Clinical education in the osteopathy program at Victoria University.

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ABSTRACT

Health professionals typically undertake some form of clinical training prior to graduation from a pre-professional education program. This can take place in a variety of settings including hospitals, out-patient clinics and in private healthcare facilities. Whilst there is a substantial body of literature that describes clinical education in areas such as medicine and nursing, there is very little in osteopathy. The purpose of this paper is to present an overview of clinical education in the osteopathy program at Victoria University. It is anticipated this will provide a basis for further discussion and research into an area that has limited coverage in the literature.

INTRODUCTION

Clinical teaching is the cornerstone of most health professional education programs and provides students with an opportunity to provide quality patient care,[1] and to develop the skills, attitudes, and values required to manage patients once they become a qualified professional.[2] The premise of clinical education is that students with pre-clinical skills are exposed to a clinical environment under the supervision of qualified practitioners to develop their skills and knowledge as a health professional, above and beyond that which can be in cased-based tutorials.[3] The qualified practitioners provide the student with guidance about the management of patients, demonstrate clinical skills and model communication with patients, peers, and other health professionals.

Clinical teaching and education have been described at length in the medical, nursing and physical therapy literature, however there is very little about the way clinical education is undertaken in osteopathy. The basis for this paper is to provide an overview of clinical education in the osteopathy program at Victoria University (VU). It is anticipated that by presenting some background information on clinical education at VU, a discourse can commence that considers the challenges of such education, and provides ideas for further research into this important aspect of the development of future osteopaths.

Osteopaths and osteopathy teaching programs in Australia

Osteopaths in Australia are government registered primary healthcare professionals, that is, for most situations a referral from a medical practitioner is not required. As such, the primary healthcare role requires the osteopath to have an understanding of the pathophysiology of a wide

variety of diseases so that patients who are suitable for osteopathic treatment but also have coexisting conditions, are managed appropriately and effectively. In addition, this role also requires the recognition of those conditions that are not amenable to osteopathic treatment and refer appropriately. Training is currently undertaken in a university setting over a 5 year period where students learn the subjects related to osteopathic examination and techniques as well as the biomedical sciences, clinical examinations, medical knowledge (i.e. pharmacology, diagnostic imaging interpretation) and common health conditions that may present in clinical practice.

The current paper discusses the model of clinical education currently used in the combined 5-year Bachelor of Science (Clinical Science) and Master of Health Science (Osteopathy) program at VU. This program has been accredited by the Australian and New Zealand Osteopathic Council (ANZOC) in line with the Accreditation Policy.[4] This policy includes references to clinical training and education that accredited programs are required to demonstrate. The policy does not recommend the minimum hours, minimum number of patient treatments, number of observations for a student to complete, or clinical educator to student ratios. The Accreditation Policy requires students gain

> *"…extensive clinical experience in screening, diagnosis, treatment and health management for a diversity of patients and clinical conditions under the supervision of experienced osteopathic and other health care practitioners. The expected outcome is graduates who are able to independently practice osteopathy safely and competently and recognise when referral to other practitioners is necessary."*[4]

At the end of a program, graduating students are eligible to apply for registration with the Osteopathy Board of Australia or the Osteopathic Council of New Zealand.

Clinical education at Victoria University

VU is a government-funded university that has campuses in central and western Melbourne, Australia. The university has a number of health profession programs including nursing, psychology, nutrition and dietetics, exercise physiology and paramedics.

facilities

The majority of the clinical education takes place in campus-based clinical facilities at VU. There are two clinic facilities; a 16-room facility located in the central business district in Melbourne and a 10-room facility in the western suburbs of Melbourne at St Albans. Both facilities are also equipped with a rehabilitation gymnasium. All clinical records are retained on computer. The teaching clinic is open to the general public and can be described as both a student-led clinic[5] and patient-care environment.[6]

Students are engaged in the day-to-day running of the clinic (making appointments, receiving phone calls, processing payments) and manage patients under the supervision of registered osteopaths in order to develop their skills and confidence as a practicing health professional. This setting provides for 'relative' learning in the context of the environment the student will enter upon graduation,[7] and as the clinic is open for 48 weeks of the year it provides the student with continuity, both in clinical education and patient care. The student will generally work with the same clinical educator(s) for at least 16 weeks of the year at which point they have the opportunity to move to another day in order to broaden their exposure to different clinical educators and

potentially, different patients. In their review of LIC's, Thistlethwaite et al.[8] used 13 weeks as the cutoff point to distinguish between longitudinal and block placements.

