

Creativity in clinical communication: from communication skills to skilled communication

Peter Salmon & Bridget Young

OBJECTIVES The view that training in communication skills produces skilled communication is sometimes criticised by those who argue that communication is individual and intuitive. We therefore examine the validity of the concept of communication as a skill and identify alternative principles to underpin future development of this field.

METHODS We critically examine research evidence about the nature of clinical communication, and draw from theory and evidence concerning education and evaluation, particularly in creative disciplines.

RESULTS Skilled communication cannot be fully described using the concept of communication skills. Attempts to do so risk constraining

and distorting pedagogical development in communication. Current education practice often masks the difficulties with the concept by introducing subjectivity into the definition and assessment of skills. As all clinical situations differ to some extent, clinical communication is inherently creative. Because it is rarely possible to attribute specific effects to specific elements of communication, communication needs to be taught and evaluated holistically.

CONCLUSIONS For communication teaching to be pedagogically and clinically valid in supporting the inherent creativity of clinical communication, it will need to draw from education theory and practice that have been developed in explicitly creative disciplines.

Medical Education 2011; 45: 217–226
doi:10.1111/j.1365-2923.2010.03801.x

Division of Clinical Psychology, University of Liverpool, Liverpool, UK

Correspondence: Peter Salmon, Division of Clinical Psychology, University of Liverpool, Whelan Building, Brownlow Hill, Liverpool L69 3GB, UK. Tel: 00 44 151 794 5531; Fax: 00 44 151 794 5537; E-mail: psalmon@liv.ac.uk

 INTRODUCTION

Clinical communication is the vehicle for most patient care and can represent a treatment in its own right.^{1,2} Communication teaching has therefore become an established component of pre- and post-qualification clinical curricula. This area of the curriculum is typically described as ‘communication skills’, indicating an underpinning theoretical framework in which communication can be divided into discrete elements, or skills, that can be taught and assessed alongside clinical skills.^{3,4} These elements are variously defined as behavioural actions (e.g. maintaining eye contact) or as goals (e.g. understanding patients’ perspectives).⁵ Principles and guidelines are available to guide practitioners in drawing on these skills.⁶ The ultimate aim of educators is that, just as good clinical care is delivered through the deploying of clinical skills, practitioners are equipped to build good clinical relationships by deploying communication skills.^{3,7}

Nevertheless, communication teaching can leave students cynical about the issue, less confident in their communication abilities or poorly prepared for the complexities of clinical settings,^{8,9} and an undercurrent of criticism among practitioners occasionally emerges in print.¹⁰ Communication teachers continue to encounter scepticism in learners who argue that communication is imaginative and individual or is ‘caught by example’¹¹ and cannot be taught formally. The future strength of communication teaching depends on hearing these voices and being ready to question and renew the principles and practices involved. The concept of communication skills has been criticised over three decades from humanistic, linguistic and clinical perspectives,^{12–15} and some educationists have prioritised communication *tasks* (such as ‘forming a connection’, ‘expressing caring’) over specific behavioural skills.¹⁶ Nevertheless, the concept and language of ‘skills’ still dominate the field. Therefore, we critically re-examine the concept, drawing from empirical, philosophical and moral perspectives to show how it continues to constrain pedagogical development. To identify specific ways in which education concepts and, consequently, practices might change, we draw on recent ideas in broader education theory.

 SOME DIFFICULTIES WITH THE CONCEPT OF COMMUNICATION SKILLS

Before people can improve behaviour, they need to be able to reflect on it. Using the concept of skills to help practitioners label and distinguish different

elements of communication has been a powerful way to promote this reflection.¹⁴ The concept has also successfully focused expertise and perspectives from social science and clinical practice onto an area that previously escaped scrutiny. Conceptualising communication as skills has been politically effective, too, in introducing communication into curricula that are widely regarded as skills-based. However, these strengths should not blind us to weaknesses.

Communication cannot be atomised into skills

The concept of communication skills is inherently reductionist inasmuch as it proposes that complex behaviour such as conducting a consultation or building a relationship can be atomised into component skills. This is questionable. For example, producing a behavioural coding scheme to quantify communication skills for research or assessment is a struggle that entails a long process of formulating and refining objective definitions for communication behaviours; elements of communication that, although important, cannot be recognised reliably, must be omitted.^{17,18} Therefore, when qualitative researchers examine communication inductively, they often identify phenomena that do not closely correspond to skills described in the quantitative research literature (as recent accounts of cancer clinicians’ communication illustrate^{19,20}). Moreover, when practitioners themselves describe communication in reflective practice papers, they often emphasise intuition or departures from rules, rather than the expert application of previously defined skills.^{21,22}

Generalised principles for guiding communication are practically limited

As patients, our demands on practitioners prove more complex, context-dependent and inconsistent than general principles for deploying skills can allow for. For example, practitioners are urged to deploy skills to ensure that patients are informed and involved in their care.^{5,7} However, practitioners need considerable ingenuity here, as a survey of cancer patients illustrated: 100% of respondents wanted practitioners to be honest, but 91% also wanted them to be optimistic.²³ Similarly, although patients generally do want to feel involved and not to feel that practitioners are paternalistic, they often need practitioners to take responsibility for treatment decisions.²⁰

