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MEDICAL TEACHER

Alienation and engagement in postgraduate training at a South African medical school

JUANITA BEZUIDENHOUT[1], FRANCOIS CILLIERS[1], MARTIE VAN HEUSDEN[1], ELIZABETH WASSERMAN[1] & VANESSA BURCH[2]

[1]Stellenbosch University, South Africa, [2]University of Cape Town, South Africa

Abstract

Background: The importance of contextual factors, such as the learning environment and sociocultural characteristics of the student, are becoming increasingly evident. Mann [2001. Alternative perspectives on the student experience: Alienation and engagement. Stud High Educ 26(1):7–19.] proposed that all learning experiences can be viewed as either alienating or engaging and Case expanded on this work.

Aim: The purpose of this study was to explore perceptions of alienation or engagement as experienced by residents in anatomical pathology at one South African university.

Method: A cross-sectional case study, with 16 semi-structured interviews was conducted. Residents were categorised as either alienated or engaged, based mainly on workplace experiences.

Results: Four relevant dimensions were identified; individual, home, workplace and institution. The personal attributes, strategies for coping and reasons for choosing pathology of alienated residents differed from those with engaged experiences. Poor socioeconomic background and schooling did not lead to predominantly alienating experiences, but this group still lacked some generic skills. In the workplace, two main factors resulting in alienated experiences were the interaction between residents and consultants and residents' comprehension of workplace-based learning.

Conclusions: We present a simple model which may be used to identify factors that engage and alienate students in the learning experience in the workplace-based setting. Addressing these factors can contribute towards a more engaging experience for all residents.

Introduction

Student success is multifactorial. The importance of contextual factors, such as the learning environment and sociocultural characteristics of the student, are becoming increasingly evident. There is increasing interest in the impact of the learning environment (Eva 2003) on the adoption of meaning-oriented learning approaches (Entwistle & McCune 2004). Contextual factors which are considered important include previous educational experiences, particularly the learning environments, characteristics of the academic discipline and the manner in which teaching, learning and assessment are conducted (Vermunt 2005). This approach, offering a much broader perspective on other factors that influence student learning, is supported by the findings of a recent study in which first-year medical students reverted from a deep learning approach to a superficial approach despite a programme of metacognitive activities designed to facilitate deep learning (Papinczak et al. 2008).

The success of postgraduate medical students (residents) involves similar factors. Hoff et al. (2004) state that the establishment of a supportive, learning-oriented environment is crucial for creating competent physicians. Furthermore, he

Practice points

- Alienation and engagement is a useful way to contemplate the learning experiences of postgraduate students.
- A positive and supportive family background impacts positively on students' perceptions in the workplace.
- Alienation could be mitigated if students were supported to develop appropriate strategies to cope with the workplace learning environment.
- Teachers are a major component of workplace-related alienation or engagement.
- Potential students should be pro-active in investigating 'myths' around their chosen discipline.

believes that the organisational work context determines the establishment and maintenance of such a culture. A model developed by Mitchell et al. (2005) proposed factors that may contribute to residents' performance. They postulated that the resident's inner state is affected by the feedback about processes and outcomes that include the individual physician

Correspondence: J. Bezuidenhout, Department of Pathology, PO Box 19063, Tygerberg 7505, Cape Town, South Africa. Tel: 27 (0)21 938 4211/ 4041; fax: 27 (0)21 938 6559; email: jbez@sun.ac.za

state, medical education and health care system infrastructure and patient and societal effects. Solem et al. (2009) demonstrated the importance of the local environment in shaping student experiences in graduate geography programmes.

In South Africa, the impact of issues such as these is further complicated by the legacy of 'Apartheid' policies that segregated education (and other dimensions of life) according to ethnic groups until 1994. While the segregation policies have long since been revoked, there still exist huge racial disparities in the schooling that children receive before embarking on higher education studies. Students emerging from such disadvantaged backgrounds may well have encountered poor quality learning experiences and achieve poorer learning outcomes. Addressing these challenges in the South African context requires a comprehensive understanding of the learning experiences of students currently adapting to this changed landscape.

