

TEACHING FIRST AID IN HIGH SCHOOLS: THE IMPACT ON STUDENTS IN THE HEALTH SCIENCES EXTENDED DEGREE PROGRAMME

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ABSTRACT

Previously, first-year medical and physiotherapy students participating in the extended degree programme (EDP) at Stellenbosch University, South Africa, spent eight weeks shadowing interns at a tertiary hospital during a clinical module. In 2011, student numbers had doubled from the previous year making it impossible to accommodate the entire group in the clinical setting. Consequently, the group was divided into two, allowing one group to participate in a service-learning project (SLP), while the other group spent four weeks in the clinical setting as before. The two groups switched after four weeks. A qualitative approach was used to determine students' perceptions of the SLP. Data was obtained from structured reflective



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reports about students' experiences of the one-week period during which they taught First Aid to high school learners. Open-ended, written response questionnaires completed by students at the end of the four-week SLP generated further useful data regarding the logistics and administration of the project as a whole. Similar to findings reported in international studies, analysis of qualitative data indicated an increase in student motivation in terms of their studies and vocation; an enhanced sense of civic responsibility and social justice; improved group interaction and personal communication skills; as well as increased compassion and decreased racism. Besides gaining First Aid knowledge and skills, students became increasingly aware of the population they would be serving once they graduated and of their role as professionals within this community. Thus, a service-learning teaching strategy may contribute towards producing service-driven and culturally competent physicians and community leaders.

Keywords: service-learning, teaching by students, reflective reports, increased motivation, enhanced interpersonal skills.

INTRODUCTION

South African universities are under ever increasing pressure to enlarge their student intake for undergraduate programmes. The Faculty of Medicine and Health Sciences at Stellenbosch University, South Africa, is no exception and has to cope with large student numbers. During the first semester of the first year in the Health Sciences curriculum, students across the different disciplines of the faculty (Medicine, Physiotherapy and Dietetics) attend lectures together, causing the student numbers to swell to approximately 350 students per classroom. Aside from the challenge of dealing with such large numbers, there is an additional burden on the clinical environment to accommodate these students and to supply sufficient learning opportunities to prepare them adequately for graduation.

This tendency also occurs in the university's extended degree programme (EDP). In 2011, the number of students admitted to the EDP alone increased markedly from the previous year (from 34 to 54 students). One of the modules in the first year of the EDP (Practical Clinical Exposure) comprises an eight-week period during which students shadow student interns in the hospital setting. However, due to the increased student numbers, this strategy had to be adapted as the burden on the interns would be too great. An innovative solution was required. The rationale behind the implementation of a service-learning project (SLP) was that it would not only provide the framework necessary to solve the numbers problem but would also create a rich learning environment for students.

Bringle and Hatcher (1995, 112) define service-learning as 'an educational experience in which students participate in an organised service activity that meets identified community goals [and] reflect on the service activity in such a way as to gain further understanding of course content, a broader appreciation of the discipline,

and an enhanced sense of civic responsibility'. 'Social accountability', often used interchangeably with the term 'civic responsibility', is defined, according to the World Health Organization (WHO 1995), as 'the obligation of medical schools to direct their education, research and service activities towards addressing the priority health concerns of the community, region and/or nation that they have a mandate to serve'.

The way in which service-learning proposes to enhance social accountability is by promoting collaborative learning, teaching problem-solving skills and assisting students in learning more about themselves and their capabilities. It also aims to enhance relationships among Health Education institutions, communities and service and community organisations (Bender et al. 2006). Service-learning combines service objectives and learning objectives with the intent that the activity will change both the recipient and the provider of the service (Buckner, Ndjakani, Banks and Blumenthal 2010). Participating in this type of learning experience has the potential to transform learners – especially those who could be easily demotivated by being selected into a programme that is not their first choice, such as the EDP – by helping them to revise and broaden their knowledge, to adapt their practice, and, on a larger scale, to change their perceptions and interpretations of the world (Keeton 1983).