administration of the clinics

The clinics have two academic clinical coordinators (BV and PF), an administrative clinical coordinator and a clinical placement assistant. The academic clinic coordinators are qualified osteopaths who have an emphasis on curriculum development and assessment, and are responsible for the overall running of the clinic – student welfare issues, the recruitment and training of clinical educators, assessment activities and assisting with clinical supervision. The administrative clinical coordinator is responsible for the day-to-day running of the clinic at the St Albans campus which also has a nutrition and dietetics clinic. The clinical placement assistant works with the academic clinic coordinators on student rostering, recording of student assessments and hours requirements and general administrative duties associated with the daily running of the clinic.

patients

Patient census is the term used by Hoffman and Donaldson[9] to describe the number and type of illnesses along with the acuity of these patient, as these factors influence clinical teaching. Therefore a range and number of patients are required for a positive and influential teaching environment. There are approximately 12 000 unique patient visits to the clinics each year with a variety of presenting complaint sites: low back (26%), neck (18%), shoulder (14%), thoracic spine (12%), headache (6%), knee (5%), foot/ankle (3%) and other (hip, upper extremity, visceral

complaints – 16%). These percentages approximately reflect the primary complaint site data presented by Burke et al.[10] in their study of Australian osteopathic practice.

students

Students undertake clinical education subjects throughout the 5 years of the program. In years 1 and 2 these subjects focus on the development of the basic skills of a healthcare professional such as communication and clinical history taking. Student in years 3 to 5 are primarily situated in the VU Osteopathy Clinic and complete 5-hour shifts. For those students in years 4 and 5, this provides them with the opportunity to treat up to 5 patients in this time, along with opportunities to complete their patient clinical histories and informal learning with their Clinical Educators.

Students in the VU program will spend up to 34 weeks consecutively in the clinic over the period of a year, so it provides an opportunity to work with a Clinical Educator to develop the skills and attributes of a health professional as well as follow the progress and outcomes of the patients they have treated; a direct form of feedback and formative assessment.[11] Anecdotally this style of clinical education is widely used in osteopathy, particularly in Australasia.

Students in the final year of the Bachelor program (year 3) start in the VU Osteopathy Clinic with two main goals. The first is to participate in patient care where they observe the year 4 students managing patients as well as negotiating a role in assisting the treating student that meets their level of confidence and experience. This may include making notes in the clinical history during the consultation, parts of the examination and some treatment. The impact of the year 4 students being role-models for the year 3 students provides for an interesting discussion and has primarily

been put in place for pragmatic reasons such as student timetabling and end-of-year patient handovers. How much of an impact this arrangement has on the development of the year 3 students is unknown at this time. The second goal is participation in the administration of the clinic on a day-to-day basis. This involves activities such as making patient appointments, receiving and receipting payments and answering general enquiries about the clinic and its services. The students are involved in these aspects to ensure that they have a basic understanding of how a clinic (albeit a large teaching clinic) operates. It also reinforces the communication skills learnt previously as they are now interacting with patients, the general public, their peers and clinical educators. At the conclusion of year 3, students undertake an Objective Structured Clinical Examination (OSCE) focusing on the basic clinical and osteopathic skills required to manage a patient. The OSCE is viewed as a 'clinic entrance examination' and as such students are required to satisfactorily complete all stations before they are allowed to take individual responsibility for managing their own patients, under supervision in the Master of Health Science program.

Students in Year 4 are undertaking the first year of the Masters program and take on the responsibility of managing patients under the supervision of the Clinical Educators as well as providing some mentoring to the Year 3 students. The year 4 students do not receive any formal training around mentoring and they may not actually perceive the work they are doing with the year 3 students as mentoring. Basic mentoring training may improve the immediate clinical education experience for both the year 4 and year 3 students, as well as have positive long-term impacts.[12] The supervision provided by the Clinical Educators is tailored to the student based on their current competence and confidence with patient management. In addition, the Clinical Educators guide the students through the process of managing a patient from the clinical history taking to development of a management plan. The students undertake approximately 260 hours per year in

the clinic and are required to treat a minimum of 100 patients over the year where they are the principal practitioner.

Students in the final year of the osteopathy program (year 5) are managing patients under the supervision of the Clinical Educators. The supervision provided again is tailored to the competence and confidence level of the student and progressively decreases as the student nears graduation; progressing from 'student' to 'colleague'.[11] The students undertake approximately 420 hours per year in the clinic and are required to treat a minimum of 160 patients over the year. In the second half of the year, the student has the opportunity to complete half of their clinical hours in a private osteopathic practice under the supervision of a practicing osteopath. Such an opportunity provides the student with the ability to move beyond the student-led clinic environment to one that they will be immersed in upon graduation. Educationally, this can assist them to further develop their identity as a health professional and to expand their patient census.[9] The success or otherwise of this program has yet to be established but it does provide another avenue for teaching institutions to consider as part of their clinical education program. Anecdotally, students who have participated in this opportunity have found it to be a positive learning experience. From an administrative viewpoint, it is prudent to ensure that the supervising practicing osteopath enters into a formal arrangement to take on the student and that their practice can provide the necessary supervision.

