

Essential non-clinical skills and training required by dentists in South Africa

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INTRODUCTION

Dentists possess clinical experience garnered within supervised clinical settings, primarily aimed at diagnosing, treating and preventing oral cavity related diseases.¹ Undergraduate dentistry training mostly focuses on the scientific underpinnings of this discipline and building clinical experience, not allowing adequate time for additional coursework.¹ According to Haslach et al.,² dentists choose dental careers because they want to help and work with people, as well as desire job and financial security. The current economic downturn has led to a revenue plunge for many independent dental practices, attributed partially to less per capita patient expenditure.³ In response, patients have increasingly embraced preventative measures over more costly procedures, seeking to minimise expenses.⁴ The global financial crisis further underscores the value of leadership development, given its potential impact on the efficacy of clinic leaders.⁵

The movement towards outcomes-based medical education was prompted by the escalating demand for heightened accountability across all facets of modern medical professions.⁶ Healthcare professionals have to respond to societal needs and healthcare education should align with these requirements. Education in the healthcare sector must embrace a “begin with the end in mind” approach, focusing on equipping graduates with the skills needed to meet the requirements of those they serve and achieve desired healthcare outcomes.⁶

Additionally, new dentists must perform a variety of administrative tasks, such as bookkeeping, financial forecasting, retirement planning, human resources, understanding insurance policies, purchasing equipment, keeping track of inventories and advertising. Dentists must be proficient in these areas to lead and manage a successful enterprise. Success in a private practice depends on excellent business and communication skills and self-discipline – aspects that often receive secondary attention in dental education.¹

Leadership stands as a pivotal skill requisite for transforming the dental profession, spearheading innovation and navigating novel challenges. Recently, the number of leadership development programmes for dental practitioners has proliferated, attesting to a growing interest in developing this essential skill.⁷ The need for effective leadership across all aspects of dentistry such as dental education, dental public health and clinical practice has also been recognised in the literature.⁸

Similarly, Patel et al.⁹ reported that practitioners in private practice also advocate for fostering leadership abilities in dental students as there is lack of these qualities in practice. Given South Africa’s (SA’s) healthcare challenges, acquiring leadership skills may enhance healthcare outcomes by fostering collaborative efforts among healthcare professionals.¹⁰ Viable dental practice also linked to the delivery of high quality care.¹¹ Dental practices operate as complex entities, often comprising a dynamic mix of dental experts and team members working together to provide high quality dental care. Inevitably, dentists must assume a leadership role even though they do not have the requisite skills.¹² Universities face the difficult task of nurturing graduates who are able to run a dental practice. The Medical Leadership Competency Framework (MLCF) stands as a prominent model emphasising leadership training.¹³ The MLCF describes the leadership competencies healthcare professionals must cultivate to actively engage in planning, delivering and transforming patient services. Dental Practice Management is included in the undergraduate curricula of some South African dental schools. It is designed to develop and improve communication, leadership, management and marketing skills.¹⁴ However, these non-clinical skills should holistically be integrated into dental curricula, in addition to their clinical abilities.¹⁵ In 2016, Van der Berg-Cloete et al.¹⁶ described students’ viewpoints on the need for leadership and management training and the most essential non-clinical skills. However, key stakeholders’ opinions on the need for management and leadership training and essential non-clinical skills in dentistry have not been investigated in the South African context. In this study, we assessed key stakeholders’ perceptions on essential non-clinical skills for dentists in SA and how these skills can best be taught.

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Author’s contribution

- | | |
|--------------------------------|------|
| 1. Michelle Olubunmi Tukur | 100% |
| 2. Dr L Snyman | 100% |
| 3. Prof TC Postma | 100% |
| 4. Prof SE van der Berg-Cloete | 100% |

METHODS

The University X Research Ethics committee approved the study (352/2016).

Study design

This was a qualitative study. Senior managers (SMs) and recently qualified dentists, who are referred to as young dentists (YDs) in this study, were purposively sampled. Fifteen SMs were identified through referrals by oral health professionals, academics at the University X and internet searches. Dental professionals were registered with reputable public and private oral health organisations,

including the Dental Professionals Association, SA Dental Association, SA Military Health Services, group practices (Intercare and Medicare), Public Health Services (National Department of Health and regional Tshwane district) and five private dentists. SMs represented the views of key oral health experts and professionals in SA because of their experience and position in the oral health field. YDs were sampled from the Young Dentists Council.

