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Abstract

Exercise science is now an integral part of the allied health framework in Australia and graduates from accredited programmes are equipped with skills recognised as being important in the prevention and management of lifestyle-related diseases. This pilot study sought to determine the experiences of 11 final-year exercise science students in their major practicum and identify skills learned and developed while on placement. Analysis of the interview data established that the students worked with clients from a broad range of sociocultural and socioeconomic backgrounds, both within and between practicum sites; the students' experiences and their preparedness to engage with clients from different backgrounds varied as a result. Although the students generally reported being technically skilled for their major placement, many reported being underprepared to deal with people from different backgrounds. However, all participants held that their interpersonal skills greatly improved in response to their placement and several remarked that they developed their problem-solving skills through watching and assisting their supervisors work with clients. The present study confirms the practicum as a critical learning site for improving communication and problem-solving skills with exercise science and exercise physiology students.

Keywords

workplace learning, practicum, exercise science, field experience

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Introduction

From its roots in physical education and medicine (Knudson, 2005), exercise science has developed into a fast-growing, multidisciplinary field with a wide range of professional applications (Abernethy et al., 1997; Morton, 2007). In Australia, exercise science has evolved to the extent that professional accreditation is regulated by Exercise and Sports Science Australia (ESSA), which certifies degree programmes provided they meet their detailed criteria and standards. Accredited exercise physiologists (AEPs) are now considered to be allied health professionals and, as such, clients receive a number of subsidised consultations funded by the government.

In Australia, and most likely elsewhere, to prepare students to work in as diverse fields as sport science, exercise physiology, cardiac investigations and others, universities have developed programmes that focus heavily on science-based courses aimed at equipping students with the bio-physical knowledge and technical skills required for their professional roles (Tinning, 1996). This focus, however, has led to a reduction in courses taken by exercise science students focussed on the social dimensions of physical activity, health and disease (Kirk, 1990). A focus group with recently graduated exercise science students and workplace supervisors confirmed that while students graduate with a high level of technical proficiency, some have difficulties communicating effectively with clients from different sociocultural and socioeconomic groups (Jenkins et al., unpublished observations). Across the medical and health professions, the ability to communicate is considered to be crucial to optimising patient outcomes (Eiser and Ellis, 2007; Kagawa-Singer and Kassim-Lakha, 2003). Dibbelt et al. (2009), for example, found that the quality of interactions between doctors and patients was directly linked to treatment effects six months after discharge. However, these researchers found that doctors, whilst successful in developing quality interaction in the affective domain (i.e. empathy, friendliness, understanding, etc.) were less adept at providing structured information and feedback. Other studies in Health Literacy support this finding (see Nutbeam, 2008; Peerson and Saunders, 2009). Because of the science emphasis referred to above, the exercise science curriculum may now have insufficient engagement with issues that foster the students' understanding of the social dimensions of health and how to effectively communicate with those with a particularly high risk of developing lifestyle-related diseases (Kagawa-Singer and Kassim-Lakha, 2003; Kirk, 1990; Link and Phelan, 2002).

This finding is supported in the broader medical education literature. Silverman (2009), for example, found that not only is the study of communication wholly inadequate within the curriculum of medical education, it has, he suggests, only 'minority sport' status. Instead, he proposes communication competence as central to the study of medicine. By implication, all students being prepared for professional life in the allied health services should have appropriate communication competence. In addition and of significant importance, it is widely recognised that issues of health are related to socioeconomic status (Lee and Cubbin, 2009; Lidfeldt et al., 2006; O'Dea, 2008; USDHHS, 1996). Yet, many university graduates (exercise science students included) come from relatively high socioeconomic backgrounds. University courses that specifically help students understand and engage with disadvantaged communities have the potential to improve the delivery of health programmes by informing them about clients that are outside their social experience (Kagawa-Singer and Kassim-Lakha, 2003; Ong et al., 1995).

A significant learning site for allied health professionals to develop and hone these capacities is the practicum (or work placement), where students under supervision apply their knowledge and

skills with clients and patients. Billett (2009) notes the increasing 'vocationalisation' of university courses where workplace experience is a crucial element of professional preparation. Of course, this is hardly new for some professions, notably teaching and health. Increasingly, Billett (2009) proposes such experiences need to take learners beyond the technical requirements of the job. In other words, the workplace affordances (the experiential possibilities of the environment) must extend the idea of occupational capacity to include broader critical capacities demanded by professional work and expected by professional and industry leaders. What is at issue here then is the degree to which the workplace, through the context of a work-integrated programme, enters into this broad notion of 'curriculum'. Recent Australian studies in education offer a sense of foreboding rather than hope in this regard (see Rossi *et al.*, 2008; Sirna *et al.*, 2008). In the area of Exercise Science (with particular reference to exercise physiology) in Australia, a total of 500 hours of practicum (work placement) must be accumulated for students to gain accreditation as exercise physiologists. To date, the value of the practicum in providing an opportunity for exercise physiology students to fine-tune their technical and communication skills has not been evaluated and it is not clear whether the skills taught to students in advance of the practicum adequately prepare them for the workplace.

The purpose of the present pilot study was, therefore, to investigate the experiences of final-year exercise science students in their major practicum and to assess the students' preparedness to work amongst a range of client groups.

Methods

Eleven fourth-year Human Movements Studies exercise science students who had recently been on their major practicum placement were interviewed in one-on-one telephone or face-to-face interviews. The interviews broadly addressed the workplace environment and sought to determine from each student whether they had been adequately prepared for their practicum. The study was approved by an ethics committee of The University of Queensland and all students gave their informed consent to participate.