In practice, therefore, teachers and practitioners do not rely on principles to tell them what to say. Practitioners in routine consultations manage

dialogue in ways that transcend formal guidance in order to meet the complex needs of communication in practice. For example, to balance conflicting needs around information and involvement, practitioners intricately constrain and colour 'bad news' in ways that go far beyond guidance.^{20,24–26} Practitioners are imaginative too. A surgeon who responded to a patient's questions about the prognosis of her cancer by telling her to 'leave things in the hands of God' departed from expert ideas of skilfulness in breaking bad news but, for that surgeon with that patient at that time, his strategy helped.²⁷ Therefore, as Skelton observed,¹⁴ educators' checklists often define correct behaviour using subjective terms, such as 'appropriate' or 'proper'. Similarly, the influential SEGUE (Set the stage, Elicit information, Give information, Understand the patient's perspective, and End the encounter) framework emphasises the attainment of communication goals, leaving learners to decide how to reach them.¹⁶

The meaning of communication lies in subjective experience, not objective skills

Whereas the skills required to perform a surgical operation, from incision to suturing, have discrete functions, what someone says at any point in a conversation can have many different effects. For example, information or advice can demonstrate concern or disdain.²⁸ Similarly, different patients may experience the same piece of communication as caring or uncaring.^{29,30} The reason why communication skills do not have consistent effects is that the meaning of communication is subjectively shaped:¹³ what listeners hear depends not just on what speakers say, but on listeners' subjective and social contexts and on what has been said before. Designating some behaviours as 'skills', implying that they have a constant meaning or value, neglects this subjectivity.¹² Therefore, although the concept of skills naturally leads us to judge communication quality using expert-designed coding schemes, these may not measure what patients value.^{31–33} Indeed, patients' views can diverge from those of experts^{27,30} and communication that displays improved 'skills' does not necessarily help patients.³⁴ Communication governed by expert rules can thwart patients' needs.^{22,35} Conversely, patients can value communication that experts think is poor.¹³

Communication outcome research cannot deliver exhaustive principles

It is often supposed that communication outcome research will ultimately deliver more precise princi-

ples to guide practitioners.¹ Naturalistic study of communication can, indeed, use sophisticated multi-level methods to detect how associations between what is said in consultation and its outcomes vary systematically according to stages of consultation, what has been said previously, and patient and practitioner characteristics.³⁶ However, the inherent subjectivity and context-dependence – and consequent individual differences – in the meaning of a given element of communication will remain inaccessible to any design that averages groups of people or communication instances, however narrowly defined. Indeed, Stiles warned that the inherent variability in individual patients' communication needs and practices means that we should not expect measurements of communication processes to correlate with outcomes,³⁷ and Skelton argued that the findings that outcome research *can* deliver are inevitably restricted to generalisations.¹⁴ Similarly, there is a danger that, in pursuing reliability, assessments focus on aspects of communication that are objectifiable at the expense of being relatively trivial.³⁸

A second constraint on the potential for outcome research is that there is rarely a single outcome for any utterance, so communication that is inappropriate for one outcome (e.g. because it distresses the patient) may be appropriate for another (e.g. because it challenges denial).¹ Therefore, extrapolation from outcome research often entails assumptions which, taken to their limit, can be seen to be implausible. For example, communication training is said to be successful when it increases practitioners' empathy.³⁹ This reasoning contains the implicit assumption that the more empathy, the better. Extrapolating from this might lead us to assume that the best communication would be exclusively empathic – a view that researchers would probably not support. The problem is that outcome research necessarily focuses on a restricted range of outcomes, excluding many that contribute to the complexity of real clinical situations. Moreover, outcomes exist locally and transiently in dialogue⁴⁰ and it will often be impossible to know which outcomes were relevant to any specific utterance. Even when research does link specific communication behaviours to important outcomes, the stochastic nature of the evidence makes it impossible to know whether any single instance of that communication element promoted that outcome.

Skills and sincerity are inimical concepts

A news organisation reported a communication skills programme as doctors having 'lessons on being nice'.¹⁴ Unimpressed at a nurse's enquiries about her

emotional feelings, a patient explained that the nurse had probably 'just been on a course'.⁴¹ To the public gaze, at least, learning skills in appearing empathic or caring is potentially inimical to authenticity⁴² and communication theory does not yet provide a framework within which skill-learning can be explicitly reconciled with authenticity.^{15,43,44} According to Alexander, educationists therefore face a dilemma: predetermining objectives for students means that, when students deliver those objectives, the students' behavioural change cannot be regarded as self-determined, whereas assuming self-determination is essential to viewing students' communication as authentic.⁴⁵

Values and 'value-creep': communication skills define 'good' communication

Clinical communication is fundamentally a moral enterprise. Practitioners need to communicate well in order to look after patients' interests. The final problem with the concept of skills concerns the way that it can distort the values held by educators and practitioners and thereby distort the moral aims of communication. Eisner echoed Winston Churchill's statement that 'we make our buildings and then our buildings make us' in warning that 'we make our curriculum and then our curriculum makes us'.⁴⁶ The danger in identifying some communication elements as 'skills' is that they come to define good communication even when there is no evidence of benefit for patients. For example, there has been extensive research into how to teach communication skills to 'break bad news', but little has examined whether patients benefit.⁴⁷ Acquisition of skills is regarded as sufficient evidence of successful training.

