

## Exploring the experience of postgraduate students in their transition from a health science to an educational scholarship in an African university setting

<b>Liezl Smit</b>	Department of Paediatrics and Child Health, Faculty of Medicine & Health Sciences, University of Stellenbosch	ls@sun.ac.za
<b>Rhoda Meyer</b>	Mediclinic (Pty) Ltd Private Higher Education Institution, Cape Region	rhodameyer1@hotmail.com
<b>Ilse Crafford</b>	Netcare Education, Western Cape, Netcare Hospital Management (Pty) Ltd - provisionally registered as a Higher Education Institution	Ilse.Crafford@netcare.co.za
<b>Dianne Parris</b>	Division of Physiotherapy, Faculty of Medicine & Health Sciences, University of Stellenbosch	dparris@sun.ac.za

### ABSTRACT

Calls have emerged to improve the medical education process through scholarly teaching and education research. Little is known about the development as health professions educators of students enrolled in postgraduate Master's-level programmes in an African context. This study explored the first-year experiences of students enrolled in the MPhil in Health Professions Education (HPE) at the University of Stellenbosch. The study confirms that Scholarship for Teaching and Learning (SOTL) for postgraduate students entering the health profession education paradigm from a health science background is challenging and provides pointers to advance SOTL in the South.

### Introduction

Health professions educators have a key role to play in the educational and health system reforms needed to address the challenges of the twenty-first century (Frenk *et al.* 2010). Calls from within the medical education community have emerged to improve the medical education process through scholarly teaching and education research (Whitcomb 2002).

This has led to an increase in the number of Master-level degree programmes and fellowships dedicated to health professions education (Tekian & Artino 2013). These programmes have been

found to enhance theoretical foundations in educational practices, resulting in increased self-efficacy and engagement in various educational scholarship activities (Sethi *et al.* 2016). The attainment of a postgraduate qualification has also been associated with developments in roles, leadership positions, and expanded responsibilities in medical education (Sethi *et al.* 2017). Yet, only 3% (2) of the listed Master's-level degree programmes and fellowships dedicated to health professions education globally, are situated in Africa (Tekian & Harris 2012).

One of the postgraduate programmes in Africa, the MPhil in Health Professions Education (HPE), has been offered by the Stellenbosch University Faculty of Medicine and Health Sciences, South Africa, since 2008. This two-year modular programme is offered as a web-based online course with a compulsory residential period of one week each study year. Learning is facilitated via structured study materials, written assignments and electronic contact. The programme aims to promote excellence with respect to education, research and community interaction in the field of HPE; to facilitate research in order to make a scholarly contribution to the body of knowledge in the field of HPE; and to develop leaders who can contribute to the advancement of evidence-based practice in higher education in health sciences on the African continent (van Heerden 2009).

The majority of students accepted into the programme come from a health sciences background with experience of a positivist paradigm and quantitative research methodology. Barriers to the successful engagement with the educational paradigm, and the transition from health science to educational scholarship have been reported in the literature. Documented tensions include the new learning environment, diverse student cultural and educational backgrounds with lack of academic writing skills, time constraints due to competing responsibilities and workload, lack of peer support and lack of recognition for scholarship of teaching at academic institutions (Kumar *et al.* 2011; Leibowitz 2012; Zibrowski *et al.* 2008; Sethi *et al.* 2017). Negative perceptions about the field of educational research, concerns about mastering qualitative research as form of enquiry, and identity formation issues for non-education disciplinary experts to become scholars of teaching and learning, further undermined successful transition (Taylor *et al.* 2007; Adendorff 2011).

Faculty development programmes like the sub-Saharan FAIMER Regional Institute (SAFRI) Fellowship, reported a positive developmental impact on both participants and their respective institutions (Frantz *et al.* 2015), but little is known about the experiences and development as health professions educators of students enrolled in postgraduate Master's-level degree programmes in an African context. This study aimed to investigate the educational biographies of students enrolled in the MPhil in HPE at the University of Stellenbosch and their first-year experiences of postgraduate study. Exploring the experiences of these students in their transition to an educational scholarship paradigm has implications for the design of postgraduate programmes in HPE, both locally and in the larger global South.

