Studies in Educational Evaluation 50 (2016) 62–70

Contents lists available at ScienceDirect

Studies in Educational Evaluation

journal homepage: www.elsevier.com/stueduc

Perceptions of the learning environment, learning preferences, and approaches to studying among medical students in Pakistan

Raza Ullah[a], John T.E. Richardson[b,*], Rehan Ahmad Malik[c,1], Sajid Farooq[d]

[a] Institute of Social and Cultural Studies, University of the Punjab, Lahore 54590, Pakistan
[b] Institute of Educational Technology, The Open University, Milton Keynes MK7 6AA, United Kingdom
[c] Jinnah Hospital, Lahore, Punjab 54550, Pakistan
[d] Internal Medicine Residency, Good Samaritan Hospital, Cincinnati, OH 45220, United States

ARTICLE INFO

Article history:
Received 23 September 2015
Received in revised form 1 July 2016
Accepted 2 July 2016
Available online xxx

Keywords:
Approaches to studying
Learning preferences
Medical students
Pakistan
Perceptions of the learning environment
Problem-based learning

ABSTRACT

Students at a Pakistani medical college were surveyed using instruments taken from Western research. The students who rated their courses positively tended to adopt an organised approach in their learning and studying. The students who perceived that their assessment and workload were inappropriate preferred a transmissive approach to teaching and adopted a surface approach in their learning and studying. The students who preferred a student-centred approach to teaching tended to adopt a deep approach in their learning and studying. This confirms the idea, well established in Western research, that there exists a strong relationship between students' perceptions of their courses and the approaches that they adopt on those courses. However, the incorporation of problem-based learning in the medical curriculum had not led to any enhancement of their perceptions and preferences, nor had it led to an unambiguous improvement in their approaches to studying. This is attributed to the hybrid nature of their programmes, in which problem-based activities were combined with more conventional forms of teaching and assessment, and to the anxiety and stress which seem to be common among students at medical schools in Pakistan.

1. Introduction

Research in Western countries in the 1970s identified different approaches to studying among students in higher education: a deep approach, based upon understanding the meaning of course materials; a surface approach, based upon memorising the course materials for the purposes of assessment; and a strategic approach, based upon obtaining the highest possible marks or grades (Laurillard, 1979; Marton, 1976; Ramsden, 1979). A deep approach and a strategic approach tended to be associated with good academic performance, but a surface approach tended to be associated with poor academic performance. This was confirmed in subsequent research which used questionnaires to measure approaches to studying in larger numbers of students (for a review, see Richardson, 2000, pp. 182–183).

Ullah, Richardson, and Hafeez (2011) used instruments devised in Western research to compare perceptions of the learning environment and approaches to studying in a sample of students drawn from the general undergraduate population at two universities in Pakistan. They also measured the students' preferences between courses, teaching and assessment that supported their understanding (theoretically related to a deep approach to studying) rather than courses, teaching and assessment that involved the bare transmission of information (theoretically related to a surface approach to studying) (Entwistle, Tait, & McCune, 2000).

The students who had positive perceptions of the instructional practices, the learning resources, and their acquisition of generic skills were more likely to adopt a deep approach, to prefer courses, teaching, and assessment that supported their understanding, and to be engaged and reliable in studying. In contrast, the students who had negative perceptions of the appropriateness of the assessment and the workload tended to adopt a surface approach and to prefer courses, teaching, and assessment that were based on the bare transmission of information.

These results showed that there is a broad relationship between students' perceptions of their courses and the approaches to

* Corresponding author.
E-mail addresses: razaullah01@gmail.com (R. Ullah), John.T.E.Richardson@open.ac.uk (J.T.E. Richardson), dr.ramalik@gmail.com (R.A. Malik), sajidfarooq2@gmail.com (S. Farooq).
[1] Present address: Baptist Hospital, 6262 Sunset Drive, Miami, FL 33143, United States.

http://dx.doi.org/10.1016/j.stueduc.2016.07.001
0191-491X/

studying that they adopt on those courses. This notion has been well established in Western research (see Parpala, Lindblom-Ylänne, Komulainen, & Entwistle, 2013; Richardson, 2005). However, in detail the results obtained by Ullah et al. indicate that this relationship is construed differently in different countries and contexts, in that their students' perceptions were based on the instructional practices, the acquisition of generic skills, the appropriateness of the assessment, the appropriateness of their workload, and the available learning resources, but they were not based on the clarity of the goals and standards of their courses or the role of student independence and choice.

We explored this idea in the distinctive context of medical education in Pakistan. As elsewhere in the world, medical students in Pakistan are highly qualified and highly motivated. They have the opportunity to apply their academic knowledge in their encounters with clinical patients, and yet they are also expected to tolerate a heavy curriculum. An additional consideration is that, in contrast to the undergraduate programmes that Ullah et al. (2011) examined, virtually all medical schools in Pakistan have incorporated problem-based learning into their curricula to some extent. Given these distinctive features of the context, the aim of the present study was to investigate the interrelationships among approaches to studying, learning preferences and perceptions of the learning environment in Pakistani medical students.