Service-learning is an effective and engaging way to teach students the social aspects of medicine (Thompson et al. 2003) and endeavours to address the objective of fashioning 'altruistic and dutiful' doctors (Burrows, Chauvin, Lazarus and Chehardy 1999). Service-learning experiences move the issue of teaching social accountability beyond well-intentioned rhetoric to quantifiable achievement, providing a way for students to see the practical implementation of their altruistic ideals (Woollard 2006). This teaching strategy is being used internationally in schools, colleges and universities and is applied in almost any discipline. The educational challenge is to invent ways to join study and service so that the disciplines illuminate and inform experience and experience lends meaning and energy to the disciplines (Eskow 1980).

Due to the aforementioned positive outcomes associated with service-learning, as well as the additional benefits that early 'clinical' exposure provides, this teaching strategy was considered to be a plausible solution for the increased student numbers as well as an effective way to address the unique learning needs of the EDP student group.

BACKGROUND

The eight-week Practical Clinical Exposure module, during which students used to shadow student interns at a tertiary hospital, was divided into two four-week components. The EDP first-year group was also divided into two groups, with group A spending time in the hospital as before, while group B participated in an SLP involving a local high school. After four weeks the two groups switched activities.



Figure 1: Format of the SLP

Prior to the commencement of the module, high schools within the surrounding area of the medical school were contacted in order to determine whether there was a need for First Aid teaching. Two schools were very interested in the proposal and were willing to accommodate the students for a period of a week. Several meetings were held to discuss logistics, the schools' requirements regarding the content of the First Aid course, and which learners would benefit most from being included in the project. Other requests were raised and incorporated into the programme, such as facilitating a session during which learners could ask questions concerning university admission criteria, available health sciences programmes, bursary and loan applications as well as subject choices.

During the first week of the SLP, students were taught the principles of First Aid delivery and the most common conditions requiring emergency intervention. Practical First Aid skills were demonstrated to students and they practised these skills, under supervision, on one another. Additionally, the concept of service-learning was introduced to students as well as relevant clinical teaching strategies that they might use during their time spent at the schools. With regard to the latter, group discussions were facilitated in order to identify potential challenges that this relatively unfamiliar milieu might present and to consider possible solutions and preventative strategies.

In the second week of the service-learning component of the module, students were divided into four smaller groups (seven students per group) in order to plan the First Aid classes that they would be teaching. They were responsible for making decisions in terms of the specific content, teaching methods and aids/tools, assessment and evaluation of the teaching intervention and the roles of the individual group members. Once each group member had decided which particular section of the work they would be presenting, for example, Fractures and Dislocations, students from each group doing the same section formed a new group and created visual aids to use as teaching tools.

In the third week, groups taught learners in grades 9 to 11 at an under-served high school in the vicinity of the medical school. An educator from the Faculty of Medicine and Health Sciences accompanied them on the first two days in order to help them become familiar with the environment and to give feedback on content and teaching methods. At the end of each day, group members reflected on completed teaching sessions, exploring what had worked well, what had not worked and how they might improve. They then made the necessary adjustments to ensure the relevance and practicability of the subsequent teaching interventions. A summary of their discussion was sent via text message or e-mail to the educator who in turn offered constructive feedback if required.

In week four, students handed in individual reflective reports about their experiences at the schools. At an end-of-project celebratory function, the groups gave feedback about the project to an audience of their peers, community representatives and other invited guests. Certificates of attendance for each class that participated in the First Aid course were handed to the school representatives.

METHOD

It was important for faculty to determine the nature of the contribution made by the SLP in terms of the community, but even more so, the contribution it made in enhancing students' learning and development as health care providers. This had to be done scientifically, so a qualitative approach was followed to determine students' perceptions of the SLP that was introduced in the first year of the EDP. An evaluative research design was used in order to reach a conclusion about the influence of this curriculum intervention on students' development as health care providers. The collected data for the study was self-reported by means of a structured reflective report.