The learning environment and sociocultural factors can clearly no longer be regarded as minor role players in the learning process and more work is needed to fully understand the impact these factors have on student success. In this regard, an intriguing perspective on students' learning experiences, i.e. all learning experiences can be viewed as either alienating or engaging, has been proposed more recently (Mann 2001). Mann utilised the Oxford dictionary definition of alienation, 'the state or experience of being isolated from a group or an activity to which one should belong or in which one should be involved' and described six dimensions of the learning experience that may give rise to feelings of alienation. While this set of perspectives is comprehensive and compelling, Case (2007a) argues that it has limited application for those who lack an extensive grounding in the social sciences.

An alternative (Case 2007a,2007b) proposes two different ways of characterising alienating or engaging learning experiences. In one model (Case 2007b), alienation was defined as the absence of relationships that students might desire or expect to experience. Six such relationships were subsequently identified empirically: to one's studies, to the broader university life, to home, to the career, to one's classmates and to the lecturer (Case 2007b). In another model (Case 2007a), three contexts in which alienating learning experiences may be encountered were posited: upon entering the higher education community, fitting into the higher education community and staying in the higher education community. Both these models allow one to explore students' perceptions of their learning experiences and obtain a sense of whether these experiences are alienating and/or engaging. To date, there is very little work describing the use of these models and further work is required to evaluate the utility of these approaches to understand the nature of learning experiences and their impact on student performance.

The purpose of this study was, therefore, to explore and better understand the perceptions of alienation or engagement as experienced by postgraduate students (residents) enrolled at a historically white university in South Africa. It is hoped that this additional information may be used to improve the quality of learning experiences in ethnically diverse settings.

Methods

Setting

We explored the perceptions of residents undertaking specialist training in pathology at a historically white university in South Africa. Residents enrol for a structured Masters degree (MMed) in their discipline of choice (anatomical pathology, clinical pathology, medical microbiology, chemical pathology, haematological pathology, virology and forensic pathology). While studying, they are also employed by the National Health Laboratory Services (NHLS) and work in the relevant division of the Department of Pathology. Residents receive predominantly workplace-based training and mainly by the divisional consultants. Learning experiences include routine service and clinico-pathological meetings and a weekly academic programme in which all residents and consultants participate. Training is based in the tertiary hospital where the laboratories are located. The faculty of health sciences, the hospital and the NHLS are associated, but independent institutions.

Participants

The study population comprised 35 residents from various disciplines in the Department of Pathology. Seventeen residents were invited to participate based on purposive sampling according to discipline, ethnic group, gender and year of study. In addition, not all students were available for interviews at the time of the study. Students who were in their first year of study were excluded, as the impact of the new environment is very strong in the first year. Including these students may have compromised the validity of our findings.

Research design

A semi-structured interview, approximately 1 h in duration, was conducted with each resident, by the same interviewer (MvH). This interviewer has the experience of interviewing students for several research projects and is a social sciences graduate, employed by the Centre for Health Sciences Education at Stellenbosch University to provide research support. The interviews focused on residents' sociocultural backgrounds, reasons for studying pathology, perceptions of the teaching and learning environment and its impact on their learning, work-based and personal relationships, study strategies and perceived discrimination in the workplace (Table 1). The questions were based on aspects from the literature that appear to have an impact on students, as discussed in the 'Introduction' section. The questions were first formulated by the first author (JB) and subsequently reviewed by two authors (FC, MvH). Semi-structured interviews are by nature valid, but not reliable, as the answers focus on depth and have no numerical value, and therefore the interview questions were not piloted to establish validity and reliability. The data collected, therefore, primarily reflected residents' perceptions of their learning experiences. Interviews were transcribed and the transcripts were anonymised by the interviewer, who is not affiliated to the pathology divisions.

Table 1. Interview schedule for semi-structured interview.

What was your school environment like, language, facilities, number of teachers, career counsellors, mentors, role models, peer pressure?

What socioeconomic environment did you grow up in, and what impact did it have on you?

Why did you decide to study pathology and why at this university?

How do you feel about your training and study environment?

What did you enjoy most in your training and why?

What do you enjoy least in your training and why?

How has your relationship with friends and family changed since you started training?

What forms of discrimination, if any, have you experienced in your training environment, elaborate?

What strategies have you developed to cope with the pressures of your studies and why?

Who have you turned to in times of difficulties with your studies and why?

Who have you turned to in times of serious personal difficulties since starting your medical training?