All 39 registered YDs were invited to participate in the study; of these, 11 consented to participate. The YDs graduated between 2002 and 2015 were younger than 35

Table 1: Senior managers' list of non-clinical skills to teach dental students as depicted by the domains of the Medical Leadership Competency Framework (MLCF)

Personal qualities		Working with others			Managing services			Improving services		Providing strategic direction
A3: Self development	A4: Acting with integrity	A1/B2: Building and maintaining relationships	B0: Building networks	B1: Develop networks	C0: General management skills	C2: Managing resources	C3: Managing people	D2: Critical evaluation	D3/E1: Encouraging innovation	E1: Identify contexts for change
SM01					1. Practice management	4. Financial management		2. Critical thinking		3. Policy perspective
SM02			2. Interpersonal relationships		1. Management					
SM03		2. Professionalism 3. Ethics	1. Communication 4. Interpersonal relationships							
SM04	4. Knowledge		1. Leadership							
SM05			2. Communication		3. Management					
SM06			1. Communication		4. Practice management	3. Marketing				
SM07						2. Finance	4. HR			
SM08						3. Marketing				
SM09			1. Communication		2. Business	3. Finance				
SM10			3. Communication		2. Business	1. Finance				
SM11						4. Marketing				
SM12		2. Personal behaviour 4. Professionalism								
SM13	4. CPE		1. Interpersonal skills		2. Business skills	3. Marketing				
SM14										
SM15										
SM16										
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years old and from the public (n = 5) and private (n = 6) sectors. Four of SA's nine provinces – Gauteng, KwaZulu-Natal, Mpumalanga and Western Cape – were represented. Participants were invited by telephone call or email. The study's title, purpose and expectations were all described. Only those interested in participating signed an informed consent form.

2.2 Data collection

Data were collected during semi-structured, one-on-one or telephonic interviews.¹⁷ Open-ended questions were posed to SMs and YDs: What are your opinions about dentistry in SA? What are the important non-clinical skills to teach students? Do you believe there is a need for leadership and management training in dentistry in SA? The YDs were also asked whether their dental education equipped them with necessary non-clinical skills to operate an efficient dental practice.

2.3 Data analysis

To maintain anonymity, codes were assigned to each participant, namely SM01–SM14 (SMs) and YD01–YD11 (YDs). During the interviews, responses to the questions were audio-recorded verbatim, transcribed and then thematically analysed. Non-clinical skills were interpreted using the MLCF.^{13,16} We further calculated the frequency of responses to support the weight of each theme.

RESULTS

3.1 Non-clinical skills in dentistry

The SM and YD responses to the question on the four non-clinical skills required by dental students are summarised in Table 1 and 2. According to the adapted MLCF, their answers were categorised as shown below.

Fourteen SMs revealed 54 non-clinical skills. Of the 54 skills, 61.1% were within Domain C (managing services) (57.4%) and Domain D (improving services) (3.7%). Other skills fell within Domain A (personal qualities) (16.6%) and Domain B (working with others) (22.2%) (Table 1).

SMs rated critical non-clinical skills as follows: financial management (16.6%), business skills (11.1%), marketing skills (9.2%), communication (9.2%), practice management (7.4%), interpersonal relationship skills (5.5%), ethics (5.5%), professionalism (3.7%), leadership skills (3.7%), general management (3.7%), human resource management (3.7%) and others (3.6%) (Table 1). Working with others, respect, telephone etiquette, critical thinking, dental coding, entrepreneurship, knowledge, personal behaviour, continuous education and policy perspective skills were among the skills in the Others category.

The YDs identified four non-clinical domains and listed 43 skills as essential non-clinical skills to train dental students. Skills fell within Domain B (the ability to work with others) (37%) and Domain A (personal qualities) (19%), Domain C (managing services) (42%) and the least in Domain D (improving services) (2%).

