The pharmacy degree: The student experience of professional training

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Abstract

Aim: To explore pharmacy undergraduates' learning strategies and their acquisition of a professional identity.

Method: Qualitative study using group interviews with first and third year pharmacy undergraduates in four schools of pharmacy.

Key findings: Analysis of the transcripts yielded five themes: Student motivation for choosing pharmacy as a career; developing a distinct professional identity; socialisation for a professional identity; strategies for learning for a professional identity and social pharmacy's contribution to a professional identity.

Students did not formulate their professional identity until they felt they had established competencies in core science. Students' initial induction into their chosen profession comprised absorbing a substantial body of scientific knowledge. Rote learning was cited by many as the principal learning strategy to cope with this, though students recognised that this was inadequate preparation for their professional role. "Social pharmacy" was perceived as a legitimate topic though it was not regarded as a core element in establishing a professional identity.

Conclusion: Professional socialisation is limited by the perceived overriding importance of acquiring a common science background to underpin a professional identity.

Keywords: *Curriculum, learning, pharmacy, social pharmacy, socialisation*

Introduction

Pharmacists' functions are increasingly patient rather than drug centred—as reflected in today's pharmacy curriculum which, in addition to inclusion of pharmaceutical science emphasises effective communication skills, social perspectives on pharmaceutical service delivery and a broader awareness of public health and a clear sense of how pharmacists relate to other health professionals (Quality Assurance Agency for Higher Education, 2002; Royal Pharmaceutical Society of Great Britain, 2002). These topics, collectively grouped under the heading pharmacy practice, stand in contradistinction to the traditional scientific content of the pharmacy degree. The relative importance of science and practice in the pharmacy curriculum and the appropriate balance between the two has been the subject of much debate by commentators over many years. Pharmaceutical science still predominates in the curriculum (Wilson, Langley, Jesson, & Hatfield, 2006), which just over half of students in a national

survey considered to be appropriate, though the majority of students consider there to be insufficient material relating to pharmacy practice in the first year (Wilson et al., 2006).

The practice of contemporary pharmacy extends beyond pharmacists exercising their specialist knowledge of medicines. The MPharm curriculum similarly reflects this in that a pharmacy degree not only imparts the specialist knowledge pharmacists require for their professional practice, but is also a vehicle for professional acculturation—with students being socialised into the appropriate values, beliefs and practices of their chosen profession. Factors which shape students' attitudes and behaviours include their own values, role models they encounter in academic and professional environments and the characteristics of the environments themselves (Hill, 2000). Hammer, Berger, Beardsley, and Easton (2003) articulately described pharmacy professional socialisation:

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"Professional socialization involves transformation...the transformation of individuals from students to professionals who understand the values, attitudes, and behaviours of the profession deep in their soul. It is an active process that must be nurtured throughout the professional's/student's development. In pharmacy the socialization process begins the moment a student...interacts with pharmacists, evaluates what they do, or actively seeks information about the profession. Beliefs, attitudes and behaviours begin to develop with regard to pharmacists' roles".

This socialisation process fosters a distinct occupational identity and is clearly evident in the training of student doctors and nurses, a significant proportion of which takes place in their work setting. All UK pharmacy schools currently offer hospital placements during the degree program. However the amount varies considerably and usually occurs in the third and final year of the course (Wilson et al., 2006). Thus, although there is a drive towards placement learning for UK health professionals (Department of Health, 2001), this rarely happens for pharmacy students. Socialisation for pharmacy students can only occur through interaction with pharmacists embodying the profession's cultural values. For some this will be through interaction with family and friends who are pharmacists. For all, these interactions will take place within their pharmacy school. However, the quality and appropriateness of pharmacy education in preparing students for subsequent professional practice is currently threatened by the shortage of pharmacy-trained faculty (Taylor, Bates, & Harding, 2004).

This study reports an exploration of pharmacy students' perceptions of the undergraduate curriculum's function as a foundation for professional practice.

Method

A qualitative design was chosen because very little is known of the scope and range of salient issues that influence students' experience of the MPharm curriculum in relation to their aspirations as pharmacists. Data were collected using group interviews with four cohorts of first year students and three cohorts of third year students. Proceedings were tape recorded and transcribed. Group interviews were chosen to allow students to share ideas and stimulate reflectivity. Each group interview was facilitated by an experienced researcher (GH) with the aid of a suitably developed topic guide. This explored students' perception of the learning experience for the various elements of the curriculum, appropriateness of these to perceptions of the professional role, and the associated strategies used to facilitate their learning.