## Methods

A two-phased qualitative design was used. Twelve first-year MPhil in HPE students participated in Phase 1 of the study. This participatory action research project formed part of the 'Educational Research for Change in Health Science Education' module where students interviewed each other, using a list of open-ended questions constructed in advance by the module convener. Questions

included student personal details, reason for enrolment in the programme, educational biographies, research experience, apprehensions and expectations, as well as anticipated support and identified personal strengths. All students participated in the coding of the interviews and compiled reports on the data for assessment purposes.

Seven students volunteered to participate in Phase 2 of the study. Three students had at this stage either left the programme, or had asked to extend their training time. A further two students subsequently did not complete the programme in the two-year time frame. Focus-group discussion during the contact week at the start of year two of the programme explored students' experiences during the first year of study. The focus group discussion was recorded for transcription, coding and analysis.

Four of the students in collaboration with the module convener analysed the data using basic content and thematic analysis with consensus reached between investigators before final analysis. Demographic data was analysed using descriptive statistics.

This study was approved by the Health Research Ethics Committee of Stellenbosch University.

## Findings and discussion

### Participant demographics and educational biographies

Eight females and four males were interviewed during phase 1 of the study. Ages ranged from 30 to 60 years with a median age of 41 years. All students bar one were from the African continent. Most students were from South Africa (8), but there were also students from Lesotho (1), Zimbabwe (1), Nigeria (1) and Pakistan (1).

A diverse spectrum of health sciences disciplines were represented, with six participants qualified as medical doctors, five as nurses and one allied health professional. All participants were affiliated with an institution of higher education, both public and private, with teaching of under and/or postgraduate students being part of their daily jobs. Seven participants were full-time medical educators, with four mainly involved in clinical work with added teaching responsibilities, and one a full-time education administrator.

Participants entered the MPhil programme with a range of previous educational training, in terms of both level and content. Four had previously obtained a diploma or degree in education. Five participants had attended one or more courses in various aspects of teaching and learning including assessment, service learning, moderating and clinical supervision. Three participants reported no previous exposure to any educational training.

It should be noted that, despite all students being affiliated with higher education institutions, only three students had contributed to the generation of new knowledge in peer-reviewed journals in the field of teaching and learning at the time of enrolment. Five participants had attended research methodology courses or modules as part of their undergraduate or postgraduate health sciences training, but practical research experience was extremely limited. Although seven participants had some previous research experience, it was primarily quantitative, and only two had been involved in

more than one research project. Two students reported previous Master's degree experience which again included quantitative research only.

### **Motivation for Postgraduate Studies in Health Education**

Sethi and colleagues (2017) suggested that the growing expectation of regulatory bodies for medical educators to have formal training for their educational role, together with increased accountability of higher education institutions, have resulted not only in the professionalisation of medical education, but also in an increase in the demand for postgraduate qualifications in medical education.

However, these external factors did not play a major role in the motivation of participants when enrolling in the Master's programme at Stellenbosch University. Enrolment was based mostly on internal motivation and individual interest in teaching and learning. Students enrolled in the MPhil programme to become better teachers, and not necessarily better researchers or scholars in medical education:

All my life I enjoyed teaching ... I wanted to learn more so that my teaching would be better. (Participant 1)

I have always had a passion for education ... saw that I needed to enhance my skills and bring some more tools to my toolbox to be a master educator. (Participant 9)

For some, the MPhil programme was perceived as a means to validate them as health professions educators and enhance their careers:

The MPhil is important for academic reasons because I need an extra qualification that will enable me to have objective evidence that I am a medical educator. (Participant 6)

I choose it specifically because I don't want to be restricted to nursing. This is health sciences education and it's going to really expand my horizons and my opportunities ... (Participant 5)

No participant specifically mentioned that their motivation for enrolling was the desire to make a scholarly contribution to the body of knowledge in the field of HPE through research, or to become a leader in higher education in health sciences on the African continent to address health care priorities, social justice and inequalities (Burch and Reid 2011) – even though these are the stated aims of the MPhil in HPE programme at Stellenbosch University (van Heerden 2009). Later, some students even voiced their concern that they did not feel that the course influenced them to become better teachers.