Participant recruitment

Each of the three male and eight female participants had recently completed a 400-hour exercise physiology practicum placement at sites ranging from mobile businesses and gym environments to hospital out-patient clinics. Participants were contacted initially via email and asked to respond if they did not want to be involved in the study. Those who chose to participate were randomly selected and then contacted to undertake a one-hour interview about their practicum placement experiences.

Data collection

The 11 interviews were conducted by the same researcher; four were telephone interviews while seven were face-to-face. Interviewing was selected as the most suitable procedure because of the need to explore students' experiences of their practicum placement (Seidman, 2006). Claims that this type of research allows too much influence of the researcher on the results of the research (Liamputtong and Ezzy, 2005) were acknowledged, but considered not to be a serious issue since its legitimisation is provided by the widespread use of interview research in the social sciences (see Seidman, 2006). The

interviews were semi-structured, and questions asked of the participants included the following: ‘What sorts of things did you learn while on practicum?’, ‘What was your most significant experience on placement?’ and, ‘Did your degree adequately prepare you to connect, communicate and empathise with your clients?’ The interviewer explored topics raised by the participant and interviews lasted between 30 and 70 minutes; each interview was recorded for later transcription.

Data analysis

Interview transcripts were reviewed and arranged into topics according to the type of questions. In this research we were guided by the principles of good scholarship articulated by Tesch (1990). One such principle is that the identification of themes be neither scientific nor mechanistic, since, as Schwandt (2007) suggests, the tendency to think of coding as a mechanical, straightforward, algorithmic process is one of the most troubling tendencies in qualitative coding. Accordingly, it was necessary to read and reread the interview transcripts to ‘achieve closeness to them and a sense of the whole’ (Schwandt, 2007). There was a constant search for data (verbatim quotes) that illuminated the three research questions. Increasing familiarity with the data enabled the identification of two major themes that, through a process of constant comparison, accounted for the main ideas communicated by the focus group (Bogden and Biklen, 1982). These themes were technical skills and communication.

Findings and discussion

Since the ability to communicate with groups from a wide range of sociocultural and socio-economic backgrounds is likely to strongly influence client outcomes (Eiser and Ellis, 2007; Kagawa-Singer and Kassim-Lakha, 2003), this study aimed to explore the experiences of final-year exercise science students in their major work placement and, in particular, evaluate their sense of preparedness to work with clients from a range of socioeconomic and sociocultural backgrounds.

Six of the eleven practicum sites reported having clients from a broad range of socioeconomic backgrounds. With many unable afford the services themselves, their treatment and consultations were part funded through government agencies (e.g. Department of Veterans Affairs (DVA), WorkCover [WC] and Medicare). In addition, eight of the practicum placement sites were reported to have a client base with people of mixed sociocultural backgrounds, including those whose primary language was not English.

Given the reduction in courses with a sociocultural focus and the strong emphasis on the development of technical skills (Kirk, 1990), there is presently little scope to develop sufficient understanding of different cultures while at university and, accordingly, this adds to the value and importance of the practicum as a site for students to learn to communicate. However, it is noted that pedagogical tasks within the practicum seldom focus specifically on developing communication skills. Such skills seem to be acquired more in the process of their work in general rather than as specific tasks.

Two of the participants mentioned acquiring new technical skills while on placement (i.e. skills that had not been taught in their university courses), while a number of others reported that they improved their ability to problem solve, usually by watching their supervisors and others at work. Practicum is clearly a means to have students exposed to complex combinations of conditions that in class may only be described in isolation and as theoretical examples.

While the participants generally held that their university degree had provided them with the necessary technical expertise to work with clients presenting with a broad range of problems, five of the eleven participants reported being underprepared, particularly with regard to communication skills to work with people from such different socioeconomic backgrounds. Some suggested that although general communication skills had been taught as part of their degree, it was more their own personality or part-time work that provided them with the ability to deal with different groups of people.

Moreover, it is recognised that many university graduates (exercise science students included) come from relatively high socioeconomic backgrounds and have had little experience interacting with people from communities where the socioeconomic environment is low and the rates of lifestyle-related illnesses are high. It was, therefore, encouraging that eight of the eleven participants said that they greatly improved their interpersonal skills as a result of their practicum placement, thereby reinforcing the fact that the practicum is more than just an opportunity to practice what is taught in university settings. Indeed, because of its contextual authenticity, the practicum itself has its own unique educative potential.

A further theme to emerge from the interviews was that participants held that they had gained confidence from their practicum placement. One student reported that he benefited most from the validation of his ideas and another from having the opportunity to put practical skills to use with clients. A third enjoyed the freedom to think outside the box (i.e. think about problems in novel ways) when designing rehabilitation programmes.

In summary, the present pilot study found that exercise science students in an ESSA-accredited degree held that they had a strong knowledge base coupled with well-developed technical skills to enter their major practicum. While many of the students interviewed reported being underprepared for the interpersonal and relational side of practicum, it emerged that practicum provide a critical learning site particularly for students to improve their communication skills and problem solving. We suggest that the results of this study are sufficiently generative as to justify a larger scale research project that would follow students from different universities across their programmes and into the practicum settings. The results of a larger study of this kind would provide a warrant for informing the registration criteria for Exercise Science professional bodies and for the curriculum of universities.

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