach for this study since they aimed to explore the participants' lived experiences of the acupuncture programme. This view concurs with Venketsamy et al.^[28] who stated that a single case study design is suitable when the researcher has an opportunity to access the research setting. This study was conducted at a public university in Gauteng province that provided acupuncture programmes. A purposive sampling technique was adopted in this study to recruit participants. The authors invited students who responded to the invitation poster displayed on campus to voluntarily participate in the text-based interviews. The inclusion criteria were as follows: a) participants had to be registered for the BHScCM; b) participants must register for the second, third, and fourth years of their study in the acupuncture programme; c) participants must be over the age of 18; d) participants must express their willingness to voluntarily participate in the study by signing the research consent forms. Six students agreed to participate in this study. **Table 2** demonstrates the participants and the respective codes used in the data analysis. Pseudonyms were used to ensure the confidentiality and anonymity of the participants.

Table 2. Biographical data of participants.

Pseudonyms	Gender	Year of study
P1-Y2	Female	2nd-year
P2-Y2	Male	
P3-Y3	Female	3rd-year
P4-Y3	Female	
P5-Y4	Female	4th-year
P6-Y4	Male	

In this study, the authors adopted multiple techniques to collect data. These techniques included text-based interviews, observation schedules, participants' reflective journals, and documentation. Venketsamy and Hu^[29] concurred with Creswell^[30] that the adoption of diverse data collection methods strengthens the trustworthiness of the findings. The text-based interviews took place between March 2022 and April 2022. Participants were requested to keep a reflective journal during the above-mentioned period to record their lived experiences of the programme.

Hu^[31] and Venketsamy et al.^[28] stated that data analysis is a systematic process of making sense of raw data from participants in research. Thematic analysis was employed in this study. The authors followed the six-step analysis proposed by Creswell^[30] to analyse and understand students' views and experiences of the acupuncture programme. The raw data were analysed inductively. The trustworthiness of a study is of particular importance for every research^[32]. To ensure the trustworthiness of this study, the authors employed qualitative validity criteria, which included credibility, conformability, dependability, and transferability. Diverse techniques were implemented to strengthen the validity of this study, such as a well-planned research design, appropriate research methods, debriefing, thick descriptions, audit trail, and triangulation. A research committee at a public university in Gauteng approved the ethical clearance for this study (Ref: EDU137/21).

4. Findings and discussions

The findings of this study revealed that students shared an accurate understanding of the acupuncture programme. Students also highlighted some challenges of the acupuncture programme, particularly related to

the limited clinical experience. During the data analysis, two major themes emerged from the raw data: a) students' views of the acupuncture programme; and b) students' experiences of the acupuncture programme.

4.1. Students' views of the acupuncture programme

All participants in this study had a clear and accurate understanding of the acupuncture programme. They understood that successful graduates in this programme will be eligible to be registered with the AHPCSA as acupuncturists.

To this, P1-Y2 wrote: "The acupuncture programme is meant to train students to become healthcare specialists. During the acupuncture module, we learn the basics of traditional Chinese medicine and diagnostics so that we are able to treat our patients. We will use these techniques and the acupuncture point to treat our patients."

P2-Y2 indicated: "The acupuncture programme is a course that values the teachings, beliefs, and practices of Traditional Chinese Medicine, its history, basic theories, diagnostic methods, and treatment. It teaches the core aspects of TCM, which allow us to then practice treatment methods such as acupuncture. The bases of the theory we learn allow us to treat using other methods too, such as cupping and moxibustion."

P3-Y3 added: "The acupuncture programme is a course structured to equip its students with all the basic, practical, and clinical theories used in Chinese medicine and acupuncture treatment. The first two years of the programme are structured to make the student competent in the basic theory and diagnostic theory of acupuncture. The last two years have focused on applying the learned theory to clinical practice. These years focus on teaching the student how to think and approach clinical encounters. Above the academic side of the programme, the CMA programme also educates the student about Chinese history and culture, which adds an appreciation and deeper understanding of the medical practice."

In her reflective journal, P4-Y3 wrote: "This programme is designed to train acupuncturists who will apply acupuncture to bring about cures. They will provide a holistic approach to healing using philosophy, physiology, and pathological concepts for human health and diseases."

P5-Y4 mentioned: "It is a four-year course that will allow me to be competent in practising as an acupuncture therapist."

P6-Y4 added: "The Acupuncture programme is a programme that has been designed to educate students on theoretical as well as practical applications of acupuncture."

During the observation, the authors identified that most of the participants enjoyed the programme, particularly the clinical attendance. In an informal discussion, P4-Y3 indicated that she felt the acupuncture programme was very exciting and well-constructed in terms of how it was laid out for the student. She also highlighted the clinical aspect of the subject as the most exciting aspect. She concurred that she had noticed that learning Chinese medicine and acupuncture during a pandemic had proven to be a very useful practice.