This may point to a mismatch in the alignment between Master's programmes and individuals' career goals, and this has implications for the recruitment and training of those choosing to be academic health professions educators in research-intensive environments (Bartle & Thistlethwaite 2014). These findings further suggest that the professionalisation of medical education may still not be well established in Africa, as the understanding of a health professions educator's scholarly role and contribution to healthcare is far less developed than in other disciplines.

### Transitions in becoming Scholars of Teaching & Learning

It has been argued that clinician-scientists, professionals who feel at home in both worlds, are critical for healthcare as they help to link science and care. Clinician-scientists can help to connect different disciplines by signalling and addressing clinically relevant research questions and by translating research into clinical practice (Morel & Ross 2014; Yanos & Ziedonis 2006). The same is true for scholars of both a medical discipline and teaching and learning. Clinician-educators move between different professional practices and are expected to work at the intersection of epistemologically, socially and culturally different contexts. They are asked to transfer specialised knowledge from one context to another, synthesise different information sources, introduce ideas from one setting to another, and support cooperation between groups (Long *et al.* 2013). Our participants reported the need for transitions on many levels in order to become more comfortable in the world of teaching and learning at Master's level. This transition required of them to become familiar with different worldviews or paradigms and different forms of 'meaning making.'

The fact that the participants – as qualified professionals and teachers in their respective fields of medical expertise (experts) – had to become students (novices) again triggered tensions, but also new insights.

... I had this secret arrogance that it was teaching, I have been doing it for a living ... (but) it was like teaching a baby how to walk ... (Participant 4)

... Sometimes the feedback it's there but maybe you don't understand it; you don't know how to move forward. Sometimes it breaks you down ... (Participant 1)

I had one module I had to redo it, so I said ok I'll do it better this time. And actually they told me I get 50%. I was so angry I said - why should I continue? Then I realise that we give our students 50%; I never realised how painful it was! (Participant 5)

The Master's programme is offered as a part time course over two years. Competing responsibilities, limited time, and high workload were reported as major challenges for students, complicating the process of transition. By the beginning of the second year, three students had already decided to either stop or extend their time of study. A fourth student did not complete the course work or research in the second year.

I work, I have a full-time job, and the workload is quite tiresome. I have to work out a strategy to make sure I don't sacrifice either one of these. (Participant 5)

Whilst participants correctly predicted difficulties with competing responsibilities and time management; the transition from health sciences to the educational paradigm came with more dissonance and discomfort than expected. The need to develop familiarity with the specific discourse of educational scholarship with the required academic writing skills to complete modular assignments were challenging for all:

... It's a new language that I had to learn ... there's a terminology that I was not used to coming from a medical background ... (Participant 2)

I was coming into a field about which I knew that I should expect new things, but ... It was the shock of my life; I was totally in a new field. I didn't expect that... (Participant 4)

... writing itself is also a challenge ... you need to write something that is ... in a language, in a scientific language that is acceptable. (Participant 1)

Despite their interest and vast experience in teaching, few students were thus equipped with formal educational training as a foundation for further learning. For most the theory of pedagogy was new. This experience echoes that of others new to the scholarship of teaching and learning (Stierer 2008, McGaghie & Webster 2009, Murphy 2014).

Participants anticipated with apprehension the need to transition from a positivist, quantitative research paradigm to an interpretivist, qualitative research paradigm at the start of their postgraduate studies, as it tied in with the area in which most had little or no experience nor formal training:

... it is totally different from the medical background that I have. At this point in time I feel pretty intimidated ... (Participant 3)

... it is going to be a whole new domain for me in a total different sphere ... (Participant 12)

Although this is a Master's programme that expects from the student the ability to do independent research in order to qualify, the research training and experience within the group, especially in qualitative research methodology, was severely limited at the commencement of their studies and generated the most apprehension amongst students. This influenced their ability to engage with the body of educational research available and their comfort with, and mastering of, the educational discourse. Curriculum planners of the MPhil programme should take the above into consideration. It is suggested that year one should focus more on the foundational skills and knowledge needed for successful participation in the course, especially qualitative research methodology and academic writing skills.