Tell me more about your role models. Who are your personal role models and why?

Did any specific person influence your decision to study pathology?

Do you find the university structure supportive?

Have you ever identified explicit and implicit barriers to the progression in your career?

How has your identity been affected since you started your training?

How has pathology training changed your view of the world?

What is the impact of all these things on your studies?

Note: All students participating in the study were asked the above questions.

Based on the overall impressions of the interviews, after reading all the interviews, prior to coding, each resident was placed on a scale from alienated to engaged. Transcripts of the interviews were analysed applying principles of thematic analysis and using Atlas.ti software. After first reading each interview, coding of transcripts was undertaken by JB for alienating and engaging experiences. Alienation was defined according to the Oxford dictionary and engagement as the absence thereof. Transcripts were then re-read and modifications were made to the original coding. Thereafter, inductive thematic analysis of the transcribed interviews was undertaken and further modifications to the coding were made based on the themes identified. The transcripts were read for a third time to ensure that no emerging themes were missed during the initial coding process. The coding process was then verified by another researcher (FC). Only once students were identified on a scale of alienated or engaged and thematic analysis was completed, then was the academic performance of all students linked to the results.

The study was approved by the Ethics Committee of Stellenbosch University. Participation in the study was voluntary and informed consent was obtained from each participant.

Results

Sixteen selected residents participated in the study. The diversity within resident ranks was adequately represented in the study population. There were residents from all years of study, 6 males and 10 females and ages ranging from 27 to 40 years. Four residents were Indians, one coloured (mixed ancestry), six white and five black Africans. Eight of the residents were enrolled in anatomical pathology, the largest discipline with the most training posts. The other disciplines represented included clinical pathology (2), chemical pathology (2), forensic pathology (1), haematological pathology (2) and medical microbiology (1).

The teachers (consultants) referred to in the study consist of 10 females, ranging from 35 to 60 years and 9 males (two Indians), with a similar age range. The majority of these consultants are based in anatomical pathology (eight).

Based on an overall impression of each interview, five residents were characterised as having had predominantly alienating learning experiences (alienated students), while 11 residents were considered to have had mainly engaging experiences (engaged students). All five students who were identified as alienated were performing poorly academically.

Analysis of the data identified four different dimensions, i.e. the institution, the workplace, home circumstances and finally personal attributes and sociodemographic background. The relationship between these four dimensions can best be depicted by an 'onion skin' model, as shown in Figure 1. As can be seen from the diagram, personal attributes, sociodemographic background and the home circumstances of each resident form the core of the model as they are characteristics and experiences central to the learning experiences in the work environment.

The individual

Personal attributes of the participants that characterised them as engaged included a sense of determination, a positive attitude towards life and studies, an inquisitive mind, being self-motivated and having the ability to adapt to different situations.

> I am a hard worker and when I set my mind to something, I normally do it until the end. I don't stop half way. Even if it is difficult, I will get to the end.

> So I do enjoy, in the Department, most of the registrars have difficult cases and I think nothing of it if someone walk to me and ask what do you think of this? I would not turn them away because I am equally interested.

> I just feel like even if you are faced with negatives or positives, you just need to overcome them.

On the other hand, attributes that characterised participants as alienated included a focus on negative experiences, considering themselves as rigid, lacking 'people skills', having a negative attitude towards life and studies, experiencing feelings of inadequacy and lacking stress management skills. Some residents felt alienated because they thought they were being too willing to help and consequently took on too many responsibilities.