Through their involvement in defining and teaching skills, researchers and educators, rather than practitioners, become custodians of what is valued in communication. Indeed, educators and researchers routinely point to the inadequacy of practitioners' communication or to their continued need for training in communication skills, which amounts to the same thing.⁴⁸ The consequences are not just personal for practitioners and patients, but political. By changing what is regarded as 'good' communication, research and teaching change what it means to be a patient or practitioner. In particular, emphasising skills of information provision and partnership mould patients to the requirements of consumerism and individualism.⁴⁹ Moral and scientific statements therefore become confounded in this field, so that the apparent moral unassailability of scientific concepts such as communication skills defends them

against scientific criticism and, conversely, their supposed scientific grounding protects them against ethical challenge.⁴¹

PRINCIPLES FOR FUTURE COMMUNICATION TEACHING

Good clinical communication is clearly highly *skilled*, although it defies reduction into elements that can be called *skills*. Communication skills teachers would not, of course, deny that they encourage practitioners to be imaginative in using their skills and nor would they risk extinguishing the opportunities for satisfaction and motivation that practitioners can find in communicating intuitively. Therefore, much of what happens in communication education in practice goes far beyond the learning of specific skills. However, as long as the conceptual framework does not itself put imaginative communication at the centre, this defining property of communication will remain beyond the reach of formal teaching and professional scrutiny. Observing that communication is intuitive and imaginative does not mean that it should be undisciplined by training. After all, communication skills teaching won its place in curricula because communication that depends solely on the intuition of practitioners may be hurtful or damaging, just as it may be reassuring or therapeutic. Therefore, criticism of the concept of communication skills does not justify a return to times when practitioners were licensed to communicate in ways that took no account of evidence about patient needs. Instead, we need new ways to conceptualise clinical communication that reconcile pedagogy and practice. These will need to incorporate two principles that the concept of communication skills cannot.

Communication is inherently creative

Because the meaning of communication lies not in objectively defined communication behaviour, but in the way that this is understood in a specific context, and because every clinical situation is unique, it follows that originality in communication should be the norm. At one level, originality is always present, simply as a result of following general rules. Greeting a patient by his or her name or explaining a unique and complex clinical picture may mean saying something that no practitioner has said before. However, we are concerned here with originality that cannot be reduced to rules. Pedagogy concerned with creativity, particularly in the creative arts, has had to confront the complexities associated with originality as an education objective.^{46,50-52} In this field, it is recognised that

creativity is intimately associated with uncertainty. Each situation is to some degree unique and, because its demands cannot be reduced to a combination of rules, the right thing to do or say cannot be completely clear;^{46,50,53} that is, there is a fundamental instability in the meaning of any creative product.⁵¹ This inherent uncertainty creates the space within which creative artists improvise and experiment.

The centrality of uncertainty to creative work has an important corollary. Whereas experts' knowledge underpins the certainty attached to general rules, the uncertainty that creative learners encounter cannot be resolved by experts. This points to the importance of what Reed characterised as the 'first-hand' knowledge of learners' own experience to complement the 'second-hand' knowledge shaped and selected by experts;⁵⁴ that is, creative work depends on judgement rather than on following rules,^{50,52} and learning means making good judgements and developing confidence in handling uncertainty and trust in one's own unique expression.^{50,53}

Communication is holistic

We have argued that, because skills do not determine good communication, good communication cannot be built purely at a 'surface' level by learning skills and rules for combining them. Of course, some communication behaviours, such as ignoring what a patient says, will be consistently damaging across all consultations and recognisable as such to most observers. Beyond this, however, it is implausible to regard any specific behavioural communication skill as desirable in all possible contexts. Its quality only exists in the context of the whole situation, including the communication surrounding it. Indeed, patients can be more concerned with the whole picture – their impression of the practitioner's character and caring – than with specific communication skills.^{27,55} Education in creative arts has had to confront the holistic nature of work that cannot be reduced to rules or techniques. For example, the expression of an artist cannot be recreated simply by following rules about colour or technique. This realisation has pointed educationists in creative arts to concern themselves with holistic judgements of 'rightness of fit' rather than reductionist algorithms.⁵⁰

IMPLICATIONS FOR TEACHING AND EVALUATING COMMUNICATION

Many educationists are already exploring alternatives to skill-based communication teaching. For

example, while retaining the conceptual framework of communication skills, Hatem *et al.*³⁰ described how a curriculum could incorporate patients' individuality and, correspondingly, the need for originality by practitioners. Rollnick *et al.*⁵⁶ described promoting practitioners' everyday clinical experience to the foreground of teaching and relegating 'communication skills' to the background. Egener and Cole-Kelly¹³ advocated training practitioners in flexibility in communication. Others propose approaches that are more explicitly holistic and creative, including mindfulness,^{15,57} 'deep acting',^{58,59} or immersing learners in patient narratives or roles.^{42,60,61} These approaches point to possible ways to implement the principles we propose. However, continuing to cast these and future developments in the language of communication skills will stymie pedagogical development.