Participants

The entire cohort of first-year EDP students for the EDP programme of 2011, comprising three physiotherapy and 51 medical students, participated in the study. The formal EDP was introduced in 2006 in an attempt to bridge the gap between an ineffectual schooling system, especially in previously disadvantaged high schools, and challenging health sciences curricula. The faculty EDP selects students for the EDP programme who meet the minimum selection criteria but who would not be selected under normal selection circumstances due to the vast number of applications. They do, however, demonstrate the potential to be successful in a health sciences programme and are, therefore, given the opportunity to complete their first year over a period of two years (with additional modules), during which time they are also taught additional skills such as communication, study methods and dealing with

stress. If they succeed, they join the mainstream students for the remainder of their studies.

The 2011 cohort of EDP students came from all walks of life. There were students from impoverished backgrounds and schools with very limited resources, such as the student who grew up in a ‘three-room tin house ... with an aunt who is a street vendor [and who] learn[ed] Chemistry on the board’, but there were also students who had been exposed to more opportunities and amenities. In terms of background, therefore, it was a diverse group.

Many of the students who participated in the study were involved with community outreach programmes as part of their high school experience and stated that they felt a sense of satisfaction when helping others. This is true for a large percentage of medical students, but the process of being exposed to models of practice that do not necessarily support altruistic motives, accumulating debt and establishing relationships in their place of study, plays a role in diminishing the number of students who carry their ideals into practice (Coulehan and Williams 2001; Hafferty and Franks 1994; Hunnert, Hafferty and Christakis 1996).

Data collection

Data was obtained from structured reflective reports about students’ experiences of the one-week period during which they had taught First Aid to high school learners. At the outset of the project students received detailed instructions regarding the report, including specific aspects that needed to be addressed, such as a description of their own school background, their impression of the learners, teachers and school environment. Open-ended, written response questionnaires completed by students at the end of the four-week SLP generated further useful data regarding the logistics and administration of the project as a whole. The questionnaire was developed by the researcher and two co-researchers.

Analysis

Data was analysed according to analytical abstraction. All identifying information was removed from reports and after different levels of analysis, themes were generated to represent meaning as understood by the researchers. Themes were verified by co-researchers and altered as necessary. Data from questionnaires was subsequently summarised in a report.

Limitations

A limitation of the study is that it portrays only the students’ experiences of the project and does not provide a complete understanding of the influence thereof on the community to which the service was provided. It must further be taken into

consideration that participants differ in their ability to reflect, communicate and accurately describe their experiences.

Ethical consideration

Ethical approval for the study was obtained from the Committee of Human Research, Stellenbosch University. Consent was obtained from all participants prior to taking part in the study and the participants' anonymity was upheld.

RESULTS

Recurring themes in the students' reflective reports are briefly explained and are accompanied by pertinent quotes.

Improved awareness of group interaction, leadership and personal communication skills

Students worked together closely in preparing for and teaching First Aid. They had to rely on one another; take responsibility for certain tasks; be willing to receive feedback from and give feedback to their peers about performance; participate in group discussions and decision making' and speak in front of an audience of approximately 40–50 learners who were, at the most, three or four years younger than them.

I learnt a few new things about my friends, how shy one of them was and how they built up the courage to talk in front of the learners. I also saw the leadership skills of another of my friends grow over this past week.

The experience has left me comfortable in doing group tasks. This is valuable ... in the medical context when faced with having to work within an interdisciplinary team.

Being able to communicate with someone else in their language is a sign of humility and shows empathy which should be traits of a good health professional.

Increased sense of civic responsibility and social justice

As students immersed themselves in this 'community', they were sensitised to the unique lifestyle-related health risks as well as knowledge deficits that impacted negatively on community members' personal advancement. They recognised the role that they as future health care professionals could, and in fact should, play in addressing these needs.

