

Learning in practice

What can experience add to early medical education? Consensus survey

Tim Dornan, Chris Bundy

Hope Hospital,
Salford, Manchester
M6 8HD

Tim Dornan
consultant physician

University of
Manchester Medical
School, Manchester
M13 9PL

Chris Bundy
*senior lecturer in
health psychology*

Correspondence to:
T Dornan
tim.dornan@
man.ac.uk

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Abstract

Objective To provide a rationale for integrating experience into early medical education (“early experience”).

Design Small group discussions to obtain stakeholders’ views. Grounded theory analysis with respondent, internal, and external validation.

Setting Problem based, undergraduate medical curriculum that is not vertically integrated.

Participants A purposive sample of 64 students, staff, and curriculum leaders from three university medical schools in the United Kingdom.

Results Without early experience, the curriculum was socially isolating and divorced from clinical practice. The abruptness of students’ transition to the clinical environment in year 3 generated positive and negative emotions. The rationale for early experience would be to ease the transition; orientate the curriculum towards the social context of practice; make students more confident to approach patients; motivate them; increase their awareness of themselves and others; strengthen, deepen, and contextualise their theoretical knowledge; teach intellectual skills; strengthen learning of behavioural and social sciences; and teach them about the role of health professionals.

Conclusion A rationale for early experience would be to strengthen and deepen cognitively, broaden affectively, contextualise, and integrate medical education. This is partly a process of professional socialisation that should start earlier to avoid an abrupt transition. “Experience” can be defined as “authentic human contact in a social or clinical context that enhances learning of health, illness or disease, and the role of the health professional.”

Introduction

Increasingly, medical curriculums are breaking the traditional pattern of a two to three year grounding in science before students are offered any clinical exposure.¹⁻³ At the same time, conceptions of professionalism are laying stronger emphasis on respect for patients’ wishes, good interpersonal communication, and accountability to society.⁴⁻⁶ To explore the rationale, interrelations with professionalism, and learning outcomes of “early experience,” we

framed the research question: “What can experience add to early medical education?” Our theoretical orientation was that an answer given by a community of practice^{1,7} would be valid, so we should develop a theory grounded in the experiences of students and staff.

Methods

Origin of the research

The General Medical Council asked us to add early clinical experience to the University of Manchester’s problem based, community oriented, and fully horizontally integrated medical curriculum (www.medicine.man.ac.uk). We decided to survey staff and student stakeholders from Manchester, St Andrews University, whose medical science graduates enter Manchester phase 2, and two partner organisations, Keele University and Preston and Chorley Hospitals. We framed the topic as “learning from early experience,” to avoid preconceptions associated with the terms “early clinical experience,” “teaching,” “community based,” and “professionalism,” which pervade the literature on vertical integration.

Method

A qualitative, grounded theory approach best matched our research context, question, and theoretical orientation.

Sampling strategy and participants

We purposively recruited 33 students and 31 staff to represent all years of the curriculum; teachers of behavioural and biomedical science; a spread of primary, community, and specialist clinical disciplines; and the deans of all three medical schools.

Discussions

Leaders of the Medical Students’ Representative Council met the researchers to set a research agenda. Then staff and students attended semistructured group discussions, five including only staff and three including only students. Staff and students attended separately to encourage free expression of opinions. Staff from related disciplines and students from the same



This is an abridged version; the full version is on bmj.com

curriculum phase attended together to identify shared views. Each was facilitated by the first author and at least one other researcher. The template had four questions: "Why should we provide early experience?" "What disadvantages could you foresee?" "What is happening at present?" and "How should we do it?" We explored participants' responses openly in early discussions and guided by the evolving theory in later ones.

Analysis

Each discussion was audiotaped, transcribed verbatim, and open coded promptly, so it could inform subsequent discussions. A second researcher compared the coding with the original transcript. See bmj.com for summary of validation procedures.