Eisner contrasted the prevailing model of scientific education, with its emphasis on reproducibility and control afforded by generalised rules, with a model grounded in the creative arts in which the aim is to foster work that is imaginative and skilful.^{46,50} Similarly, Jackson *et al.*⁵² advocated making creativity an explicit aim of higher education curricula generally. Educationists in communication might therefore learn from pedagogy in explicitly creative disciplines, particularly the creative arts.

Firstly, at a *conceptual* level, although educators aim for 'skilled communication', the term 'communication skills' could be reserved for the rare instances in which consistent meaning lies in behaviours themselves, either because of the universality of their effect (such as in checking a patient's identity) or because they achieve specific ends in a constrained situation.⁶² Secondly, education *aims* need to recognise the inherent uncertainty around communication, which will require humility for educators and learners alike. Instead of encouraging the deployment of predetermined skills, educators will aim for learners to make good judgements, to develop a style tailored to their individual characteristics,⁵⁰ to develop the capacity to handle novel situations rather than simply delivering consistency, and to appreciate keenly the uncertainty surrounding their communication.⁶³ There will be more explicit focus on learners' motivation, too. In music education, Regelski argued that, for learners to make good judgements independently of their teachers, they need first to value what they are judging.⁶⁴ Therefore, as well as relying on external motivation structured by assessment or curriculum targets, more explicit attention must be

given to identifying and fostering sources of internal motivation,⁶⁵ including curiosity, forming more personal connections with patients or, simply, being more effective practitioners.

Finally, there will be changed emphases in teaching *methods*.⁵² A conceptual framework based on creativity and holism will be more congenial than one based on communication skills for developing the dialogical and experiential methods that many educators already use. There will be additional emphasis on learning experiences and outcomes that are less predictable, on making contextual variability and ambiguity explicit foci of learning and on the tentative and conditional nature of the judgements of learners and educators alike.^{51,63} Educators therefore might consider how to harness the resource of diversity of patient contact for students' learning. This might mean, for example, supporting students' reflections on their own creativity, as well as their effectiveness, in encounters with patients. Although the pursuit of uniformity has increased clinical educators' reliance on simulation, some theorists⁶⁶ and, indeed, students⁶⁷ emphasise the value of apprenticeship and 'real patient learning' in preparing for the diversity of clinical care, as well as for being more veridical, motivating and memorable than other forms of learning.

Turning to *assessment*, the objective structured clinical examination will probably remain central to undergraduate assessment,^{68,69} although mini-clinical examination exercises, with real patients in clinical settings, may better reproduce the relational and emotional dynamics of encounters with patients who really are suffering or vulnerable.⁷⁰ Regardless of setting, assessment needs to be appropriate to the creative and holistic nature of communication. By requiring ratings of 'appropriateness' of communication, or the achievement of tasks rather than performance of behaviours, many existing checklists already have the potential to accommodate creativity. Indeed, the SEGUE framework explicitly allows learners flexibility in achieving 32 specified communication tasks.¹⁶ However, placing these ratings within a communication skills framework still suggests that communication is best rated by aggregating competence in specific domains. This practice diverges from assessment in areas of human activity that are recognised as both highly skilled and creative. For example, we are comfortable with judging the quality of a painting, but we would not mechanistically do so by first rating the background, then

the foreground, then people's faces and so on before aggregating the ratings. Many communication educators already use global ratings,^{18,71} with psychometric properties as good as, or better than, those of checklists.⁷² Although such ratings might be criticised as subjective, we have seen that ostensibly objective checklist items usually require subjective judgements.¹⁴

In developing the use of global ratings, there are potentially important lessons about assessment to be learned from creative, artistic disciplines. Indeed, although artistic judgements are recognised as inherently less precise than others, they have been defended to the extent that evaluations can nevertheless be regarded as true or false.⁷³ In art, however, it is not envisaged that the judgements' validity accrues from scientific theories.⁷⁴ Instead, the validity of subjective assessment is seen to derive from the expertise and motivations of the assessors. Eisner^{46,75} described experts in this context as 'connoisseurs' who derive their authority from personal familiarity with their field. Experts are, of course, fallible and their assessments are subject to biases,⁷⁶ albeit less than those of non-experts.⁷⁷ Indeed, this line of reasoning directs the focus of concern for the validity of assessment away from the psychometric properties of rating instruments to the selection and scrutiny of assessors.⁷⁸ Their authority – that is, the validity of their judgements – would depend on their ability to empathise with the situation in which the assessment is taking place, and their resulting ability to judge, not, technically, whether predefined skills were displayed, but, aesthetically, whether the communication 'worked'. It is argued that assessment should include patient perspectives because it is their subjective experience that defines the meaning of communication.¹³ However, meaning extends beyond 'customer evaluation' to include considerations of equity and professionalism and the ability to address patients' needs, even where these diverge from patient wants. Therefore, assessors might not necessarily be patients, but could include researchers with extensive experience of studying clinical situations from the perspective of patients' needs.