During the interview, when asked to rate non-clinical skills, YDs reported communication (16%), ethics and morality (16%), leadership (14%), teamwork (7%), general practice management (7%), business skills (5%) and others (2%). Others included business ownership, administration, human resources, financial management, labour legislation, time management and standard operating procedures.

Participants stated the following:

“Big gap for advocacy for dentistry to be prioritised in health agenda. Therefore, we need leaders in dentistry who will collaborate dentistry with private stakeholders and boost the economy” (SM03)

“It is needed because it's important to be taught leadership to learn how to lead the team, then management to help to manage the business” (SM08)

“There is a high need. Challenges are being faced which requires a different approach in terms of management and leadership training” (YD03)

3.2 Delivery of management training in the South African context

Based on SM's responses, three broad themes emerged related to management training: (1) undergraduate level only, (2) undergraduate level with a postgraduate follow up, and (3) postgraduate level only.

Regarding theme one, four SMs agreed that management training should be taught at the undergraduate level. Although there is a lack of undergraduate training, there is a strong expectation that students should be taught management abilities as part of their undergraduate education. SM03 opined that management training should be delivered via short courses offered by business schools. Management training should include supply chain management, financial management, risk management and human resource management courses.

“The best time is in the final years where 4th/5th year students should be exposed to full functional setups, to be taught management skills” (SM08)

“It is best acquired in undergraduate study; should significantly include non-clinical skills mentioned above with equal focus on clinical skills” (SM01)

“While in undergraduate level, presented by professional associations...” (SM10)

Five YDs agreed that the optimum period to teach managerial skills to dental professionals was during their undergraduate years.

“This should be part of the dental educational system from day one and I don't think it's professional for doctors or other dentists to teach management unless they are qualified in that regard. Someone with experience of management at the corporate level to be involved and not just for a year or two but training should be from the beginning” (YD10)

“As an undergraduate course at least by third year” (YD08)
“Professionals should come train at the undergraduate level in the universities” (YD05)

“Definitely in undergraduate like in 4th year perhaps in the form of research before graduation” (YD04)

Regarding the second theme, six SMs agreed that management skills should be taught at the undergraduate level with a postgraduate level follow-up. Dentists who have their own practices will be more cognisant of their specific issues and will likely benefit from further postgraduate management training. Management training could take the

Table 2. Young dentists' list of non-clinical skills to teach dental students as depicted by the domains of the Medical Leadership Competency Framework (MLCF)

	Personal qualities			Working with others		Managing services			Improving services
	A1: Self awareness	A2: Self management	A4: Acting with integrity	B0: Building networks	B3: Working in teams	C0: General management skills	C2: Managing resources	C3: Managing people	D3/E1: Encouraging innovation
YD01	3. Morals	2. Ethics	1. Communication 4. Leadership						
YD02		3. Stress management		1. Communication		4. Standard operating procedures		2. Staff management	
YD03			2. Ethics	3. Communication		1. Business			4. Entrepreneurship
YD04			4. Ethics		3. Team-work	1. Practice management	2. Dental finance		
YD05			4. Ethics	2. Leadership	3. Teamwork	1. Business 5. Management			
YD06				1. Communication 3. Leadership			2. Time management		
YD07				1. Leadership		2. Management			
YD08			1. Ethics	2. Leadership	3. Teamwork		4. Financial management		
YD09			1. Ethics	2. Leadership		4. Admin and scheduling 5. Management			
YD10				2. Written Communication 3. Verbal communication	4. Practice management	1. Taxes			
YD11						1. Practice management 2. Medical aid		3. Human resources 4. Labour laws	

form of continuous professional development (CPD) forums or presentations made by professional bodies.

“Introducing it as a course in the undergraduate level either within a year or as a six-month module and then continuous training in the postgraduate level” (SM13)

“Should be included in the undergraduate curriculum from a management company to be included as a module. Then follow up in the postgraduate level” (SM04)

“The days of someone standing in front and lecturing to practitioners/individuals are numbered. Most would prefer to educate themselves with online possibilities, which they can do after hours (less travelling). Female dentists for fear of personal safety will not travel to CPD meetings in the evenings. So this will allow all interested dental professionals to learn from the online materials in the safety of their homes” (SM12)

Five YDs agreed that managerial training should be delivered at all educational levels, from the undergraduate

to the postgraduate phases. Management is a valuable skill that should be developed from early on in their career.