> For me it is very difficult. I struggle, because I like a structured environment and lot of this is very unstructured en your work falls behind and you struggle to keep up and for my personality that causes a lot of stress.
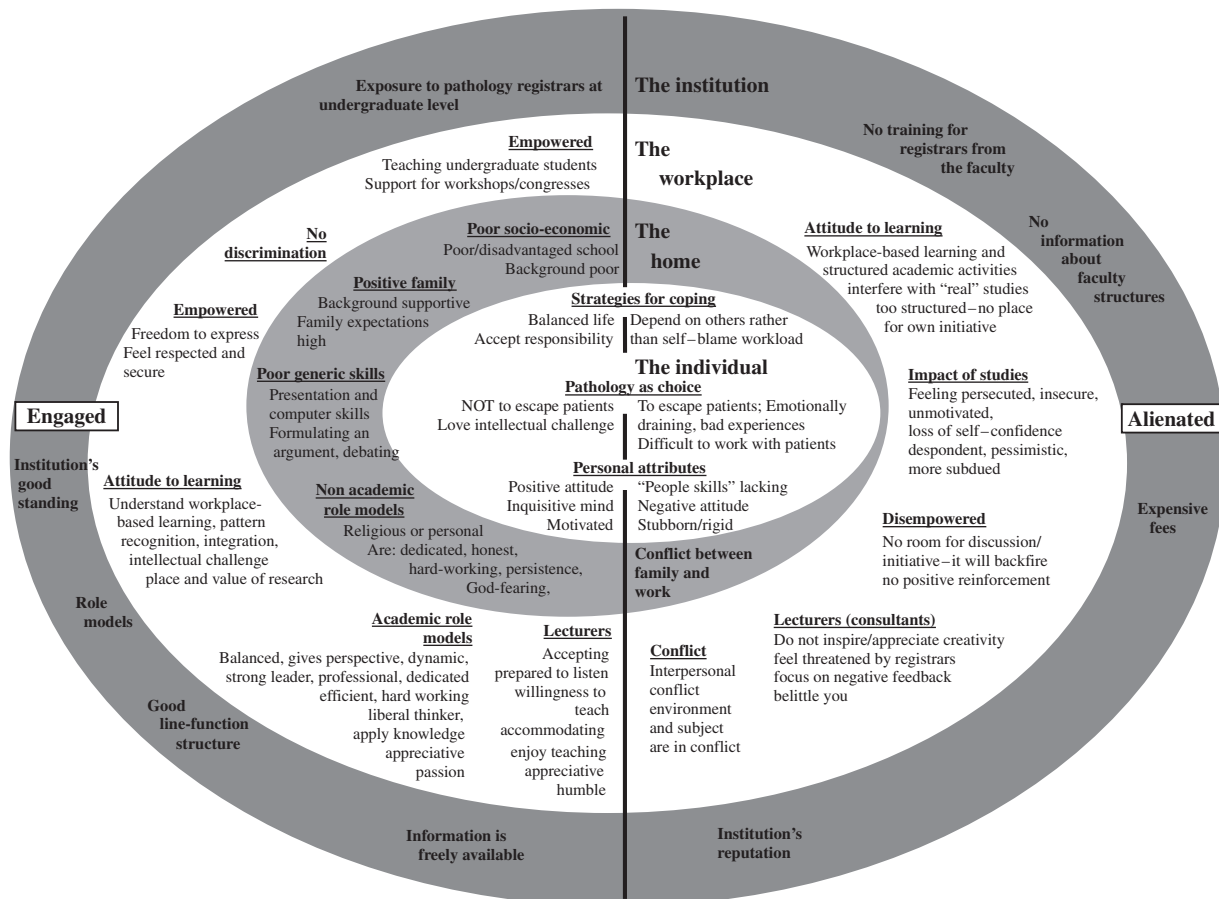
Figure 1. The 'onion skin' model. The model depicts the four dimensions of alienation and engagement identified in this study. The left half of the model portrays the engaging experiences in the workplace and institution, and the individual and sociodemographic characteristics of students with mainly engaging experiences, while the right half represents those of students with mainly alienating experiences. Note that students with 'poor' generic skills had mainly engaging experiences.

Negative in the sense that it feels to it is all my life is about. Pathology, and there is not really time for anything else, because the years are so full and it feels like it is the only thing that I am doing.

Alienation and engagement could be discerned in strategies for coping. Excessive dependence on others for help and not feeling in control of the workload (blaming the workload) were regarded as alienating.

I don't have any. I mean, I know if my body has had enough, but I don't allow myself to rest, which, as much as I try and get my work done, it has the opposite effect in that I get less work done. So I haven't really developed any coping strategies. I withdraw from the social scene very much, and I don't know if that's a coping mechanism or a hide away. But I haven't really developed a coping mechanism.

Sometimes I think that we don't get enough training...

In contrast to these external factors, internal factors regarded as engaging allowed residents to feel in control of their own lives by ensuring a balance between work and private life and accepting responsibility for their own studies.