It will be important not to neglect skills. Just as creative artists need their 'toolboxes' of skills and techniques, so do practitioners.¹² However, artists would not make the mistake of thinking that deploying techniques guarantees a quality product. Therefore, educators need to shift the primary focus of their gaze from the 'skills' that practitioners use to the value and creativity of the result.

RESEARCH IMPLICATIONS

Clearly, practitioners need to continue to learn from communication educators and researchers because communication is too important to be left to personal habits and prejudices. Therefore, researchers need to find out more about how flexibility can be taught and assessed, and how internal motivation can be identified and fostered. However, a corollary of recognising the essential creativity of communicators in practice is to accept that, faced daily with communication challenges, practitioners routinely find practical solutions that educators and theorists have not discovered. As Kleinman argues, experts have much more to learn from practitioners than is often appreciated.⁷⁹ Therefore, we need more research that examines communication inductively in order to identify new insights from clinical interactions that can be passed to future generations of practitioners. Some of these insights may prove more powerful than experts' ideas in helping other practitioners to negotiate the dilemmas that practice presents. For example, studying surgeons' subjective perspectives as well as their communication behaviour in decision-making consultations in the context of breast cancer showed that behaviour that might, according to current guidelines, be criticised as unethical offered a resolution of ethical dilemmas that those guidelines disregarded.²⁰ Similarly, general practitioners are often criticised for neglecting patients' psychological cues and are urged to learn skills to promote psychological talk. However, examining their own perspectives indicated a range of reasons, largely disregarded in the current emphasis on patient-centred communication, why psychological talk might often be impractical or inappropriate.⁸⁰

LIMITATIONS OF VIEWING COMMUNICATION AS A CREATIVE ART

There are, of course, fundamental differences between the creative arts and imaginative clinical communication. In particular, artists need audiences to appreciate their work and, ultimately, to pay for it. Of course, communication research often regards patients as consumers of communication, such as, for example, when it emphasises patient satisfaction as an outcome. However, the aim of health care is not to entertain or even just to satisfy consumers. Health care is a moral enterprise with obligations to patients and the population that transcend consumer satisfaction. Given that upholding an exclusive allegiance

to the concept of communication skills risks distorting the morality of health care by putting means before ends,¹² it is important not to elevate creativity to an end in itself.

The role of patients also differs from that of an audience in terms of their active contribution to the creative product. Indeed, Haidet compared clinical communication with jazz, arguing that the important business of communication comes about when practitioners improvise with patients.⁸¹ However, this view leaves patients vulnerable to potentially damaging relationships, unconstrained by external expertise. Even in the arts, it is acknowledged that improvisation needs to be informed and disciplined⁸² and that creativity for creativity's sake is not enough.⁶⁴ Our comparison with the creative arts therefore needs to be balanced by appreciating, beyond aesthetic concerns, what creativity in communication contributes that is useful for patients and practitioners and by being alert to its dangers.

CONCLUSIONS

Communication skills theory has been shaped by a reductionist approach that is hard to sustain in the light of criticism from those who hold that communication is intuitive and imaginative. In order to reconcile educational and clinical practice, we need to take what useful tools and techniques communication skills theory has to offer, but to use them in ways that emphasise practitioners' creativity as they craft original solutions to unique communication needs. Clinical commentators have warned that medicine needs to retain, or regain, its status as an art as well as a science.⁶¹ In communication teaching and assessment in particular, we shall need to see what can be learned from the arts, in which education and evaluation sit comfortably with creativity and holism. Correspondingly, educators and the researchers who support them need humility as they seek to learn from, as well as to enhance, clinical practice.

Contributors: both authors contributed to the literature review and analysis and the writing of the manuscript. Both authors approved the final manuscript for publication.

Acknowledgements: we are grateful to Professor Chris McManus, University College London, London, UK, for discussion of some of the ideas in this paper.

Funding: none.

Conflicts of interest: none.

Ethical approval: not applicable.