1.1. Approaches to studying in medical education

We previously noted the relationships between different approaches to studying and students' academic attainment. In Western research, similar trends have been obtained in medical education, although a strategic approach is more strongly related to academic performance than is a deep approach (for reviews, see Feeley & Biggerstaff, 2015; Ferguson, James, & Madeley, 2002). Undergraduate medical students endorse a deep approach and a strategic approach more than a surface approach, although both a deep approach and a strategic approach may be more common among postgraduate medical trainees and practising physicians (Cebeci, Dane, Kaya, & Yigitoglu, 2013; Newble & Hejka, 1991; Samarakoon, Fernando, Rodrigo, & Rajapakse, 2013). As in more mainstream higher education, medical students who have positive perceptions of their courses are more likely to adopt a deep approach and less likely to adopt a surface approach than are medical students who have negative perceptions of their courses (Smith & Mathias, 2010; in veterinary medicine, see also Haarala-Muhonen, Ruohoniemi, Katajavuori, & Lindblom-Ylänne, 2011; Ruohoniemi, Parpala, Lindblom-Ylänne, & Katajavuori, 2010).

However, a number of studies have found that medical students following traditional curricula tend to be progressively more likely to adopt a surface approach to studying as they proceed through their programmes (see Feeley & Biggerstaff, 2015; for a review). This trend is often attributed to students favouring a more teacher-centred way of learning in order to cope with high workload associated with an overloaded curriculum (Raidal & Volet, 2009). These and other considerations have promoted an interest in alternative forms of curricula.

1.2. Problem-based learning

Problem-based learning is an approach to curriculum design in which students collaborate in small groups to solve open-ended problems based on realistic scenarios. In Western countries, problem-based learning has been adopted for many years in medicine and other subjects. It has been promoted on the basis that it allows students to acquire and apply subject-based knowledge and skills, encourages self-directed, life-long learning, and prepares graduates for the challenges of professional practice (Hernández-Encuentra & Sánchez-Carbonell, 2005).

Students following problem-based curricula rate them more highly than do students following traditional subject-based curricula in terms of the teaching, the assessment, the acquisition of generic skills and the fostering of their own independence (Lyon & Hendry 2002; Sadlo, 1997). They also tend to rate them more highly in terms of the promotion of professional competencies such as interpersonal skills, problem solving, self-directed learning, information gathering, and work planning (Chung & Chow, 2004; Schmidt, Vermeulen, & van der Molen, 2006).

Students following problem-based curricula are more likely to use a deep approach to studying and less likely to use a surface approach to studying than are students following subject-based curricula (Hall, Ramsay, & Raven, 2004; Kieser, Herbison, & Harland, 2005; Newble & Clarke, 1986; Richardson, Dawson, Sadlo, Jenkins, & McInnes, 2007; Sadlo & Richardson, 2003). A thorough-going problem-based curriculum should involve alternative assessments that are more authentic in terms of the students' future employment (see Barrow & Tamblyn, 1980). However, when assessed using the same procedures, students who have followed problem-based curricula may also demonstrate higher attainment than those who have followed subject-based curricula (Polanco, Calderón, & Delgado, 2004). In general, students who have followed problem-based curricula display superior long-term retention, skill development and satisfaction with their programmes (Strobel & van Barneveld, 2009).

In contrast, "hybrid" curricula that combine problem-based activities with traditional forms of teaching and assessment may be less successful. The same may also be true when students who have previously been exposed to subject-based curricula encounter course units that have been designed on the principles of problem-based learning. In these circumstances, Segers, Nijhuis, and Gijselaers (2006) found that the students were less likely to adopt a deep approach and more likely to adopt a surface approach because they failed to perceive that the course unit's assessment demands were different (see also Gijbels, Segers, & Struyf, 2008).

Indeed, Prosser and Sze (2014) found that first-year medical students following problem-based curricula might understand those curricula in two quite different ways. Some students thought that problem-based learning was concerned with learning how to solve problems individually; these students de-contextualised the problems that they were given and did not appreciate their clinical relevance. Other students were aware of the importance of solving problems in groups and related the problems that they were given to their clinical context. The former tended to adopt a surface approach to studying, whereas the latter were more likely to adopt a deep approach (see also Balasooriya, Toohey, & Hughes, 2009).

1.3. Medical education in Pakistan

Siddiqui (2007, pp. 45, 60–63, 104–107) criticised the education system in Pakistan as being dominated by an emphasis on students obtaining good grades irrespective of the quality of their learning. Assessment, he argued, focused upon the reproduction of information and made little or no attempt to tap higher-order thinking skills. In higher education, lectures are the predominant mode of instruction, and interactions between teachers and students are limited by the large size of the classes (typically around 300 students). Ali, Tariq, and Topping (2009) confirmed the teacher-centred nature of the environment in a survey of 350 students at six public universities in Pakistan: they perceived their teachers to be concerned mainly with preparing them for their examinations through the rote repetition of information rather than with the practical application of knowledge learned in the classroom.