An overview of the requirements and objectives for each year level is presented in Table 2.

INSERT Table 2 here

clinical educators

The Clinical Educators in the program are registered osteopaths with more than 3 years clinical experience. There are 27 Clinical Educators and on average, they have been involved with the VU osteopathy program for over 5 years. At the time of writing, the clinical educators came from a diverse range of training backgrounds including VU, RMIT University (Melbourne, Australia), British School of Osteopathy (London, UK) and the British College of Osteopathic Medicine (London, UK). The Clinical Educators have the ultimate responsibility for the management of the patient but also take on an educational, assessor, facilitator and mentor role.[6] Their role is very similar to that described for other health professions, that is, to help the student see the relevance of the academic content they have learnt in other areas of the program.[13] There are typically between 10-18 students for a 5-hour clinic shift and the Clinical Educators work in a ratio of 1:5-6 students so at any one time, they may be working with another 1 or 2 Clinical Educators. This small ratio provides an excellent opportunity for the Clinical Educator to role model being a health professional, provide feedback,[11] undertake authentic assessments[11] and work with the student to develop strategies to address perceived weaknesses.[14] The cost of employing clinical educators at ratios described here could be considered to be a potential disadvantage, particularly as teaching institutions are exploring ways to improve clinical education whilst reducing the cost of delivering this education. The ability to recruit osteopaths with the qualities to excel in clinical education provides a challenge for those overseeing the process and further work should be done to identify those qualities, and provide opportunities to develop them further to the benefit of the student and patient.

Clinical education theory and practice

longitudinal clinical education

Longitudinal clinical education is a methodology to help manage fragmented clinical education approaches such as the short-term block placement used in medicine. This approach limits continuity of patient care and the development of professional relationships with clinical educators,[15] as well as impeding socialisation.[16] Continuity is important as it provides educational benefits along three lines: curriculum (formative feedback, student-centred tuition, synthesis of knowledge and skill application),[12, 15, 17-19] supervision (mentoring, role modelling)[12, 14, 15, 17, 20] and patient care (establish a relationship and rapport with patients, continuity with a patient population, understanding of psychosocial issues).[12, 15, 17-20] This is a point of difference when comparing osteopathy to some other health professions, where clinical education in these professions lacks continuity and may be detrimental to student learning,[11] particularly around the development of expertise.[16] To address the issue of continuity, the 'longitudinal integrated clerkship' (LIC) is beginning to find favour within medical programs in Australia, Canada and the United States.[11, 14, 21-26] However it is yet to appear in the literature related to other health professions, it is unknown whether this model translates to other health professions,[20] or what the long-term benefits or issues may be with the LIC approach.[27] In an LIC, students work with the same clinical educator and patients for an extended period of time (i.e. 46 weeks at one site or related sites, or more the one half-day per week[18]) rather a short 4-8 week block placement.[8] The increasing volume of literature around the longitudinal approach and its associated positive outcomes for students and patients potentially provides support for the clinical education model employed at VU.

learning theory as applied to osteopathic clinical education

The idea of situated learning and a community of practice (CoP)[28, 29] is relevant to the clinical education model at VU. These ideas have been applied to the LIC model discussed above.[30-33] In a CoP students are actively involved in the community along with establishing an identity within that community. Longitudinal approaches to clinical education may shape what the student does, who they are, and encourage participation at different levels of healthcare beyond the traditional health professional role (e.g. patient advocacy).[12] Whether the ideas of a CoP and situated learning translate to osteopathic clinical education requires further investigation. However, given its application to longitudinal clerkship approaches, it is an obvious starting point in the development of the theoretical basis for osteopathic clinical education. CoP's encourage increasing student participation and identity development and this ties with a modified cognitive apprenticeship model (CAM).

modified cognitive apprenticeship model

The cognitive apprenticeship model (CAM)[34] has been selected as the closest fit for the clinical education situation described for the VU Osteopathy Clinic, albeit with a number of modifications. Cross[35] suggests that clinical educators and students in pre-registration physiotherapy in the United Kingdom utilise an 'apprenticeship' model. The Method principle within the CAM approaches instruction using 6 steps (Table 1) and they have been used in medical, nursing and physical therapy education.[36] The definitions used in Table 1 have been modified from Page and Ross as appropriate for the clinical teaching setting at VU and is not intended to provide an in-depth review of the CAM model.