REFERENCES

- 1 Street RL Jr, Makoul G, Arora NK, Epstein RM. How does communication heal? Pathways linking clinician-patient communication to health outcomes. *Patient Educ Couns* 2009;**74**:295–301.
- 2 Thorne SE, Hislop TG, Armstrong EA, Oglov V. Cancer care communication: the power to harm and the power to heal? *Patient Educ Couns* 2008;**71**:34–40.
- 3 von Fragstein M, Silverman J, Cushing A, Quilligan S, Salisbury H, Wiskin C. UK consensus statement on the content of communication curricula in undergraduate medical education. *Med Educ* 2008;**42**:1100–7.
- 4 Simpson M, Buckman R, Stewart M, Maguire P, Lipkin M, Novack D, Till J. Doctor–Patient Communication – the Toronto Consensus Statement. *BMJ* 1991;**303**:1385–7.
- 5 Rider EA, Keefer CH. Communication skills competencies: definitions and a teaching toolbox. *Med Educ* 2006;**40**:624–9.
- 6 Veldhuijzen W, Ram PM, van der Weijden T, Wassink MR, van der Vleuten CPM. Much variety and little evidence: a description of guidelines for doctor–patient communication. *Med Educ* 2007;**41**:138–45.
- 7 Brunett PH, Campbell TL, Cole-Kelly K *et al*. Essential elements of communication in medical encounters: the Kalamazoo consensus statement. *Acad Med* 2001;**76**:390–3.
- 8 Rees C, Sheard C. Evaluating first-year medical students' attitudes to learning communication skills before and after a communication skills course. *Med Teach* 2003;**25**:302–7.
- 9 Royston V. How do medical students learn to communicate with patients? A study of fourth-year medical students' attitudes to doctor–patient communication. *Med Teach* 1997;**19**:257–62.
- 10 Tallis R. *Hippocratic Oaths: Medicine and its Discontents*. London: Atlantic Books 2004;43–73.
- 11 Cox J. Medicine of the person: the lost art of medicine. *Lancet* 2008;**371**:812–812.
- 12 Plum A. Communication as skill – a critique and alternative proposal. *J Humanistic Psych* 1981;**21**:3–19.
- 13 Egener B, Cole-Kelly K. Satisfying the patient, but failing the test. *Acad Med* 2004;**79**:508–10.
- 14 Skelton JR. *Language and Clinical Communication: This Bright Babylon*. Abingdon: Radcliffe Publishing 2008.
- 15 Zoppi K, Epstein RM. Is communication a skill? Communication behaviours and being in relation. *Fam Med* 2002;**34**:319–24.
- 16 Makoul G. The SEGUE Framework for teaching and assessing communication skills. *Patient Educ Couns* 2001;**45**:23–34.
- 17 Heaven C, Maguire P, Green C. A patient-centred approach to defining and assessing interviewing competency. *Epidemiol Psychiatr Soc* 2003;**12**:86–91.
- 18 Newble D. Techniques for measuring clinical competence: objective structured clinical examinations. *Med Educ* 2004;**38**:199–203.
- 19 Leydon GM. 'Yours is potentially serious but most of these are cured': optimistic communication in UK out-patient oncology consultations. *Psychooncology* 2008;**17**:1081–8.
- 20 Mendick N, Young B, Holcombe C, Salmon P. The ethics of responsibility and ownership in decision making about treatment for breast cancer: triangulation of consultation with patient and surgeon perspectives. *Soc Sci Med* 2010;**70**:1904–11.
- 21 Ting DY. Certain hope. *Patient Educ Couns* 2006;**61**:317–8.
- 22 Ingelfinger FJ. Arrogance. *N Engl J Med* 1980;**303**:1507–11.
- 23 Kutner JS, Steiner JF, Corbett KK, Jahnigen DW, Barton PL. Information needs in terminal illness. *Soc Sci Med* 1999;**48**:1341–52.
- 24 Eggly S, Penner L, Albrecht TL, Cline RJW, Foster T, Naughton M, Peterson A, Ruckdeschel JC. Discussing bad news in the out-patient oncology clinic: rethinking current communication guidelines. *J Clin Oncol* 2006;**24**:716–9.
- 25 The AM, Hak T, Koeter G, van der Wal G. Collusion in doctor–patient communication about imminent death: an ethnographic study. *BMJ* 2000;**321**:1376–81.
- 26 Thorne S, Oglov V, Armstrong EA, Hislop TG. Prognosticating futures and the human experience of hope. *Palliat Support Care* 2007;**5**:227–39.
- 27 Wright EB, Holcombe C, Salmon P. Doctors' communication of trust, care, and respect in breast cancer: qualitative study. *BMJ* 2004;**328**:864–7.
- 28 Goldsmith DJ, Fitch K. The normative context of advice as social support. *Hum Commun Res* 1997;**23**:454–76.
- 29 Quirk M, Mazor K, Haley HL, Philbin M, Fischer M, Sullivan K, Hatem D. How patients perceive a doctor's caring attitude. *Patient Educ Couns* 2008;**72**:359–66.
- 30 Hatem D, Mazor K, Fischer M, Philbin M, Quirk M. Applying patient perspectives on caring to curriculum development. *Patient Educ Couns* 2008;**72**:367–73.
- 31 Lewin SA, Skea ZC, Entwistle V, Zwarenstein M, Dick J. Interventions for providers to promote a patient-centred approach in clinical consultations. *Cochrane Database Syst Rev* 2001;Issue 4:CD003267.
- 32 Duffy FD, Gordon GH, Whelan G, Cole-Kelly K, Frankel R, Buffone N, Lofton S, Wallace M, Goode L, Langdon L. Assessing competence in communication and interpersonal skills: the Kalamazoo II report. *Acad Med* 2004;**79**:495–507.
- 33 Schirmer JM, Mauksch L, Lang F, Marvel MK, Zoppi K, Epstein RM, Brock D, Pryzbylski M. Assessing communication competence: a review of current tools. *Fam Med* 2005;**37**:184–92.
- 34 Hulsman RL, Ros WJ, Winnubst JA, Bensing JM. The effectiveness of a computer-assisted instruction programme on communication skills of medical specialists in oncology. *Med Educ* 2002;**36**:125–34.
- 35 Thomsen DK, Pedersen AF, Johansen MB, Jensen AB, Zachariae R. Breast cancer patients' narratives about positive and negative communication experiences. *Acta Oncol* 2007;**46**:900–8.