Sample selection

Sampling was based on the findings of two previous studies (Chowdhury, Taylor, & Harding, 2003; Harding & Taylor, 2006). Four schools of pharmacy were purposively selected to include those with the greatest and least student contact hours for extemporaneous preparation (considered emblematic of applied pharmaceutical science), the school with the least contact hours for social pharmacy (considered emblematic of social and behavioural sciences), two schools with an average number of contact hours in social pharmacy and one where social pharmacy was so integrated in the curriculum that the hours devoted to the subject could not be calculated. As an incentive to participate, students were entered into a prize draw held at the end of each group interview for a £15 gift voucher. Ethical review and research governance approvals were not necessary as this study was a service evaluation.

Data management and analysis

Data analysis was developed along principles outlined by Harding and Gantley (1997). Specifically, the data were managed in the first instance by mapping key concepts derived from the transcripts ("charting") and extracting emergent themes from the transcripts. Transcripts were analysed iteratively and emergent themes and concepts revisited and refined. The themes together with recorded observational data formed the basis of analytical interpretation.

Validation

Independent analysis of a selection of the transcripts was undertaken by KT. Comparison of emergent themes from the transcripts was made, and a final set of theme headings was agreed upon.

Results and discussion

Analysis of the transcripts yielded five themes:

   i) student motivation for choosing pharmacy as a career;
  ii) development of a distinct professional identity;
 iii) socialisation for a professional identity;
  iv) strategies for learning for a professional identity; and
   v) social pharmacy's contribution to a professional identity.

Motivation for choosing pharmacy as a career

The decision to embark on an extensive (and expensive) four-year MPharm programme involves a complex range of considerations. Not surprisingly, a significant consideration for students, faced with the prospect

of undergraduate debt, was their belief that they were certain to obtain employment on graduation. "The main thing is knowing you are guaranteed a job at the end of it" (first year, School 1). Students reported this to be a pragmatic factor when considering a career as a pharmacist, and this remained a recurrent issue through the course.

Several of the students had embarked on a pharmacy degree by default having failed to secure entry onto a medical or dental degree. "I wanted to do medicine ... I don't know why I picked it (pharmacy)" (first year, School 1), "Because I couldn't go into medicine, pharmacy was the next option" (first year, School 2).

The notion of pharmacy being a second option, rather than the first course of choice was strongly articulated. Wills, Shann, and Hassell (2006) reported that for approximately 25% of students approaching the final year of the MPharm, pharmacy was not their first choice course. Since some students will apply for pharmacy as first choice, even though they may harbour a desire to do medicine, but regulate their choice to secure a university place, it seems a sizeable proportion of students entering pharmacy schools may have relatively weak motivation to study pharmacy and/or commitment to the profession. Further, the choice of pharmacy for many interviewees was defined by what it did not encompass rather than what pharmacy could offer. "I didn't want to be looking at eyes or teeth for the rest of my life" (first year, School 1).

For others the "choice" of the pharmacy degree course was concerned less with course content and more to do with continuing a long established family tradition of pursuing a career in pharmacy or a similar science-based discipline. "My sister's a pharmacist so that's how I decided to do pharmacy in the first place" (first year, School 1). Whilst family was very influential for some in their decision to study pharmacy, such influences were not always positive: "I have two pharmacists in my family ... they actually told me not to do pharmacy" (first year, School 4).

Other students were influenced by their perception of the character of pharmacy—the flexibility of working conditions, and its status as a health profession. Part of pharmacy's appeal, for them, lay in the fact that the various branches of pharmacy satisfied differing requirements—for example community pharmacy offered opportunities to communicate professional knowledge directly with people: "I enjoy chemistry but I also enjoy interacting with people" (third year, School 4). "I also wanted a job which involved ... communicating with people" (first year, School 3). "...there's satisfaction in just knowing you have helped someone" (first year, School 2). This "model" of pharmacists as communicators, interacting with the public, was a regularly articulated theme throughout the interviews.

Developing a distinct professional identity

A key facet of entrance to all professions is that the nascent professional acquires specialist knowledge and takes on the characteristics of practitioners of that profession (Harding & Taylor, 2002). In this respect, students perceived their courses as being distinct from general science degrees and tended to describe themselves as pharmacy students rather than generically, as students, denoting their assimilation into a profession.

For a number of students their sense of professional identity was inextricably tied up with their identity as scientists and being able to work accurately. The pharmacy degree was "...not just about academic knowledge; it's about being professionally competent: not just dealing with patients, but not making a mistake because that could kill someone" (first year, School 1).