... many could not afford health care which made me realise that it should be available to them, to all, rich and poor. I would treat patients who could not afford medical health care because no one should be denied good health care.

I realised how being a health worker was not confined to the walls of a hospital or a clinic. We have to give back to the community.

Deepened personal commitments to service and community medicine

Students were invigorated by the positive impact that such a seemingly inconsequential project had and realised that even with their current limited knowledge and skills they could make a difference. They became aware of the needs of the surrounding communities and a few even considered altering their career path to provide for some of these needs.

This experience made me think of my home community where we have a lot of schools that are disadvantaged by a lack of money and how poverty affects our youth ... I have decided to go to a local school and take time to coach primary school children and even show them some of the first aid.

I have decided to become a very good general practitioner for a few years ... instead of immediately specialising in Gynaecology. This will give me the opportunity to interact with the community in order to increase their health knowledge. [Translated]

Increased compassion and decreased stereotypes and racism

While spending time with people from diverse cultures and backgrounds (individuals they would probably not have engaged with under normal circumstances), the students gained a better understanding of the learners' struggles and dreams. Several stereotypes were dismantled and new perspectives developed.

The learners at that school have to overcome the socio-economic barriers in order to initially attend university and ultimately succeed.

My opinion that schools from less privileged areas were not as good as model C schools changed slightly, because I saw first-hand that some of the learners had so much potential and wanted to make something of their lives despite their environment and circumstances.

I was caught up in the stereotype that black people are the only sufferers of the country, yet poverty and lack are not racist.

The interaction with my fellow coloured peers and the respectable attitudes they portrayed towards one another changed the way I thought about them.

Increased gratitude and motivation by reminding students of their vocation to be a doctor and reinforcing their commitment

Students' experiences of playing a small role in uplifting a community reaffirmed their intention of becoming a healthcare professional and inspired them for the hard work that lay ahead in order to achieve this goal.

I have been humbled by this experience. This experience helped me realise that I am privileged to be receiving a university education, coming from a privileged background, with a good support system that allowed me to dream and aspire to study towards the career of my choice.

I think this experience is very important to us, because it helps us see if we are really willing to work with people, real people, not just the abstract idea of people.

... you should keep an open mind to everything. I expected the worst from that school and its learners, but this experience turned out to be the best thing that has happened to me this year. It helped me find a piece of me that I had lost. The visits to the school took me down memory lane and made me recall the dreams and aspirations I had ... before the pressures of life got to me. In other words, being around those learners helped me regain my focus. They inspired me. I feel more motivated to work hard.

Enhanced learner aspirations in terms of career choice in health sciences

Students further reported that they had the opportunity to respond to learners' questions regarding studies in health sciences as well as to motivate learners to work hard. Having sowed the seeds of aspiration, learners who might not otherwise have considered a career in medicine might subsequently contemplate such a profession (McConnell et al. 2012).

I observed a change in one pupil, a girl that was in the top ten for her grade. After a session she asked one of my colleagues about the university life and the requirements to study medicine. I might not know her background but I could tell she was motivated and when I shared my story with her I saw a greater determination that she could also do this.

DISCUSSION

Although SLPs often extend over a semester or even an academic year, it has been documented that a short-term experience can produce similar benefits to its longer-term counterparts (Reed et al. 2005; Steiner and Sands 2000). Furthermore, if curricular time is made available for community engagement, it becomes apparent that the institution is committed to community service and considers service as the obligation of all doctors (Brush, Markert and Lazarus 2006; Burrows et al. 1999).

Spending seven days in a previously disadvantaged school, teaching First Aid to learners they might not have encountered otherwise, resulted in an increased sense of civic responsibility and social justice, a deepened personal commitment to service and community medicine, increased compassion and decreased stereotypes and racism; an improved awareness of group interaction, leadership and personal communication skills; as well as increased gratitude and motivation by reminding students of their vocation to be health care professionals and reinforcing their commitment. Most of these aspects can be categorised under the broad heading of 'professionalism': developing appropriate attitudes towards oneself, towards others and towards one's studies; being able to see other people's viewpoints and communicate well, and socialising to the position of physician (Littlewood et al. 2005).