- 36 Del Piccolo L, Mazzi MA, Dunn G, Sandri M, Zimmermann C. Sequence analysis in multi-level models. A study on different sources of patient cues in medical consultations. *Soc Sci Med* 2007;**65**:2357–70.
- 37 Stiles WB. Evaluating medical interview process components. Null correlations with outcomes may be misleading. *Med Care* 1989;**27**:212–20.
- 38 Norman GR, van der Vleuten CP, De Graaff E. Pitfalls in the pursuit of objectivity: issues of validity, efficiency and acceptability. *Med Educ* 1991;**25**:119–26.
- 39 Bonvicini KA, Perlin MJ, Bylund CL, Carroll G, Rouse RA, Goldstein MG. Impact of communication training on physician expression of empathy in patient encounters. *Patient Educ Couns* 2009;**75**:3–10.
- 40 Hulsman RL. Shifting goals in medical communication. Determinants of goal detection and response formation. *Patient Educ Couns* 2009;**74**:302–8.
- 41 Salmon P, Young B. Core assumptions and research opportunities in clinical communication. *Patient Educ Couns* 2005;**58**:225–34.
- 42 Wear D, Varley JD. Rituals of verification: the role of simulation in developing and evaluating empathic communication. *Patient Educ Couns* 2008;**71**:153–6.
- 43 Steele DJ, Hulsman RL. Empathy, authenticity, assessment and simulation: a conundrum in search of a solution. *Patient Educ Couns* 2008;**71**:143–4.
- 44 Salmon P, Young B. Dependence and caring in clinical communication: the relevance of attachment and other theories. *Patient Educ Couns* 2009;**74**:331–8.
- 45 Alexander HA. Human agency and the curriculum. *Theory Res Educ* 2005;**3**:343–69.
- 46 Eisner EW. What can education learn from the arts about the practice of education? *Int J Educ Arts* 2004;**5**:1–12.
- 47 Paul CL, Clinton-McHarg T, Sanson-Fisher RW, Douglas H, Webb G. Are we there yet? The state of the evidence base for guidelines on breaking bad news to cancer patients. *Eur J Cancer* 2009;**45**:2960–6.
- 48 Fallowfield L, Jenkins V. Current concepts of communication skills training in oncology. *Recent Results Cancer Res* 2006;**168**:105–12.
- 49 Brown J. How clinical communication has become a core part of medical education in the UK. *Med Educ* 2008;**42**:271–8.
- 50 Eisner EW. Artistry in education. *Scand J Educ Res* 2003;**47**:373–84.
- 51 Danvers J. Towards a radical pedagogy: provisional notes on learning and teaching in art and design. *Int J Art Design Educ* 2003;**22**:47–57.
- 52 Jackson N, Oliver M, Shaw M, Wisdom J, eds. *Developing Creativity in Higher Education: An Imaginative Curriculum*. Routledge: Abingdon 2006;118–215.
- 53 Edstrom A-M. To rest assured: a study of artistic development. *Int J Educ Arts* 2008;**9**:1–25.
- 54 Reed E. *The Necessity of Experience*. New Haven, CT: Yale University Press 1996;1–9.
- 55 Epstein RM. Making communication research matter: what do patients notice, what do patients want, and what do patients need? *Patient Educ Couns* 2006;**60**:272–8.
- 56 Rollnick S, Kinnersley P, Butler C. Context-bound communication skills training: development of a new method. *Med Educ* 2002;**36**:377–83.
- 57 Epstein RM. Mindful practice. *JAMA* 1999;**282**:833–9.
- 58 Larson EB, Yao X. Clinical empathy as emotional labour in the patient–physician relationship. *JAMA* 2005;**293**:1100–6.
- 59 Finestone HM, Conter DB. Acting in medical practice. *Lancet* 1994;**344**:801–2.
- 60 Wilkes M, Milgrom E, Hoffman JR. Towards more empathic medical students: a medical student hospitalisation experience. *Med Educ* 2002;**36**:528–33.
- 61 Kleinman A. Catastrophe and caregiving: the failure of medicine as an art. *Lancet* 2008;**371**:22–3.
- 62 Cals JW, Butler CC, Hopstaken RM, Hood K, Dinant GJ. Effect of point of care testing for C reactive protein and training in communication skills on antibiotic use in lower respiratory tract infections: cluster randomised trial. *BMJ* 2009;**338**:b1374.
- 63 Bowden JA. Capabilities-driven curriculum design. In: Baillie C, Moore I, eds. *Effective Learning and Teaching in Engineering*. RoutledgeFalmer: Abingdon 2004;36–47.
- 64 Regelski TA. Conclusion: an end is a beginning. In: Regelski TA, Gates JT, eds. *Music Education for Changing Times: Guiding Visions for Practice*. Dordrecht: Springer 2009;188–97.
- 65 de Bezenac C. No pain, no gain? Motivation and self-regulation in music learning. *Int J Educ Arts* 2009;**10**:1–33.
- 66 Bleakley A, Bligh J. Students learning from patients: let's get real in medical education. *Adv Health Sci Educ Theory Pract* 2008;**13**:89–107.
- 67 Bell K, Boshuizen HP, Scherpbier A, Dornan T. When only the real thing will do: junior medical students' learning from real patients. *Med Educ* 2009;**43**:1036–43.
- 68 Hanna M, Fins JJ. Viewpoint: power and communication: why simulation training ought to be complemented by experiential and humanist learning. *Acad Med* 2006;**81**:265–70.
- 69 de la Croix A, Skelton J. The reality of role-play: interruptions and amount of talk in simulated consultations. *Med Educ* 2009;**43**:695–703.
- 70 Kogan JR, Holmboe ES, Hauer KE. Tools for direct observation and assessment of clinical skills of medical trainees: a systematic review. *JAMA* 2009;**302**:1316–26.
- 71 Scheffer S, Muehlinghaus I, Froehmel A, Ortwein H. Assessing students' communication skills: validation of a global rating. *Adv Health Sci Educ Theory Pract* 2008;**13**:583–92.
- 72 Regehr G, MacRae H, Reznick RK, Szalay D. Comparing the psychometric properties of checklists and global rating scales for assessing performance on an OSCE-format examination. *Acad Med* 1998;**73**:993–7.
- 73 Barrow R. Judging quality of human achievement. *Educ Culture* 2006;**22**:7–16.
- 74 Reber R. Art in its experience: can empirical psychology help assess artistic value? *Leonardo* 2008;**41**:367–72.
- 75 Eisner E. *The Enlightened Eye: Qualitative Enquiry and the Enhancement of Educational Practice*. New York, NY: Macmillan 1991.