This experience of rapid and unexpected transitions on many levels was reported by participants to be one of dissonance and discomfort:

... a point where I was out of my depth ... but leaving me in a sea like this, it was a terrible experience; it was a very awkward experience for me. I never had anything like this in my life before ... (Participant 4)

... a lot of the time we were in the dark. We didn't know where we were necessarily going ... (Participant 7)

... I found it very depressing at times that you are in an environment where you are vulnerable... (Participant 1)

Viewing these transitions through the lens of transformative learning (Mezirow 2000; Cranton 2011), these disorienting dilemmas evoked a process of critical self-reflection and discourse to questioning

assumptions, expectations, and context to achieve deeper meaning and new perspectives in their motivation for enrolling in the Master's programme, and its professional implications:

... family life, studies, work and often feelings of guilt ... what's my priorities; I sometimes wondered, why am I doing this? ... (Participant 3)

Professional identity, as defined in the 2010 Carnegie Report on Educating Physicians, is a composite of the values, beliefs, sense of affiliation, aspirations, and synchrony with the norms of the medical profession (Cooke *et al.* 2010). Monrouxe (2010) states that professional identity forms through a socialisation process in which a new professional identity is integrated with one's personal identity. This process becomes even more complex when more than one major professional discipline has to be combined.

### Roles and Identity formation

Multiple tensions associated with both becoming and being a clinician-educator have been reported (Sethi *et al.* 2017; Sundberg *et al.* 2017; Kumar *et al.* 2011). These include: the perceived need to juggle multiple roles and manage multiple intersecting identities within a broader community that does not necessarily value their educational expertise; education being seen as a vast speciality, making it difficult as a generalist to keep up to date in all areas; and difficulties experienced in executing their role to reform medical education.

Adams (2011) even implied that the combining of roles of nurse and teacher can be a 'role crisis' as it removes each concrete identity when nurse educators are unable to 'prove' to their professional ability in nursing to their colleagues and their organisation, or establish their professional position as a teacher. Not surprising then that Taylor and colleagues (2007) reported that medical educators teaching in a clinical setting, identify themselves foremost as clinicians and physicians, and only secondarily as educators. Similarly, one year after nurse and physiotherapist professionals have completed a postgraduate Master's degree in research, they still identified the role of scientist as complimentary or additional to that of their clinical role.

The transition from clinician to clinician-educator requires the development of a new professional identity, and the successful education of these professionals requires insight into how they develop their professional identity and how they combine distinct practices (Kluijtmans *et al.* 2017). The ability to function competently in multiple contexts and connect different disciplines does not per se result from postgraduate training in education, and should therefore receive explicit attention in Master's programmes (Kluijtmans *et al.* 2017). Participants in our study were just starting to contend with their new and multiple professional identities and roles:

... What is my career path? I'm afraid for me it's not very clear ... it's like I'm being pulled into different directions ... (Participant 4)

... when I speak to other(s) ... who are not involved in education, that's when I realised that there is a divide. (Participant 7)

Roccas and Brewer (2002) theorised four possible models by which individuals maintain a single representation of identity in the face of multiple non-convergent group identities: intersection (an individual forms a unique identity with properties that make it distinct from any of the individual group membership); dominance (the individual adopts a primary identity to which other group memberships are subordinate); compartmentalisation (identity is context or situation specific); and merger (non-congruent identities are combined to generate a new identity that is a sum of the individual identities). At this stage of participants' identity development it is unclear which model is being adopted. This should be researched further as Rosenblum and colleagues (2016) warn that professional identity may be threatened at one or more stages during the educational and career development pathway when the different discipline knowledge has not been sufficiently integrated to generate a professional niche in which the values and skills of both domains complement rather than compete with each other.