Two local high schools were involved in the SLP. The first school at which the students taught was in a state of disrepair; the buildings and grounds needed some attention; there were few facilities and classrooms were overcrowded; and some learners seemed unmotivated and without future prospects. According to the headmaster, there was a high incidence of crime and gangster activities in the surrounding, impoverished community. Students also revealed that teenage pregnancy was a problem. The second school stood in stark contrast to the informal settlement where it was situated. The grounds and buildings were well maintained; there were computers and projectors in most classrooms and learners had access to a library and computer laboratory. The classrooms were also overcrowded, but strict discipline was maintained.

It was noteworthy that group B (who served at the first school) mentioned aspects, such as gratitude, increased motivation towards their studies and vocation and wanting to give back to the community as areas of growth. On the other hand, students who served at the second school remarked on improved leadership, group work and communication skills as well as increased confidence in terms of public speaking. Group B also mentioned some of the latter aspects but to a lesser degree. This might be attributed to the greater cultural disparity between the students from group B and the learners they were exposed to. This disequilibrium created a greater potential for growth in the areas of civic responsibility and social justice as is implied by this quote from a group B student:

On a personal level, my attitudes and opinions towards others have changed for the better. This was brought about by an understanding that comes with personally experiencing situations of adversity instead of merely hearing ... or reading about it.

There are fewer community interaction projects involving first-year medical students. This is partly due to the fact that junior students have a limited scope of practice at this early stage of their studies, which mainly involves trying to get a glimpse of the light at the end of the 'theory tunnel' (Buckner et al. 2010; Littlewood et al. 2005). However, early community exposure has the potential to orientate medical curricula towards the social context of practice; ease students' transition to the clinical setting and motivate them; enhance their confidence to approach patients and strengthen their learning of the role of professionals within society (Dornan and Bundy 2004). Furthermore, early experience in community settings builds positive attitudes towards rural practice and has the potential to influence students to choose generalist careers (Brush et al. 2006; Buckner et al. 2010; Littlewood et al. 2005). From the results of the study, it is evident that participating students experienced similar benefits from their interaction with the community.

Building on the experience

In 2012, during the second round of the SLP, an additional component was incorporated. Students were given the task to identify socio-economic, health-related, knowledge-deficit or other issues in the school environment that could potentially be addressed. They were to devise a feasible project that could serve either to reduce the impact of the particular issue or attempt to solve the identified problem. The proposal had to include the resources they envisaged using, the time frame for planning and implementation, as well as evaluation of the success of the project.

Proposals from the different groups focused on similar aspects, such as role modelling, career guidance as well as practical assistance in terms of school work and sports coaching. One of the groups was so inspired by the project that a decision was made to collaborate with the school with the purpose of implementing the project in 2013. The school received the proposal with great enthusiasm, and, after adapting it to their needs, it was launched on a small scale from the second school term.

CONCLUSION

With the growing emphasis on cultivating appropriate graduate attributes and a patient-centred approach in health sciences students, service-learning has become a valuable tool in the toolkit of the medical educator. The medical educator is responsible for producing health professionals who can manage the ever-expanding knowledge base integral to health sciences in the 21st century. Of equal importance is their responsibility to produce culturally competent and service-driven clinicians

as well as those who will serve as leaders in their communities (McConnell et al. 2010). These health professionals will, however, not be cultivated within lecture halls or even tertiary hospital settings (Faulkner and McCurdy 2000; Lempp and Seale 2004; Stephenson, Higgs and Sugarman 2001) but in the field, as an EDP student so aptly remarked:

There are lessons that one needs to experience rather than to be taught.

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