The South African Government acknowledges the contribution of acupuncture to improving public health; therefore, acupuncture professional education is available in public universities^[20]. According to AHPCSA^[6,7], the limited number of acupuncturists in SA significantly restricts the accessibility and availability of acupuncture services to the public. The acupuncture programme at the identified HEI aims to fill the gap of a lack of acupuncturists in SA^[20]. The findings of this study concur with CHE^[21] and UJ^[20] that a well-developed and delivered acupuncture programme will assist in improving the capacity of acupuncture service providers. The author thereafter contends that it is of profound significance for the identified HEI to develop a professional acupuncture programme in alignment with international standards. The availability of

acupuncture programmes in the South African HEI will promote the capacity development of acupuncture in SA.

4.2. Students' experiences of the acupuncture programme

Although all participants agreed on the importance of the acupuncture programme, some participants highlighted some challenges in their study. They believed that there was limited clinical exposure in the programme, which negatively affected their competency in clinical practice. The primary challenges highlighted by the participants were the limited clinical training hours and clinical training facilities.

P1-Y2 wrote: "I have completely enjoyed learning and studying this module, even though it has been tough at times. I have learnt a lot about the topic and how it is used to treat patients. This module has given me an understanding of what will be required of me later in life. I do wish I could observe clinical practice in my first year."

P2-Y2 stated: "I would like to have more opportunities to attend clinical duties. However, I'm greatly satisfied with the content of the programme as well as the practical elements. I believe it provides adequate preparation for real-life cases."

P3-Y3 highlighted: "I also felt I didn't have enough needling practice during the second year. I feel the students would benefit from more regular needling classes. Overall, I find acupuncture my favourite course in the Complementary Medicine degree."

Both P3-Y3 and P4-Y3 agreed that it had been a difficult yet at the same time exciting experience. It entails a lot of hard work and dedication. It is quite challenging at times, with so much to take in and understand. During this course, they developed the ability to think critically and creatively.

P5-Y4 mentioned: "The acupuncture programme has been a truly wonderful programme to study. The knowledge, both practical and theoretical, that I have gained from this programme has been truly incredible. I do wish that we had more time to engage with the topics that we covered in the second year, as I feel it would have created a far stronger foundation to lean on when dealing with therapeutics later on."

In her reflective journal, P5-Y4 wrote: "The knowledge, both practical and theoretical, which I have gained from this programme, has been truly incredible."

P6-Y4 stated: "It has been a very challenging journey so far. I couldn't understand the content at first because I thought it always contradicted what I already understood from the conventional side of medicine."

In the field note, the author noticed that some participants were not familiar with acupuncture clinical practice. Particularly, participants from their third year of study did not express their confidence when seeing patients. The researcher believed this was due to the lack of clinical exposure in their previous years of study.

According to the WHO^[10], professional training for acupuncturists requires a minimum of 1568 h. Literature reveals that there is a significant shortage of clinical hours in acupuncture at the South African HEI^[10,23-27]. Despite the participants in this study expressing positive attitudes towards the acupuncture programme, they reported that there was limited time in the programme. They believed they would benefit more if there was sufficient time in the programme, particularly with regard to clinical practice. Owing to the limited clinical training facilities, students in the first and second years are not able to attend clinics, which negatively affects their competencies in clinical practice.

5. Conclusions

There is an increasing demand for quality acupuncture services. This is particularly critical in SA, where there are a limited number of registered acupuncturists^[6,7]. There is a need for South African HEIs to provide quality training for acupuncture through high-quality educational programmes. This study was limited to exploring students' views and experiences of an acupuncture programme at one HEI in SA. The reason is that the identified HEI is the only HEI that provides professional acupuncture programmes in this country. The acupuncture programme at the identified HEI is designed to train professional acupuncturists. The data indicated that there was insufficient time in the acupuncture programme compared to the international designs of the programme. The limited time in the programme negatively affected students' competencies in clinical practice in the world of work.

6. Recommendations

Although this study adopted a qualitative approach, the authors contend that this is not the only way of exploring the contextualised acupuncture programme. However, the authors hope this study will raise greater awareness of the importance of high-quality educational programmes in the African continent. The authors followed rigorous strategies to strengthen the trustworthiness of this study; the subjective interpretation in the interpretivism paradigm was also seen as a limitation.

Based on the above conclusions:

- It is further recommended that sufficient time be allocated to the acupuncture programme at the HEI, particularly in clinical practice. It is recommended that the HEI and policymakers consider standardising the requirements for clinical practice in the form of internships for graduates before their full registration as acupuncturists^[22,23].
- It is recommended that the design of the acupuncture programme be in alignment with international standards.
- It is also recommended that HEIs should provide adequate facilities for clinical training since this will improve students' competencies in the world of work.
- Future research should be conducted at international HEIs to explore students' lived experiences of their educational programmes in different countries with diverse research approaches.

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Conflict of interest

The authors declared that there were no conflicts of interest.

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