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Dan Pratt

Ric Arseneau

University of British Columbia

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The Power of One: Engagement as the Key to Highly Effective Clinical Instruction

Dan Pratt & Ric Arseneau
University of British Columbia

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Abstract: Twenty-two medical students and forty-one clinical faculty speculated on the results of an unusual study. Their speculations resulted in fourteen factors and six propositions that describe the nature of highly effective clinical teaching.

Introduction

In essence, the message of this paper is simple; undertake good practice, demonstrate good practice, and explain good practice. This should result in good clinical teaching. (Prideaux, Alexander, Bower et al, 2000: pp. 825-6)

The above statement is made in good faith and is authored by several highly experienced and effective clinicians, teachers and researchers. While appearing naïve in its simplicity it is really quite profound in its implications. It suggests that by putting students alongside good practitioners, who demonstrate and explain their practice, we can produce effective doctors. But is it really that easy? Is it merely a matter of demonstrating and explaining, or is there something more that differentiates highly effective clinical teachers from those who are competent but perhaps less effective? These are some of the questions and dilemmas that characterize clinical teaching and gave birth to this study.

Clinical Teaching

A clinical teacher's job is significantly different from that of other teachers in adult and higher education, principally because teaching is conducted part-time in a work context and involves the presence of a critical third party – patients. Teaching aspiring physicians in a context of practice competes with the work of being a physician in that same context. Yet, although there is wide spread agreement that clinical teaching is critical to the preparation of physicians, our knowledge of the link between effective clinical teaching and student learning is limited. A few studies have explored teachers' perceptions of their role as teachers and provided insights into teachers' different approaches to teaching (Stone, Ellers, Homes, Orgren, Qualters, & Thompson, 2002; Mann, Homes, Hayes, Burge, & Viscount, 2001). Others have elicited students' opinions regarding the characteristics of effective clinical teachers (Irby, 1992; 1994a). And, there have been a few more comprehensive surveys of teachers that have provided information about their teaching methods, use of time, preparation, attitudes towards teaching and training for teaching (Finucane, Allery, & Hayes, 1995; Lawson, Seabrook & Jolly, 1996; Pinsky, Monson & Irby, 1998). However, even the meaning of 'effective teaching' is a contested concept. There are different competing views about what constitutes 'teaching excellence' across higher education and within medical education (Zukas M, & Malcolm J, 1999; Pratt, Arseneau, & Collins, 2001)

Thus, although there is a growing body of descriptive literature on the perceived attributes and qualities of effective clinical teachers (Irby 1994; Kaufman, Mann, & Jennett, 2000; Hesketh, Bagnall, Buckley et al, 2001; Woolliscroft, 2002) there is very little empirical evidence documenting the influence of effective clinical teaching on student learning or clinical performance. In other words, there is comparatively little research on what truly effective teachers actually *do*, and whether exceptional teaching translates into student performance on standardized academic or clinical performance measures.

Two studies that represent important exceptions to the limitations noted above are those of Blue, Griffith, Wilson, Sloan and Schwartz (1999), and Griffith, Georgesen, and Wilson (2000). Both studies demonstrated that having effective clinical instructors has significant and positive effects on medical students' National Medical Board Exam (NMBE) scores when compared to being assigned to adequate or poor clinical instructors. Yet, while the magnitude of their effect on student learning is known (+.25 to +.33), the authors only speculate about what those teachers might have done to produce such an effect. Nor did they make any attempt to study the contributions of others, such as residents, nurses, or other ward personnel and health care team members.⁷

Methodology

This study addressed two questions: (1) How do UBC's third year medical students and their clinical teachers explain the results of Griffith et al (2000), that the impact of highly effective clinical teaching in one specialty results in improved standardized examination results; and (2) how might these UBC outcomes inform further study of highly effective clinical teaching? During their third year of UBC's medical school, students move through ten 'clinical rotations', learning about different medical specialties. The amount of time varies with the specialty, ranging from one week in dermatology to eight weeks in internal medicine.