### Participation in a Community of Practice

Having a safe and supportive system of teachers and other significant people may facilitate a student's inclination to move forward with this transformative learning process. Factors that further facilitate identity formation include a tolerance for, and the capacity to manage, ambiguity and complexity; personal resilience; a socialisation process that fosters reconciliation between personal and professional identities; self-reflection; and a collaborative learning environment. Becoming part of a community of practice with systems of role-modelling and mentorship is crucial for the formation of professional identity as it facilitates a narrative construction of one's identity and a demonstration of value to external communities (Chen *et al.* 2017; Rosenblum *et al.* 2016; Pratt *et al.* 2006; Roccas & Brewer 2002). By identifying with the unique combination of disciplines, and recognising the advantages of doing so, dual-professionals may be motivated to overcome the hurdles in their education and career pathways (McIlveen & Patton 2007).

Lave and Wenger (1991) first described learning as participation in activities situated within a community of practice where learning arises from meaningful contributions to the community of practice. A community of practice shares and works towards a common goal and develops a shared repertoire of common language, knowledge, beliefs, values, stories, and practices to achieve that goal. Wenger (1999) later advanced this framework to focus on the concept of learning as identity formation; a journey through multiple communities of practice with identification or dis-identification with specific communities of practice. Emerging clinician-educators often have to function as members of two communities of practice - their disciplinary community as well as the teaching and higher education community (Murphy 2014).

Our participants echoed the above, with the formation of and inclusion within a community of practice reported as a dominant enabler during their period of transition. Despite this being a web-based course, the formation of fellow-students and lecturers as a community of practice became one of the strongest enabling factors during the transitional process. The contact weeks, online discussions, and ready support were perceived as vital to the engagement and ongoing participation in the new discipline:



I got a lot of help during the year from my colleagues ... this interaction was gold for me ... (Participant 4)

... peer support was vitally important for the first year ... (Participant 6)

### Contextual Transformational Learning

Programmes should equip graduates with skills around educational change management and knowledge translation that takes account of our African context, and specifically foster transformational learning that will enable social justice and removal of inequities (Leibowitz & Bozalek 2016).

As transition is a dynamic process, it requires change and coping strategies while the individual is faced with new challenges, opportunities, ranges of emotion (positive and negative) and stress (Teunissen & Westerman 2010; McMillan 2015; Frantz & Smith 2013). Postgraduate programmes in medical education should help their students identify tensions in becoming clinician-educators and in developing coping strategies. Optimally preparing individuals for a transition includes helping them to cope with change, to recognize learning opportunities and to take responsibility for their own learning processes and outcomes (Hannon 2000; White 2007). It is important to help them create synergy rather than tension between the values and skills of different disciplines.

Regardless of the reported dissonance and discomfort experienced during year one, the MPhil programme was viewed as relevant and stimulating, leading to new insights and meaning:

The world opened and I've actually discovered how little I know and how much information is available on everything; and that was a satisfying experience ... (Participant 2)

Overall positive, and enjoyable ... forced me to look deep. (Participant 4)

Overwhelmingly positive ... grateful that I have pushed on ... (Participant 7)

While it appears as if the MPhil in HPE programme helped effect transformative learning in students, the success of this programme in facilitating transformative learning may only be measurable at a later stage. The impact of the Stellenbosch University Master's programme on education and research outcomes, leadership in education, and community interaction should be the focus of future research. Further enquiry is also needed to understand the factors influencing the high attrition rate of this student cohort; it may have specific implications for the design and expansion of other postgraduate programme in HPE in the African context.

### Limitations

This study was mainly based on self-reporting, and captured the perceived resources available for, and barriers to, the successful becoming of health professions educators. Despite the small number of participants, the study confirms and complements similar studies on the transition and tensions experienced by dual-discipline professionals whilst adding to the knowledge around training of health professions educators in an African context.

## Conclusion

This study sheds light on how a diverse group of students enrolled in a Master's programme in health professions education in an African context, describe their experiences whilst transitioning from a health science to an educational scholarship paradigm. As health professions education develops into a more defined field, the training of educators in the South needs to be strengthened and supported. These findings highlighted the many benefits, but also challenges and disorienting dilemmas, faced by students enrolled in a Master's programme in an African university setting. The transition of postgraduate students from a health science to an educational scholarship paradigm could be supported by programme and career-goal alignment as part of admission entry criteria, certain curriculum reforms, participatory research, and continued support as part of a 'community of practice' during and after completion of a Master's programme in Health Professions Education.