In this vein, some students formulated a fragile rather than robust professional identity as exemplified by an imperative to strive never to risk mistakes in practice. That is, successful professional practice was defined in negative terms "not making an error", rather than in terms of positive outcomes. Strategies to minimise such perceived risks included developing reflective practice—but reflection was limited to learning from "mistakes".

> "It's that sort of reflection thing—why have I dispensed it wrong, what can I do to stop myself from dispensing it wrongly again?" (third year, School 1).

For such students, professionalism was defined in terms of developing scientific and technically precise skills. Others however took a broader perspective—as captured by one student:

> "I think being a pharmacy student is tougher than being a normal student because of the breadth of knowledge you've got to have. You've got to cover all the science, all the pharmacy law, ethics, you've got to be a professional person, you've got to know all about drug dispensing, you've got to know how to work with other people" (third year, School 1).

Surprisingly, only two students mentioned medicines when specifically asked to consider pharmacists' professional role: "A pharmacist is a drug specialist" (third year, School 4). "...you are an expert in drugs ... you know more than anyone else" (first year, School 3).

This is notable, not least because the prosecution of a professional role rests on possessing and trading on an exclusive body of knowledge and skill. The fact that most students failed to acknowledge pharmacists' specialist knowledge in relation to medicines may reflect, in part, a preoccupation with developing their identity and skill base initially as scientists, or the increasing patient-oriented emphasis in modern courses.

Socialisation for a professional identity

Appropriate professional attributes are acquired gradually by an informal process of acculturation or professional socialisation. As one student put it: "… we're transforming into professional pharmacists. If you're thinking from the first year to where we are in the third year there's a massive difference" (third year, School 1).

In this respect, exposure to role models is important in providing a template on which to develop an appropriate professional identity (Hill, 2000). Clearly, some students will have family and friends who are role models. All students though, have sustained interaction with academic pharmacists who might be perceived as potential professional role models. However, academic pharmacists were considered to be qualitatively different from their professional colleagues in community or hospital practice. This raises the question whether; academic pharmacists can be effective role models for students: "A lot of our lecturers are actually pharmacists. They're all researching specific topics or areas so you don't really get a sense that this is how a real pharmacist is supposed to be" (third year, School 1).

Students, aware that many of their lecturers were either not qualified as pharmacists or did not practice in a health care setting, considered the best opportunity to develop a professional identity came largely from teaching and learning in pharmacy practice classes. "…we don't really get the sense (of being a pharmacist) from really anyone here, except the pharmacy practice section…" (third year, School 4).

In such classes, pharmacy students learn and observe the norms of professional practice at first hand in an environment resembling a pharmacy, and from experienced practitioners.

> "When we go to pharmacy practice sessions there are real pharmacists and it is nice to have real health care professionals who are in the field as it were, working with the public. What they teach and the advice they give is quite impressive. It's pleasing to get advice from real pharmacists, so I suppose in a way they are role models" (first year, School 4).

With relatively few practising full-time pharmacists in many schools, students' interaction with practitioner-teachers becomes increasingly important: not least in ensuring the appropriateness of students' learning experience for contemporary practice. No surprisingly then, such individuals have particular credibility in the eyes of students as they are "licensed practitioners" able to articulate practice "in the real world" and represent what the students aspire to become.

In the same vein, students regarded practice placements as both inspirational and aspirational:

> "When I saw on our timetable that we were going on a field trip I thought it was great. He's just got

the right idea. He's very dynamic. He's very involved with patient counselling, he's not just a dispensing machine. He's so well rounded and intensely passionate about it … I was extremely impressed with him and that whole operation so if I was going to say I had a role model in retail community pharmacy….that's probably what I'd aspire to" (first year, School 4).

All UK pharmacy schools offer hospital placements, as part of the MPharm course, though the amount varies considerably (Wilson et al., 2006). For those in this study who had few such placement opportunities, this was seen as unhelpful, and there was tangible disappointment that they had not been provided with sufficient opportunity to capitalise on exposure to a professional environment:

> "It feels like a science degree. It doesn't feel vocational. We've had two days (in practice) in the first year and two days in the second year and a week in a hospital in the third year. That wasn't so vocational, it was really a day out" (third year, School 2).

Learning strategies for a professional identity

Students reported that the first year of the MPharm involved predominately science and scientific facts which they rationalised as a necessary foundation for subsequent practice: "It seems like to me to be a good health professional you have to be a scientist" (first year, School 4).