So for me, exercise is important, to be with your friends and go out and be stimulated by things outside of your own work environment

In everything, because I remember very well, undergraduates used to study when maybe there is two weeks before the exam, but I think you have to know that you can not study just for the exam. I think it is just being consistent, finishing everything in good time, revising things, not leaving things to pile up, I think that is the basic strategies that would help me.

Alienation and engagement could also be discerned in the reasons for choosing pathology as a speciality. Engaged students did not choose pathology to get away from patients, but rather chose pathology because of the intellectual challenge.

The reason I study pathology is because I was fascinated by Pathology. I wanted to know more about disease processes.

Wanting to 'escape' from clinical practice because they did not want to face the ethical dilemmas sometimes involved in treating patients, they did not want any interaction with patients because they found it emotionally draining, they had

bad experiences with patients, they experienced patients as demanding and ungrateful, or because they considered their personality unsuitable to clinical practice was regarded as alienating.

> Yes, I think one of the reasons is not to have patient contact, and not to be on call, because it is horrible

> I think it was the main thing, it was not about doing calls, it was about patients.

The home

Residents from poor or difficult family backgrounds or those who attended educationally disadvantaged schools regarded themselves as ill equipped for postgraduate training including a lack of coping strategies and presentation, debating and computer skills. They also did not receive any vocational guidance at school. Despite this, they were all engaged and had a supportive family with high family expectations of their success. These residents often had non-academic role models that were usually religious or political figures or family members. These role models were dedicated, honest, diligent and God-fearing.

> Role models for me is someone who I aspire to be like, or who symbolizes what almost perfect is, and people like that will be like Nelson Mandela.

> I still remember and I could go to school and be very happy, although I did not have a nice lunch box. I didn't have nice things, it did not matter to me, because I was happy and my parents were happy. I was in a loving home, ... when there is love and peace in the home it makes up for most of the things.

> Also teaching you certain coping skills and skills of interacting with people was not available at these places, for example debating societies. We never ever had a debating society. We were not really equipped to deal with tertiary education. I think what schooling did teach us was basically to study and to be motivated to do something, and to do a career and become someone

Residents who felt alienated did not come from any particular social, family or educational background. They experienced definite conflict between the amount of time spent at work versus time spent with their family and friends and they had guilt feelings when spending time with their children, as opposed to engaged residents who ensured a balance between work and private life, including children.

> From my perspective; I often feel guilty because I am a parent, and maybe I am not as involved as I should be

> . . . but I really pushed a lot of friends away, which is not good, because I've got a lot of stuff to deal with. I have got a lot of personal stuff to deal with, and I don't talk about it.

The workplace

Residents characterised as engaged in the workplace regarded it as a privilege to study pathology, were encouraged to publish, received support to attend workshops and congresses and felt free to express their ideas. They experienced a sense of belonging, felt appreciated, respected, secure and welcome in the department. They found the work stimulating, had good relationships with peers and consultants and enjoyed teaching undergraduate students. They found their ability to integrate the clinical information and the pathology findings specifically empowering.

> I enjoy the fact that, when it is a stimulating environment (like pathology), you always learn something new. Something that you didn't know yesterday, but today you do. So it keeps you going all the time, and the fact that it is not the same. It is not monotonous work. That is what I enjoy the most.

> I see myself as being equal to everyone else, being no different to anyone else. Initially when I started, I had the impression that certain people are better than others, but being in this training environment has shown me that I am the same as everyone else, and I can even be better.

On the other hand, residents who felt like 'outsiders' considered themselves to be disempowered, criticised by consultants and restricted in their ability to generate discussions or initiatives because they were scared of failure or victimisation at the time of the final examination process. They also experienced a lack of academic support, guidance or positive reinforcement. They felt that the programme and departmental organisation were poor, that there was often interpersonal conflict and that the work environment and the discipline were in conflict.

> Well, to come to work every day and you know that one of your consultants will ensure at some point during the day that you know how insignificant you are, it is again, not a very conducive environment.