## Acknowledgements

We would like to sincerely thank Prof Brenda Leibowitz who introduced us to the SOTL as module convener of the 'Educational Research for Change in Health Science Education' module. Her expert guidance and encouragement during the participatory process enabled us to not only learn, but apply new knowledge and skills. This article would not have been possible without her support.

We also want to thank our fellow MPhil in HPE colleagues for sharing their interview reports and participating in the focus group discussion.

## References

- Adams, R. 2011. Exploring dual professional identities, the role of the nurse tutor in higher education in the UK: role complexity and tensions. *Journal of Advanced Nursing* 67(4): 884-892.
- Adendorff, H. 2011. Strangers in a Strange Land – on Becoming Scholars of Teaching. *London review of Education* 9(3): 305-315.
- Bartle, E & Thistlethwaite, J. 2014. Becoming a medical educator: motivation, socialisation and navigation. *BMC Medical Education* 14: 110.
- Burch, V & Reid, S. 2011. Fit for purpose? The appropriate education of health professionals in South Africa. *SAMJ* 101(1):24-25.
- Chen, HC, Wamsley, MA, Azzam, A, Julian, K, Irby, DM & O'Sullivan, PS 2017. The Health Professions Pathway: preparing students, residents and fellows to become future educators. *Teaching and Learning in Medicine* 29(2): 216-227.
- Cooke, M, Irby, DM & O'Brien, BC. 2010. *Educating Physicians: a call for Reform of Medical School and Residency*. San Francisco, Calif: Jossey-Bass.
- Cranton, P. 2011. A transformative perspective on the scholarship of teaching and learning. *Higher Education Research and Development* 30(1): 75-86.

- Frantz, JM & Smith, MR. 2013. Exploring the subjective experience of allied health professionals in their transition from clinical educators to academia: barriers and facilitators to successful transition. *AJHPE* 5(1): 37-41.
- Frantz, JM, Bezuidenhout, J, Burch, VC, Mthembu, S, Rowe, M, Tan, C, van Wyk, J & van Heerden, B. 2015. The impact of a faculty development programme for health professions educators in sub-Saharan Africa: an archival study. *BMC Medical Education* 15: 28.
- Frenk, J, Chen, L, Bhutta, ZA, Cohen, J, Crisp, N & Evans, T. 2010. Health professionals for a new century: transforming education to strengthen health systems in an interdependent world. *Lancet* 376(9756): 1923–58.
- Goldszmidt, MA, Zibrowski, EM & Weston, WW. 2008. Education scholarship: it's not just a question of 'degree'. *Medical Teacher* 30: 34-39.
- Hannon, FB. 2000. A national medical education needs assessment of interns and the development of an intern education and training programme. *Medical Education* 34(4): 275-284.
- Kluijtmans, M, de Haan, E, Akkerman, S & van Tartwijk. 2017. Professional identity in clinician-scientists: brokers between care and science. *Medical Education*.
- Kumar, K, Roberts, C & Thistlethwaite, J. 2011. Entering and navigating academic medicine: academic clinician-educators' experiences. *Medical Education* 45(5): 497-503.
- Lave, J & Wenger, E. 1991. *Situated learning: legitimate peripheral participation*. Cambridge: Cambridge University Press.
- Leibowitz, B & Bozalek, V. 2016. The scholarship of teaching and learning from a social justice perspective. *Teaching in Higher Education* 21(2): 109-122.
- Leibowitz, B. 2012. Transition to Educational Research amongst Postgraduate Health Students. Unpublished research protocol. Stellenbosch University.
- Long, JC, Cunningham, FC & Braithwaite, J. 2013. Bridges, brokers and boundary spanners in collaborative networks: a systemic review. *BMC Health Serv Res* 13(158): 1-13.
- McIlveen, P & Patton, W. 2007. Dialogical self: author and narrator of career life themes. *International Journal for Education and Vocational Guidance* 7:67-80.
- McGaghie, WC & Webster, A. 2009. Scholarship, publication and career advancement in health professions education: AMEE Guide No 43. *Medical Teacher* 31:574-590.
- McMillan, W. 2015. Identity and attribution as lenses to understand the relationship between transition to university and initial academic performance. *AJHPE* 7(1): 32-38.
- Mezirow, J & Associates. 2000. *Learning as Transformation*. San Francisco: Jossey Bass.
- Monrouxe, LV. 2010. Identity, Identification and medical education: Why should we care? *Medical Education* 44: 40-49.