Results

Medical education without early experience

Sense of vocation

Students entered medical school "just itching to be a doctor," but their early medical education was not vocational (box 1; section 1, subsection A). Without experience, students could not judge if medicine was right for them. Contact with patients and "feeling medical-ish rather than sitting with your textbooks for six hours" would be exciting. No respondent dissented from the vocational view, but teachers rarely voiced it.

Emotional challenges

"Coming from school where everyone was normal" and meeting seriously ill people challenged students. To be first insulated from it and then "dumped into a hospital environment ... might be too much for you," "scar you," and teach you to "cut off." Both junior and senior students described entering the clinical environment as "being thrown in at the deep end," where "you might sink or swim," but it was also exciting. As a counterargument, some students had found overcoming their reactions to human dissection motivating.

Staff saw encountering serious illness as "traumatic" but did not recognise the method of learning could also be traumatic. Students feared being made to feel inadequate in professional settings. They had to switch their method of learning from textbooks to patients (box 1; 1, B) and were divided on how fast they should face the challenge of learning in clinical situations. Some felt that junior students had enough challenges without adding early experience.

What early experience could add

Experience as a "broadener"

Students and staff agreed that early experience could fill a gap. For students, the gap was in the course. For staff, the gap was in students' prior life experiences; early experience would give them a better understanding of "the human condition," so they came out "reasonably rounded doctors, both socially, in egalitarian terms, and in terms of their knowledge," with "improved people skills" and awareness of how illness affects families. Students agreed, but, for them, the gap was "being put away in this academic building," and needing to be "reminded ... there is an outside world." Interacting with people would relieve their "tunnel vision" in a way problem based learning did not. The agenda should be broad (box 1; 2, A), a view echoed by one community clinical teacher who saw the science

Box 1: Extracts of text

1 Medical education without early experience

A Sense of vocation

FY1 768 Junior student: "it's like we're here and it's not happening"

B Emotional challenges

TFF 26 Senior student: "one of the difficulties that faces a student going from the second to the third year is the change from learning from textbooks and resources provided within lectures ... to actually learning from people ... And, so some people can go running away back to their textbooks when you should really be learning how to learn from people themselves."

2 What early experience could add

A Experience as a "broadener"

FY1 350 Junior student: "The idea of having clinical sessions through years 1 and 2 ... is about being ... all round, learning psychosocial things, learning how to do skills, and various things rather than just patient contact."

B Experience to achieve affective outcomes

Motivation

i SY1 1260 Junior student: "I think the most important thing I draw from this whole discussion is the enthusiasm and the motivation it would bring to you."

ii SY1 1041 Junior student: "I would want it to make me think one day you can be a doctor, because some way along the line in the first and second year, you forget, you can easily forget that you are going to be a doctor at the end of this course."

Awareness of others

iii BSD 225 Staff member: "Understanding other people's lifestyles and value systems before moving to understanding those people, then, as patients."

C Experience to support cognitive processes

Strength and depth of learning

i FY1 108 Junior student: "It is very much easier to link what you have learnt if you can say: 'Oh yes, well I saw somebody with that.'"

ii STA 604 Staff member: "What I'm quite keen to do is to give students experience of the things that there is evidence of. So, rather than just learning in a lecture that men die younger, they should go out and talk to people about when people die and bring back the evidence."

D Experience to teach subject matter

Communication

i KPM 800 Staff member: "I think people are not very good at finding out what people feel, you know the subjectivity of things, and there is a rigour to finding out that, which could be helpful."

Other clinical skills

ii TFF 228 Senior student: "Although some clinical skills are important, it is having that fundamental knowledge of the biosciences; it is so much easier to look at it clinically in the hospital if you have a sound knowledge of the system."

Professional roles

iii KPM 323 Staff member: "We should ... aim to socialise them on a wider basis than the model of the profession that is still rather predominant."

base as "very, very narrow." Common ground between the perspectives of students and staff was a need to educate whole people and keep them in touch with society and its needs.