Another clear distinction between alienated and engaged residents was their understanding of, and attitude towards, workplace-based learning. Engaged students appreciated the value of workplace-based learning, understood the dynamic nature of the discipline and recognised that textbooks were often an outdated source of information. They regarded pattern recognition and integration to be central to pathology and considered their discipline to be creative and intellectually challenging. They enjoyed the challenge of making a diagnosis, looking for and finding answers and anticipating the unexpected. They appreciated the role and value of research in their training, as well as the structure of their respective programmes, and the spectrum of knowledge and skills required to be successful. The freedom to question and debate and the measure of variety provided by the different aspects of their work was valued and they found the environment safe, stimulating and interesting with something

new to learn every day. Engaged students also believed that pathology is a financially rewarding discipline.

> The thing that I enjoy, for example, after you've trimmed your specimen, the following day you are checking, it is quite exciting when you get a pile of slides, and you get cases and you don't know what the cases are. You find a lot of challenging things, easy things, it is very exciting when you find something that you don't know at all and you show your fellow colleagues and they don't know, it is exciting and you know you have to work out that case. You show your consultant and you discuss it and you read and read and then you will know about it when you finish when you report the case. I like it.

> Yes, it does, like for example our saying presentations, we are free to ask and free to debate, provided that you have your own grounds. You have to . . . what you are putting forward, so I think it is a good environment that allows you to express yourself and to defend what you are talking about and if you are wrong, they correct you.

On the other hand, alienated students found the workload excessive, the working hours too long and indicated that workplace-based learning and structured academic activities interfered with their 'real' studies, i.e. sitting at a desk reading a textbook. They felt that the work environment and the structured nature of the programme suppressed creativity and they were of the opinion that there was no place for debate in the programme. They also indicated that consultants had too many commitments and that they did not dedicate enough time to the training and supervision of residents.

> I think it is relatively okay, but there are things which I feel there is not a lot of creativity and I think our training, you have to work so that you are able to do extra work. But I think it's a lot, and you don't have a lot of time for reading. I know we have to make time out of our routine, working time, but it is not always possible.

> . . .we have (to prepare) too many academic meetings and work meetings (too allow time to study). . .

Engaged students had a clear idea of the attributes of their role models which included the way they teach, their work ethic, helpfulness, patience, balanced life style, enthusiasm, passion and humanity. They were considered dynamic with a positive attitude towards life, and served as a source of 'lessons' on life skills. Alienated students had little or nothing to say about role models.

> I think one of my consultants, because I have a lot of respect for her; the fact that she can talk to you and be interested in you as a person.

> Yes. Their enthusiasm about their work. They are passionate. It is something you strive to, but you also

realise that people are different. You all have different capacities.

The relationships between consultants (teachers) and residents were viewed very differently between the two groups. Engaged students believed that consultants enjoyed teaching, were humble, accommodating, accepting and prepared to listen and expressed appreciation for work well done. The relationships between consultants and alienated students were much less amicable.

> Yes, and apart from that, if you make them a presentation they are congratulating you, I appreciate that. Sometimes you are checking your work with your consultant, they ask us, that's the time they teach us, and when you ask they downsize the question like that, I think it is fine.

> The amount of exposure you have is unbelievable, and their willingness to teach you, that's also another thing.

Alienated students experienced feelings of separation between residents and consultants and they said that consultant staff made disparaging remarks and focused on negative feedback. Some residents believed that this was because consultants felt threatened by residents. Alienated students experienced personality clashes with other staff and said that creativity was neither encouraged nor appreciated.

> I think the problem, or the impact on studies, is that a person lives in fear, or under the axe of the fact that you cannot really voice your opinion 100% at work.

> Yes, they make sure, not everybody, and never expect to hear when you do something well. There will never be any positive feedback. You will receive negative feedback on a daily base, positive feedback, I don't know.

They also believed that there were two sets of rules that applied; one set for them and another set for the other residents. Conflict with consultants, peer and laboratory staff was identified mainly by alienated students who thought that this was largely because they were treated with disrespect and there was animosity between residents and technologists. Alienated students also expressed feelings of isolation, discrimination and bias. The aspects highlighted by alienated students were thought to be impacting negatively on their studies.

> There are certain people who you may ask questions, but generally the rule is, rather don't ask questions. Somebody will find a way to belittle you in the process, or there is only one way and that is somebody else's way, don't take any intellectual initiative, because at some stage it will be held against you. Not everybody, but the vast majority.

> So, whenever I see like there is probably an attitude, somebody is not happy, there is no way you

can argue because they are the people who are training you.