Indeed many perceived their fitness to practice as predicated on first acquiring scientific facts, as scientists. The initial years of their degree were regarded almost as a right of passage—completion of which allowed them to progress to exposure to professional socialisation.

> "The way the course is, in the first year there is lots of science. You need to get that knowledge or the rest of the course won't work. So there's a lot of science at the start so everybody has a reasonable grounding in everything they are going to be involved in later" (first year, School 4).

Only after acquiring their scientific "foundation" do they believe the process of professional acculturation can begin. Notably this appears to be largely accepted by most students.

> "You start off with the science and it gets more complicated as you go through, so what we did in the first and second year we come back to do in the third and fourth year and we build the clinical stuff on top of that" (third year, School 1).

Students' initial induction into their chosen profession then comprised being imparted with a sense of having to first absorb a substantial body of scientific knowledge. A common strategy in meeting this challenge was to adopt surface learning techniques:

"We learnt a lot of stuff parrot fashion, we didn't really understand because we had a lot of stuff to learn as well and we did it over two years…it took up so much of our time" (third year, School 1), "I think you basically read and memorize it…" (third year, School 1).

Simply "accumulating" this core scientific knowledge in itself was recognised as inadequate preparation for their professional role, and there was an appreciation that deep, rather than superficial learning, required students to both know and understand topic areas. "In the long term learning parrot fashion isn't going to help if you don't understand it…when you understand what's going on it's more interesting" (third year, School 1).

Students therefore underwent a process of maturation of learning styles—from rote/passive/parrot learning in the early years to a deeper active understanding and application of this knowledge in the latter years.

Social pharmacy's contribution to a professional identity

For first year students (many of whom perceive the MPharm as science-dominated, Jesson, Wilson, Langley, Hatfield, & Clarke, 2005; Wilson et al., 2006), topics on social aspects of pharmacy comprised an interesting aside from their first year courses, and as such demanded a less intensive learning strategy compared with, say medicinal chemistry. However in one school, in which social pharmacy is taught in the first year, students' comments indicated they had a quite different and deeper appreciation of the range and scope of social perspectives applied to pharmacy—rejecting the notion that it was little more than common sense.

All students acknowledged that social pharmacy was of significance although some, depending on their pharmacy school, did not recognise the term. Because they all acknowledged that their professional role involved people—and communication, they could readily see that a social element of practice has relevance:

"I think that pharmacists are social workers and they liaise between doctors, surgeons, GPs, etc and the public…I think it is extremely important for pharmacists to be socially aware and be able to communicate, recognise and understand different social levels, etc."   (first year, School 4).

Discussion

The picture that has emerged from our analysis is that students embark on their training to be pharmacists with a clear imperative to first establish a body of scientific knowledge before continuing on to develop professional values, ethics and practice. Deferring establishing a professional identity was evident among first years at all four schools investigated and may reflect the current way the curriculum is established—with an overriding concern to establish a common basic understanding of chemistry and biological sciences in the early years of conventional courses. For students, the initial perception of, and exposure to pharmacy education, was less to do with undergoing training for a professional role and more to do with acquiring a basic scientific knowledge base, divorced from a practice setting.

There is clearly a sound rationale for the imperative to base future practice on a solid grounding in scientific principles. Yet there are equally important, indeed compelling reasons for introducing pharmacy students to elements of professional practice at the outset of their training. Pharmacists as medicines experts are, after all, expected to develop a broad understanding of medicines in relation to both the public and other health care professionals.

The students we interviewed was very receptive to the principles of applying their knowledge to specific social circumstances, but prioritised above all else, the imperative of learning the basic sciences. Consequently, their professional acculturation becomes secondary to learning the "science", and the long process of establishing their identity as nascent professionals is deferred. For those students who do not embrace this model of pharmacy education, diminished motivation to study is likely to ensue.

Professional socialisation is an important aspect of pharmacy students' development and should be considered at all stages. Responsibility for professional socialisation rests with the students themselves, and with their teachers who should lead this process (Hammer et al., 2003). Too often the importance of such socialisation is barely acknowledged and currently the process is inadequate. Students receive ambiguous messages about what comprises professional practice during their undergraduate training and feel inadequately trained for the environment in which they will practice (Hammer et al., 2003). In the future, as the number of students recruited onto pharmacy courses increases (Taylor et al., 2004) and the number of full-time registered pharmacy academics employed in schools of pharmacy decreases (Taylor & Harding, 2002; Taylor et al., 2004), there are likely to be reduced opportunities for students to be professionally socialised, unless specific measures are taken to ensure acculturation can take place.

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