“Good to be delivered at all levels. High school, undergraduate and postgraduate levels. Not as a separate course but incorporated into the clinical courses” (YD01)

“Yes, sufficient lectures were given, however not appreciated because as a student I was more focused on the clinical aspect. So regardless of how well the university prepares the students with non-clinical skills it cannot be sufficient. In the postgraduate phase the professionals will need to appreciate the knowledge and skills learnt by adding more to them through extra training” (YD09)

Regarding theme three, four SMs agreed that the delivery of managerial training could best be delivered in the postgraduate training only.

“CPD courses at the postgraduate level will yield better responses” (SM06)

“Through postgraduate training but not long term like going back to school but rather short courses like CPD courses or online courses” (SM11)

“ Through postgraduate courses more than the undergraduate level” (SM05)

Only one YD (YD02) agreed with this theme. “It should be practical based. Otherwise, the knowledge would be lost. Through internship training in the dental setting” (YD02)

3.3 Delivery of leadership training in the South African context

Six SMs felt that leadership skills ought to be taught primarily at the undergraduate phase.

“Very big challenge in the South African context. Many dentists gravitate towards private practice in an isolated environment not conducive for leadership development. Leadership is acquired over time primarily through mentorship and not just formal training. Deliberate mentorship: deliberate efforts to mentor students in universities by giving them responsibilities that nurture leadership” (SM01)

“Through the use of professional experts coming in to teach the students at the undergraduate level” (SM07)

“It’s a skill that is taught through mentorship best in the undergraduate level” (SM08)

SM14 felt strongly that leadership is learnt by imitating and cannot necessarily be taught. Universities should be responsible for unpacking values, such as respect and equity, which South Africa holds as a nation.

Four YDs agreed that leadership skills should be taught at the undergraduate phase.

“Also in undergraduate level like management, leadership should be taught not only in the fourth year but throughout the dental study. It can be acquired but leadership training should be started very early in undergraduate level” (YD04)

“Through business leaders as experts coming to teach in a university classroom. Learning from a mentorship role programme in undergrad” (YD07)

“Leadership is best developed from a childhood stage where the mind starts to form. One should learn that other people matter as much as you do. Schools need to be improved and it needs to be introduced earlier where we learn how to be leaders in different ways at different times” (YD10)

Two SMs felt that leadership training should best be taught through the undergraduate phase into the postgraduate phase. One SM acknowledged that management and leadership are quite similar, and both should be taught in a formal environment, such as in an undergraduate institution. One SM believed that delivering leadership development at the undergraduate level would be very helpful in fostering information gained by coaching, mentoring and educating dentistry students as they progressed through their studies. Six YDs supported that leadership training should be offered from the undergraduate phase through to the postgraduate phase.

“Very early in undergraduate level such as in the 1st year and at the postgraduate level through the universities” (YD06)

“There should be greater motivation for leadership within the dental practice. It can be introduced as a major component of dental study and CPD courses for postgraduates” (YD02)

“Undergraduate level. Also, during postgraduate level, and then continuous learning” (YD03)

“Undergraduate basic knowledge with postgraduate more in-depth courses” (YD09)

Six SMs agreed that only postgraduate-level leadership training should be provided to dental students.

“In the postgraduate level because, as students, we focus on clinical skills and may end up not needing it after qualification” (SM04)

“Through congresses and learning from outside of South Africa by inviting someone to come in and interact with dentists, doctors and businesspeople, so the variety will help nurture ideas. Also networking sessions to meet like-minded people not necessarily in the same line of industry to stimulate one’s thinking” (SM11)

Lastly, only one YD (YD05) felt that leadership skills should be taught to dentists at the postgraduate phase only.

DISCUSSION

In this study, we asked SMs and YDs what they felt were the most important non-clinical skills needed by dentists in SA, and when these skills should be taught at SA universities. Participants expressed varying insights about when best to teach management and leadership skills, but all participants agreed that there is a dire need for management and leadership training.