The institution

On the level of the institution, engaged students elected to pursue their postgraduate studies at the institution because of its good reputation. They experienced the institutional environment as supportive, with information being freely available, reporting structures clearly defined and some residents had even identified role models in other disciplines outside of their own.

> I think there is a lot of support there, and the information is freely available. The information is freely available, but we know that it's there. People inform you that if you are looking for this, here it is. So it's almost a matter of just following the lines.

On the other hand, alienated students enrolled at the university because they did not have any choice – a lack of posts at the institution of their choice or not being accepted onto the programme at these institutions. They thought that student fees were too high and believed that there was no information available regarding faculty structures.

> I don't know because I feel you repeatedly run up against a university structure when you least expect it, and when you look for it, it's not there.

Discussion

On the basis of these findings, it was possible to develop an 'onion skin' model of four dimensions which contribute to the postgraduate learning experience in the workplace. These four dimensions are closely aligned with the six relationships previously defined by Case (2007a) in her work, examining feelings of alienation and engagement amongst engineering students at the University of Cape Town. Since our dimensions of engagement and alienation were derived using inductive analysis, it provides support for the model developed by Case. Furthermore, our work highlights those elements common to both undergraduate and postgraduate training in South Africa. Indeed, it is reassuring to find such a significant degree of overlap between the findings of these two studies because it suggests that potential remedial to improve the learning experience at both postgraduate and undergraduate level could be largely similar. It is even possible that remediation in the early years of undergraduate programmes may serve to abolish or minimise feelings of alienation in later years of study, including postgraduate programmes.

One of the most important findings of this study is that the quality of schooling received prior to attending university remains relevant, even at the postgraduate level. Although it did not lead to alienation in our study, students with a poor schooling background lacked basic generic skills needed to succeed at university, e.g. computer skills. This observation is very important because it highlights the ongoing need to improve schooling for poor communities in South Africa. Despite the abolition of 'Apartheid' policies, we are a long way

from equitable access to good schooling for all. These students all had a positive and supportive family background. Perceived family support has been shown to reduce stress in premedical students (Klink et al. 2007) and in our study, it also seems to be of importance. One could argue that these students survived their undergraduate studies despite their lack of generic skills and that the 'survival' skills they acquired enabled them to have a predominantly engaging postgraduate experience.

One of the recurring themes in the data is the need for strategies to cope with stressful circumstances and high workloads. Once again, appropriate training could dramatically improve feelings of alienation originating from stress. It is clear that extra resources will need to be secured to offer training sessions for students entering university but the cost of poor academic performance is in all likelihood greater than the cost of interventions to teach students coping strategies, time management, study skills, computer skills and presentation skills.

Looking at the data, it is clear that the impact of the relationship between the student and his or her family was generally of less importance than is the case for undergraduate students (Case 2007b). This is not surprising since postgraduate students are less likely to still be staying with their family. The spouse, if present, is usually understanding and it is often only when children arrive that the impact of studies on the relationship surfaces again.

Our study clearly identifies the workplace as the most important level at which alienating or engaging experiences occur. Of all the workplace factors that impact upon the learning experience, it is clear that teachers are important role players, as also demonstrated previously (Bryson & Hand 2007). It is important to note how different alienated and engaged students experienced the same group of teachers in a discipline. Surgical residents (Musselman et al. 2005) considered an adverse experience as intimidation or harassment only if an educational purpose for such behaviour could not be established or it did not have a positive effect on education or clinical care. Wilkinson et al. (2006) identified humiliation by teachers as the most common and most adverse experience amongst medical students and the experience that affected students the most. The negative consequences of an adverse experience included avoiding the responsible person and becoming more withdrawn or isolated. Avoidance and isolation by the alienated student may not only impact on the teaching and learning opportunity, but in the close environment of postgraduate training, it could also lead to conflict and further alienation. It is possible that some of the perceived alienating effects of teachers could be modified if they were aware of the potential impact of their actions. It could be argued that student perceptions that consultants were not acting in their best interests were accurate. However, we believe that the intentions of teachers are not to bully students. However, certain kind of behaviour is often perceived as 'bullying'. Small changes in approach could lead to meaningful improvements in the workplace.