From February to July of 2005 twenty-two students and forty-one clinical faculty members were interviewed about the effectiveness of their clinical rotations, which included anaesthesia, dermatology, emergency medicine, internal medicine, ophthalmology, orthopaedics, Ob/Gyn, paediatrics, psychiatry, and general surgery. At the end of each interview, students and faculty were told the results of the Griffith et al study in internal medicine that showed a significant and positive relationship between excellence of clinical teaching and subsequent academic achievement of third year medical students. They were then asked to speculate as to how a single clinical teacher might have had such powerful influence on students' national examination scores. The exact question presented to both students and faculty was:

“Q: I'd like you to speculate on the results of this study. How or why could one teacher have had that kind of effect on academic achievement amongst third year medical students?”
Interview data was analyzed in two stages: first, to determine factors believed related to highly effective clinical instruction; and secondly, to contrast student and faculty in terms of their (1) confidence in the study results; and (2) factors given in explanation of results.

⁷ Both articles provide only brief speculation as to why or how one teacher could positively effect student achievement. Thus, in 2004 three researchers (John Collins, Bob Rubeck and Dan Pratt) met with the team of Griffith, Wilson, Sloan and Schwartz and asked if they had further data or interpretation of their results that could go beyond 'speculating' about the effect of a single teacher on students' academic achievement. They had no further explanation; nor did they intend to pursue such questions in current or future research.

Results

Analysis of transcripts yielded a set of 14 factors that 22 students and 41 faculty members thought explained the results of Griffith et al (2000). Each factor was mentioned by at least five students and by varying numbers of faculty. Factors that were mentioned by all twenty-two students are preceded by *. Factors mentioned by two or more clinical faculty members are noted by *f*. Factors are stated as teaching behaviours that students and/or faculty reported as having significant and positive influence on student achievement.

Teacher-related factors believed to influence academic achievement:

1. **Programmatic orientation** – Provided materials and outlined procedures that clearly delineated the student's schedule, movement between locations and introduction to staff.
2. **Learning orientation** – Demonstrated, explained, or revealed their approach to clinical care through the use of heuristics that reduced complexity to essentials.
3. **Preceptor vs. attending** – Had students working with one clinician (preceptor) for most of the rotation, rather than circulating among clinicians (attendings) in order to provide more active involvement in patient care.
4. **End of the line** – Did not leave students 'at the end of the line', vying with residents, fellows, or other physicians for their teacher's attention, where they would be observing from the periphery, with little engagement in the work.
5. **Change in thinking** – Articulated their approaches to diagnosis, treatment, and management and helped students change from fragmented, textbook approaches to holistic, patient-centred ways of thinking about medicine.
6. **Team of teachers** – Included others in the teaching of students, all of whom knew they were coming, knew what they could (and could not) do, and allowed for them to be engaged in the team's work.
7. * **Involvement with patient care** – Assigned appropriate tasks that actively engaged students in working with patients
8. * **Engagement at appropriate level** – Asked questions and gave teaching points that were within the range of what a 3rd year clerk should know.
9. * **Avoided prolonged shadowing** – Avoided prolonged periods of 'observation only', which is seen by students to be the least effective means of learning.
10. * *f* **Challenge within safe environment** – Interacted in ways that challenged students' thinking but also made it safe for them to be wrong or to not know.
11. * *f* **Attitude toward students** – Made students feel they were welcome and genuinely looking forward to working with them. Teachers who genuinely want to work with students make them feel welcome and engaged, rather than a bother or 'fifth-wheel' that slows the work down. Faculty also talked about 'wanting students to do well'.
12. * *f* **Enthusiasm or inspiration** – Showed excitement about medicine and their specialty and wanted to share that enthusiasm with students. These teachers were inspiring, motivating, challenging and excited about the practice of medicine.
13. * *f* **Clinical competence** – Demonstrated high levels of competence and taught specific, well-organized, manageable ways of thinking about clinical matters.
14. * *f* **Role model** – Served as authentic role models, dedicated to patients and to a high standard of care. These physician/teachers interacted with team members and openly discussed moral issues and difficulties associated with practicing medicine. Students also talked about the hidden curriculum (without naming it), that is, how they learn about high standards,

gentle compassion, and the ethics of medicine through observing how their teachers deal with challenging situations.