- 76 Glejser H, Heyndels B. Efficiency and inefficiency in the ranking in competitions: the case of the Queen Elisabeth Music Contest. *J Cultural Econ* 2001;**25**:109–29.
- 77 Haan MA, Dijkstra SG, Dijkstra PT. Expert judgement versus public opinion – evidence from the Eurovision Song Contest. *J Cultural Econ* 2005;**29**:59–78.
- 78 Cooper C, Mira M. Who should assess medical students' communication skills: their academic teachers or their patients? *Med Educ* 1998;**32**:419–21.
- 79 Kleinman A. Moral experience and ethical reflection: can ethnography reconcile them? A quandary for 'the new bioethics'. *Daedalus* 1999;**128**:69–97.
- 80 Cocksedge S, May C. The listening loop: a model of choice about cues within primary care consultations. *Med Educ* 2005;**39**:999–1005.
- 81 Haidet P. Jazz and the 'Art' of medicine: improvisation in the medical encounter. *Ann Fam Med* 2007;**5**:164–9.
- 82 Oakes S. Freedom and constraint in the empowerment as jazz metaphor. *Marketing Theory* 2009;**9**:463–85.

Received 8 March 2010; editorial comments to authors 23 April 2010, 26 June 2010; accepted for publication 27 July 2010

Medical education research aims to advance the knowledge, skills, and professionalism of medical students by understanding and evaluating educational ecosystems. These ecosystems include policies related to admissions and curriculum, people who serve as teachers and mentors, instructional technology and other resources, the attitudes that pervade a given institution or educational experience, and even the students themselves. Ultimately, research in medical education is conducted to

Conducting systematic reviews in medical education: a stepwise approach. *Med Educ* 2012; 46(1): 943-52. Markert RJ. Medical schools in the UK are at the top of university rankings in Europe, so we thought it best to create a list of their own. Keep in mind that while they are considered the best, the study and living costs at these universities is likely higher than other top universities in Europe. Here are the best medical schools in the UK, according to QS Rankings 2020 by Subject Medicine: University of Oxford. University of Cambridge.

Overview: *Medical Education Online* publishes peer-reviewed feature articles (opinion pieces), research articles, and trend articles (brief pieces that share innovative ideas or initial research results). It accepts articles on every topic related to medical education such as basic science education, residency education, problem-based learning, faculty development, student assessment, and others.

Overview: *The Journal of Medical Education and Curricular Development* is a peer-reviewed publication that offers swift research reviews and open access to its articles. It includes research that covers the entire medical education landscape.

Journals focused on graduate and continuing medical education. Medical education has many long established pedagogical approaches to learning including face to face lectures in classrooms - via a teacher-centred model [1]. This particular approach to educational practices can manifest within a teaching culture [2], becoming pervasive within an organisation or discipline, leading to a reluctance to adopt new and emerging practices and technologies.

This review has thematically synthesized evidence of key barriers and solutions to the development and implementation of online learning from the medical educator's perspective. Medical education eventually developed into a process that involved four generally recognized stages: premedical, undergraduate, postgraduate, and continuing education. In the United States, Britain, and the Commonwealth countries, generally, medical schools are inclined to limit the number of students admitted so as to increase the opportunities for each student. In western Europe, South America, and most other countries, no exact limitation of.

Postgraduate education. On completion of medical school, the physician usually seeks graduate training and experience in a hospital under the supervision of competent clinicians and other teachers. In Britain a year of resident hospital work is required after qualification and before admission to the medical register.