Another important factor in the workplace is the students' understanding of, and attitude towards, workplace-based learning. Engaged students demonstrated an understanding

for the principles of workplace-based learning, while alienated students experienced the workplace as interfering with the task of studying. Intervention focusing on the relevance and importance of workplace-based learning could contribute to greater understanding and a more positive attitude amongst residents.

In this study, the reasons why students chose to make a career of pathology are of interest. Alienated students saw it as a way of escaping the burden of patient care while engaged students considered it an intellectual challenge. It raises the question whether alienated students struggled with interpersonal relationships at both patient and professional level, thereby accounting for the strong emphasis on poor relationships in the workplace. Another explanation may be linked to misconceptions about the nature of pathology practice that were identified in a study amongst medical students in five USA schools (Holland & Bosch 2006). The misconceptions included the following: pathology is more reliable at making an accurate diagnosis, the discipline requires a bigger knowledge base to practice and it is a bigger intellectual challenge than the so-called clinical disciplines. In addition, students felt that it was less prestigious, was associated with less work-related stress, required less teamwork and was less involved in clinical decision making as compared to the 'clinical' disciplines.

At the institutional level, it is not surprising that we found alienated students to be critical of the university since it was not necessarily their first choice as a place to study. This is clearly a factor that has the capacity to impair student performance, and of all the alienating factors defined in this study, this is the one that would be difficult to change since it is a cause of unhappiness that cannot be remediated.

The study has a number of shortcomings. It provides an overview of the status quo in postgraduate pathology training at only one South African university. Due to the small total size of the population and the students available for the study sample, this represents a small number of students. This precludes the authors from exploring some additional factors that might have had an impact on students, as this would have lead to these students being identified in this article through these characteristics (e.g. married, children, age, gender, stage of training) thereby loosing anonymity. It also prevents the authors from publishing certain aspects of the interviews that might have shed more light on specific questions, as again, this may lead to identification of individuals. Due to the small number of students in each pathology discipline, the information can by no means be generalised. This may not be a representative of other institutions in the country, or for other disciplines in medicine. It also does not address the question whether the described characteristics of the alienated and engaged groups lead them to be classified as such, or whether these characteristics result from their alienation or engagement.

To conclude, we have presented a model which may be used to identify factors in the learning experience in the workplace-based setting that engage and alienate students. The model is similar to the one that was used to evaluate the learning experience at undergraduate level. Since these models show significant overlap, it suggests that one could

consider using the same strategies to remediate poor learning experiences at both undergraduate and postgraduate levels.

Notes on contributors

JUANITA BEZUIDENHOUT, MBChB, FCPath (SA), MMed (Anat Path), PhD (Anat Path), is an Associate Professor in Anatomical Pathology at Stellenbosch University/NHLS. She regards herself as a pathology teacher and is interested in especially postgraduate training and faculty development. She is involved in education-related activities and governance and is a FAIMER fellow.

FRANCOIS CILLIERS, MBChB, MPhil (Higher Ed), enrolled for PhD (Medical Education), is the Deputy Director of the Centre for Teaching and Learning at Stellenbosch University, South Africa. He holds an MPhil in Higher Education (and a medical degree from his 'first life'). He is involved in the South African Association of Health Educationalists (SAAHE) and is also a FAIMER Fellow.

MARTIE van HEUSDEN, BA hons, BEd, HED, works as a Research Supporter in the Centre for Health Sciences Education, Faculty of Health Sciences, Stellenbosch University. She applies her experience and strengths in communication, document development, translation and interpersonal relationships to develop a portfolio assisting researchers in health sciences education with their research projects.

ELIZABETH WASSERMAN, MBChB, FCPath (SA), MMed (Microbiol PAth), DPhil (Social Sciences Methods), is a Professor and HOD of Medical Microbiology at Stellenbosch University/NHLS. She is interested in medical education, particularly quality assurance, curriculum development and postgraduate supervision. Her microbiological interests include innovative diagnostic techniques that can be implemented in a limited resource environment and the pathogenesis of staphylococcal infection. She is a FAIMER fellow.

VANESSA BURCH, MBChB, FCP (SA), PRCP, MMed (Medicine), PhD (Medical Education) is a Professor and Chair of Clinical Medicine at the University of Cape Town. She is actively involved in undergraduate and postgraduate teaching and curriculum revision. She is also the Director of the MBChB programme at UCT and a FAIMER fellow.

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