Experience to achieve affective outcomes

Confidence—Students spoke of needing to build confidence to talk with patients and act appropriately in their presence "as medical students rather than friends."

Motivation—Early experience would give students "zest for the course" (box 1; 2, Bi), although it might be "difficult" and "frustrating if the emphasis went too far into spending ... time in hospitals." Junior students, who found people contact absent from the course,

became demotivated by losing “the ... greater scheme of things” (box 1; 2, Bii). Students recognised their need to develop a professional identity and saw contact with doctors as a highly motivating way of doing so. Staff recognised the motivating effect of experience but warned against providing it out of “tokenism.”

Self awareness—According to staff, providing experience at such a critical time in the development of students’ value systems could build an awareness of their professional status and future responsibilities, encourage humility, and help integrate personal and professional development.

Awareness of others—Staff felt that experience could help students understand more about people (box 1; 2, Biii). Students agreed that “It is very good for medical students to be on the other side of the fence.”

Experience to support cognitive processes

Here, the perspectives of staff and students were concordant.

Strength and depth of learning—Information that was linked to visual images, particularly of patients, would be easier to recall and understood rather than memorised by rote (box 1; 2, Ci). Experience could make information more believable (box 1; 2, Cii) and help students understand difficult subject matter such as epidemiology and ethics.

Contextualising learning—Seeing theory put into practice, contact with patients and doctors, and recalling or coding information in “real” situations would contextualise knowledge, strengthen it, put it into perspective, and prepare students to apply it in practical situations.

Developing intellectual skills—Experience could stimulate students’ intellectual development, encourage them to evaluate the way they learnt and teach study skills that would be useful later. It could develop a questioning attitude by exposing students to uncertainty and link the intellectual skills of problem based learning with those of practice.

Experience to teach subject matter

Foundation sciences—Although biological sciences were scarcely mentioned, staff and students argued strongly that experience could strengthen learning of behavioural and social sciences by showing their importance and integrating them into the curriculum. Reciprocally, behavioural and social sciences would provide a theoretical framework for interpreting experience.

Communication—Learning interpersonal communication (“people skills”) through early experience was seen as important by staff and students, on the grounds that good communication “is the most important thing,” takes a long time to develop, and is difficult. Staff suggested specific goals, such as learning the appropriate use of open and closed questions, and finding out what people feel (box 1; 2, Di). One theme brought up repeatedly by students and scarcely apparent in staff transcripts was learning to communicate as a way of building confidence, “knowing what they were doing,” feeling “less useless” in clinical settings, and starting to act in a professional capacity.

Other clinical skills—Staff saw value in learning “living anatomy” and laying a basic science foundation for clinical procedures. Students felt that they would be

better equipped to go on to wards if they had learnt some skills. Neither staff nor students wanted clinical skills to be learnt at the expense of basic sciences (box 1; 2, Dii).

Public health—Staff, only, discussed public health. Their opinions were sharply divided as to whether it could be learnt experientially at all, let alone early. One respondent regarded disease encountered experientially as “anecdote”; another argued that specific instances of disease could teach generalities (box 1; 2, Cii).

Professional roles—Staff felt that experience could teach students about their future role as a doctor, although it must not channel them into stereotypical behaviour (box 1; 2, Diii). It could teach them how doctors interrelate with other health professionals.

Discussion

Principal findings and meaning

Respondents generally favoured early experience, provided it did not weaken the learning of bioscience, though staff had concerns about cost and logistics. Our theory is that experience could strengthen, deepen, broaden, contextualise, and integrate early medical education. These benefits, we think, would be complementary to problem based learning

The narratives depict medical education as a process of socialisation into a profession. Students were disappointed to enter medical school and not to meet patients and doctors. Two to three years later, without any preparation in the interim, they had to make an abrupt social transition. Staff showed little awareness of the social dimension. Such an ill defined, composite educational process and outcome as “professional socialisation” could easily be squeezed out by the modern pressure to frame curriculums as explicit, measurable, and short term outcomes and methods. We contend that it should not be forgotten.