INSERT Table 1 here

The discussion provided in the current paper thus far highlights that we can only hypothesise the theoretical basis of osteopathic clinical education. Regardless of the theoretical model, development of one's identity as an osteopath and health professional underpins the clinical education process.

Assessment and records

Students keep a log-book of their hours completed in the clinic, the patients they have seen along with records of formative assessment activities such as learning plans. Gerzina et al.[6] assert that these types of logs can enable reflection. Students also undertake a range of competency assessments during their clinical education. These include an OSCE, a number of mini-Clinical Examinations (min-CEX), written assessments and a portfolio.[37, 38] The assessments are undertaken at different times during the program; some such as the OSCE and written assessments at certain times of the year, or the mini-CEX undertaken during the student's time in the clinic. All of these assessments contribute to the final grade for the clinical subjects; satisfactory or unsatisfactory.

The clinic as an environment for research and innovation

There is much that we do not know about osteopathic clinical education and this should be an area of research that teaching institutions focus upon. Ideas around the qualities and experiences of clinical educators, impact of length of time in a clinical training environment, influences on student

professional behaviours, patient experiences and outcomes with osteopathic clinical education, and the link between the classroom and the clinical learning environment all require exploration. The influence of the 'hidden curriculum' on osteopathic clinical education also provides an avenue for further research. Research that is being undertaken in the VU clinic is related to the psychometric properties of the competency assessments, development of tools to assess the quality of clinical teaching as well as research projects investigating various aspects of the osteopathic management of patients. All of these activities are designed to support the evidence informed approach that underpins clinical teaching and continue to improve the learning environment at VU.

CONCLUSION

This paper provides an overview of the clinical education program in the osteopathy program at VU. The clinical education program and the VU Osteopathy Clinic facility provides students with an opportunity to learn and develop as healthcare professionals in a professional and semi-authentic environment. What works for one institution with regard to clinical education may not work, or be suitable, for another and the authors hope that the description provided here stimulates further discussion and research into clinical education in osteopathy.

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Table 1. Strategies and definitions of the 6-step Method principle of the CAM.

Strategy	Definition
1. Modelling	Provides students with a framework by which they can apply their skills and knowledge in the clinical education setting. This modelling can come from the Clinical Educators, peers or senior students already performing these tasks.
2. Coaching	The Clinical Educator provides the student with guided feedback about their performance or demonstration of how to perform a particular task or activity. This can assist the student in achieving a higher-level of expertise.
3. Scaffolding	Support for the student is provided throughout the consultation whether that be specific questions and instructions to assist the student with breaking down a task or providing reminders about aspects of the management of the patient to think about and act on.
4. Articulation	The student is afforded the opportunity to describe their thought process and reasoning in relation to the clinical case or activity at hand. This allows the Clinical Educator to assess the reasoning process and provide suggestions to the student to clarify in their own mind the information discussed.
5. Reflection	A higher-order process where the student is encouraged to look back on what they have performed and compare this to previous experiences in order to learn and develop as a health professional. The Clinical Educator may provide guidance to the student in this process.
6. Exploration	Leaving the student to manage the patient with minimal intervention from the Clinical Educator, thereby using their own knowledge and skills to solve problems they will see once they have graduated as a health professional. This step also allows the Clinical Educator to encourage students to think laterally and utilise a range of information sources.

Table 2. Overview of requirements and outcomes for each year level.

Year Level	Hours	Patients	Outcomes
Final year bachelor degree	210 hours per year	• Observation of 100 patient interactions • Minimum of 10 'co-treatments' with a first year masters degree student*	• Develop an understanding of the operation of the student-led clinic environment • Contribute to the management of patients in conjunction with a senior student • Demonstrate the ability to safely manage a patient
First year masters degree	260 hours per year	• Treatment and management of a minimum of 100 patients under supervision	• Develop the ability to manage a range of patients and presenting complaints in a safe and competent manner
Second year masters degree	420 hours per year	• Treatment and management of a minimum of 180 patients under supervision	• Safely and competently manage a patient using a variety of osteopathic approaches and techniques • Apply evidence informed principles to the management of patients

* student is required undertake at least 30% of the patient consultation

STATEMENT OF COMPETING INTERESTS

Brett Vaughan is a member of the Editorial Board of the International Journal of Osteopathic Medicine but was not involved in review or editorial decisions regarding this manuscript.