Participants in this study highlighted the dire need for non-clinical skills, management and leadership training for dentists. Dentists inevitably end up leading their team¹⁸, and they will likely encounter management and leadership challenges due to not having these skills after graduation. These skills are needed to support change and innovation while empowering dental professionals to navigate these challenges.¹⁹ Various studies have demonstrated that practicing dentists agree that curricula should include dental practice management courses.²⁰ Graduates of dental schools all over the world have adequate clinical skills, but they only start engaging with non-clinical work when they open practices. Studies have revealed that many people lack these soft skills.²¹

In dental settings, non-clinical activities include self-management abilities, service management, professionalism, communication and teamwork.¹³ These skills are essential for dentists if they are to meet societal needs and maintain autonomy.²² In our study, most participants confirmed that they lacked sufficient undergraduate training in non-clinical skills to prepare them for their hybrid roles as clinicians and managers. SMs identified four vital non-clinical skills, namely financial management, business skills, communication/marketing and practice management, that should be taught to undergraduate students. These skills fall within Domain B and C of the MLCF, where Domain B encompasses working with others and Domain C includes managerial services.

These suggest that experienced SMs recognised the importance of these skill sets, particularly financial management. In contrast, YDs identified communication, leadership skills and ethics, practice management skills and business skills as the most vital non-clinical skills to teach dentists. These findings can be attributed to the fact that most of the YDs were just eight years out of school, and their main areas of interest were clinical care and related skills such as communication, leadership and ethics. This suggests that these YDs still need to learn the necessary skills to function satisfactorily at the next stage of the MLCF for managing services.

In our study, we included two groups of participants, namely SMs and YDs. These groups responded differently, likely reflecting recent changes in dental education. For example, SMs reported a lack of appreciable management training during their undergraduate studies to sufficiently prepare them for clinical practice. In contrast, YDs did receive some form of dental practice management training as part of their undergraduate curriculum but still felt unprepared for leadership roles. Dental professionals can be trained in leadership knowledge and skills,²³ yet not all dental schools have incorporated the necessary leadership skills in their curricula.^{12, 24, 25} Previous studies have confirmed that it is possible to include management and leadership training at the undergraduate level.²⁶⁻²⁸ Such training would have remarkable benefits. Aside from improving dentists' ability to lead a dental team, such training might help educators to quickly recognise future leaders. The students would develop their own aspirations and grow into an awareness of their innate leadership abilities.¹⁹ Our findings confirm that leadership training should be facilitated from the undergraduate phase through to the postgraduate phase, which is in line with previous studies.^{9, 29} For leadership training to be successful, students should be accepting and willing to participate in training.^{30, 31} Unfortunately, undergraduate curricula are often overloaded and there is not enough time for undergraduates to see the relevance of leadership training.³² Consequently, postgraduate students may find leadership and management training to be more applicable. Kabir et al.²⁸ further reported that health professionals do not always attend postgraduate courses due to lack of time, support or opportunity. They seem to prefer focusing on their clinical work, and leaving the management and leadership tasks to support staff.²⁸ Ultimately, our results, and those of previous studies,^{9, 29} support the inclusion of management and leadership training at all levels of training. The MLCF proposes that basic leadership skills such as personal qualities and working with others be included in undergraduate curricula. These skills include self-development, self-awareness, acting with integrity, communication, teamwork and the ability to build and maintain relationships. Undergraduate dental students should at the very least be introduced to managerial tasks. These skills should be expanded at the postgraduate level to include general management skills, improving services, evaluating impact and providing strategic direction. Most participants agreed that training should commence at the undergraduate level with follow-up postgraduate courses.

LIMITATIONS OF THE STUDY

The generalisability of the study may be affected due to the small sample size. It could, however, be argued that the key stakeholders who were consulted in this study were fairly representative of the incumbent organisational leadership in dentistry in SA. Young dentists also originated from multiple training institutions to give a perspective of their recent education.

CONCLUSION

Since dentists serve in a hybrid role as clinicians and managers who need to be able to provide quality dental care and establish

a profitable business, stakeholders in this study identified non-clinical skills that might be relevant to clinical treatment and practice management. To allow dentists in training to realise their leadership potential, participants unanimously agreed that management and leadership skills need to be introduced earlier in the curriculum and followed up at the postgraduate level.

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Conflicts of interest

The authors have no conflicts of interest to disclose.

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