Strengths and limitations of the study

The qualitative nature of the study is both a strength and a limitation. A strength, because rigorous qualitative research can generate valid theories. A limitation, because it cannot test hypotheses or claim generalisability beyond the study conditions. Our respondents were numerous and varied, which allowed us to draw out differences in student and staff experiences. Box 2 offers a definition of “experience” arising from this study.

Relation to other publications

Publications on early experience can be categorised into opinion statements, empirical research, and theories. Consonance with opinion statements about both early experience¹ and professionalism^{4, 8} supports the validity of our findings. Our ongoing systematic review

Box 2: A definition of “experience” arising from this study

Authentic (real as opposed to simulated) human contact in a social or clinical context that enhances learning of health, illness and disease, and the role of the health professional.”

What is already known on this topic

Traditionally, the foundation years of medical education have grounded students in biomedical sciences but offered little, if any, clinical exposure

Worldwide, curriculums are moving towards becoming more “vertically integrated”

This move is parallel to and loosely tied with an increasing emphasis on personal and professional development in medical curriculums

There is, however, a paucity of empirical evidence or even arguments that are soundly grounded in theory to support early experience

What this study adds

“Experience” can be defined as authentic human contact in a social or clinical context that enhances learning of health, illness or disease, and the role of the health professional

A lack of early experience can demotivate students and leave them vulnerable to negative emotions when they finally enter the clinical environment

An inventory of likely benefits of early experience includes greater motivation and confidence, greater social and self awareness, and more rounded and practically relevant theoretical understanding

Viewing medical education as a process of socialisation—into the population that the future doctors will serve, and the profession they will join—helps redefine the task of medical education in the 21st century

shows much early experience research to be poorly grounded in theory, methodologically weak, and at the level of opinion rather than learning outcomes.⁹ However, it supports our respondents’ view that awareness of professional roles, preparedness for clerkships, and early detection of students with difficulties are probable benefits of early experience. Two recent qualitative studies have, like ours, characterised medical education as developing a professional identity.^{10 11}

The blend of cognitive, social, and affective learning fits well with social cognitive theory.¹² Our results also fit well with new conceptualisations of apprenticeship, according to which an important part of professional learning is developing a sense of identity within a community of practice.⁷

The challenge for future research is for educators to base their interventions on theory and evaluate them rigorously enough to advance knowledge through implementation.¹³

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Ethical approval: Two ethics review committees considered this programme of investigation not to need approval; an NHS ethics committee because the research did not involve patients, and a university ethics committee because its primary purpose was curriculum development.

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Corrections and clarifications

Taking account of future technology in cost effectiveness analysis

An oversight during our editorial process resulted in a line drawing being omitted from this education and debate article by Joshua A Salomon and colleagues (25 September, pp 733-6). The picture printed was a computer generated image of hepatitis C virus, whereas the line drawing, which can now be seen on bmj.com, shows the natural course of hepatitis C infection.

Effect of a flow chart on use of blood transfusions in primary total hip and knee replacement: prospective before and after study

In this quality improvement report by Muller and colleagues (*BMJ* 2004;328:934-8) a misunderstanding during editing led to an error in reporting the authors’ methods. In the third paragraph of the section “Strategy for change,” the correct text should read, “We provided [not obtained] feedback twice during routine staff meetings” and “We presented [not determined] the proportion of patients who had received allogenic or autologous blood transfusion after total joint replacement.” Technology led to a further slip, this time at proof stage. At the end of the fourth paragraph of the section “Effects of change,” a confusion caused by “track changes” resulted in the misrepresentation of an increase in units of transfused blood. The correct increase in units of transfused blood in Zurich should be from 52 700 to 60 600 (+15%) [not plus/minus 15%].