- Morel, PA & Ross, G. 2014. The physician-scientist: balancing clinical and research duties. *Nature Immunology* 15(12): 1092-4.
- Murphy, S. 2014. Remember how it feels to be a student? *The Clinical Teacher* 11: 336-339.
- Nicholson, N. 1984. A theory of work role transitions. *Administrative Science Quarterly* 29: 172-191.
- Pratt, MG, Rockmann, KW & Kaufman, JB. 2006. Constructing professional identity: the role of work and identity learning cycles in the customization of identity among medical residents. *The Academy of Management Journal* 49: 235-262.
- Rosenblum, ND, Kluijtmans, M & ten Cate, O. 2016. Professional Identity Formation and the Clinician-Scientist: a Paradigm for a Clinical Career Combining Two Distinct Disciplines. *Academic Medicine* 91: 1612-1617.
- Roccas, S. & Brewer, MB. 2002. Social identity complexity. *Personality and Social Psychology Review* 6: 88-106
- Sethi, A, Schofield, S, Ajjawi, R & McAleer, S. 2016. How do postgraduate qualifications in medical education impact on health professionals? *Medical Teacher* 38(2): 162-7.
- Sethi, A, Ajjawi, R, McAleer, S & Schofield, S. 2017. Exploring the tensions of being and becoming a medical educator. *BMC Medical Education* 17: 62.
- Sundberg, K, Josephson, A, Reeves, S & Nordquist, J. 2017. May I see your ID, please? An explorative study of the professional identity of undergraduate medical education leaders. *BMC Medical Education* 17: 29.
- Stierer, B. 2008. Learning to write about teaching: understanding the writing demands of lecturer development programmes in higher education, in *The Scholarship of teaching and learning in higher education*, edited by R Murray. Maidenhead: Open University Press: 34-46.
- Taylor, E, Tisdell, E & Gusic, M. 2007. Teaching beliefs of medical educators: perspectives on clinical teaching in paediatrics. *Medical Teacher* 29: 371-376.
- Tekian, A & Harris, I. 2012. Preparing health professions education leaders worldwide: a description of masters-level programmes. *Medical Teacher* 34(1): 52-58.
- Tekian, A & Artino Jr, AR. 2013. Academic Medicine last page: master's degree in health professions education programmes. *Academic Medicine* 88(9): 1399.
- Teunissen, PW & Westerman, M. 2010. Opportunity and threat: the ambiguity of the consequences of transition in medical education. *Medical Education* 45: 51-59.
- Van Heerden, B. 2009. Information about the MPhil in Health Sciences Education at Stellenbosch University. *AJHPE* 1(1): 17.
- Wenger, E. 1999. *Communities of practice: Learning, meaning, and identity*. Cambridge: Cambridge University Press.

Whitcomb, ME. 2002. Research in medical education: what do we know about the link between what doctors are taught and what they do? *Academic Medicine* 77: 1067-1068.

White, CB. 2007. Smoothing out transitions: how pedagogy influences medical students' achievement of self-regulated learning goals. *Advances in Health Sciences Education: Theory and Practice* 12(3): 279-297.

Yanos, PT & Ziedonis, DM. 2006. The patient-orientated clinician-researcher: advantages and challenges of being a double agent. *Psychiatric Services* 7(2): 249-53.

Zibrowski, EM, Weston, WW & Goldszmidt, MA. 2008. "I don't have time": issues of fragmentation, prioritisation and motivation for education scholarship among medical faculty. *Medical Education* 42(9): 872-878.



This work is licensed under the Creative Commons Attribution 4.0 International License. To view a copy of this license, visit <http://creativecommons.org/licenses/by/4.0/>