Although there were nearly twice as many clinical faculty as students in this study, surprisingly it was the students who saw a broader range of possible explanations for the findings in Griffith et al. This may be explained by students' proximity to learning in clinical settings vs. faculty who, by-and-large, had been practicing medicine for many years and may have forgotten what it was like to be a medical student learning for the first time alongside experienced physicians.

In sum, students were confident, articulate, and expansive in their interpretation of the Griffith et al study; clinical faculty were less expansive in suggesting why or how such results could have been achieved. Some clinical faculty doubted the study's results; none of the students doubted the study's results.

Interpretation

On closer analysis, the fourteen factors can be distilled into a smaller set of six propositions to guide both future research and practice related to clinical teaching.

Highly effective teachers: Set clear expectations for learners (factor 1); explain complex topics at the student's level of understanding (factors 2, 5, 13); display enthusiasm for teaching and for their work (factors 11, 12); provide a safe and challenging learning environment (factor 10); role model ethical behaviour and desired values and attitudes (factor 14); provide for meaningful and authentic engagement (factors 3, 4, 6, 7, 8, 9)

These six propositions are not unique; they echo findings from both medical and higher education research, such as, work done by: Bain 2004; Biggs 1999; Bransford, Brown and Cocking, 2000; Cox & Swanson 2002; Kenny et al 2003; Ramsden 1992; Suchman, Williamson, Litzelman, Frankel, Mossbarger, 2004; Wear 1998. However, what is most striking is the number of times students alluded to forms of learner engagement as possible explanation for how a single teacher could have such an impact on student learning. Engagement may well be the most neglected, and yet critical, proposition about what contributes to the power of one highly effective teacher.

It is important not to confound engagement with motivation. Motivation was never an issue with these learners; they were all highly motivated. For these learners, engagement went beyond motivation to include an absorbing quality that is intellectual and physical, and possibly emotional – a form of connectedness with authentic work, with being a doctor. No wonder the measure of effective post-secondary schools in North America is fast becoming their score on the *National Survey of Student Engagement* [<http://nsse.iub.edu/redirect.cfm?target=>].

Implications

The notion still persists that “good clinical instructors are born, not made” and there is doubtless a modicum of truth to it. Nevertheless, a substantial portion of what they do that makes them effective can be identified, abstracted, explained to others who then deliberate, discuss, rehearse, practice and eventually adopt such practices into their own repertoires of teaching skills and strategies. Because our medical school is involved in expansion, this study was motivated by the need to train new and on-going clinical faculty. Therefore, our ultimate goal is to translate findings into practice for the training and development of clinical teachers in medicine and throughout the health professions, as well as for wider faculty development initiatives. To meet this goal, findings must be either ‘teachable’ or useful in the selection of clinical faculty.

It is still something of a mystery how one teacher can so powerfully influence academic achievement even in areas outside the domain of that teacher's specialty. Thus, our next step is to see if highly rated clinical teachers have a similar impact on clinical as well as academic performance. Should we find supportive results, we have funding to now look more closely at what such teachers do and what else within the learning environment may be influencing student learning.

References

- Bain, K. (2004). *What the Best College Teachers Do*, Cambridge, MA: Harvard Press.
- Biggs, J. (1999). *Teaching for Quality Learning at University: What the Student Does*, London: Society for Research into Higher Education.
- Blue, A.V., Griffith, C. H., Wilson, J., Sloan, D. A., & Schwartz, R.W. (1999). Surgical teaching quality makes a difference. *American Journal of Surgery*, 177(1), 86-9.
- Bransford, J. D., Brown, A. L., & Cocking, R. R. (2000). *How People Learn: Brain, mind, experience, and school*, Washington DC: National Academy Press.
- Cox, S.S. & Swanson, M. S. (2002). Identification of teaching excellence in operating room and clinic settings. *American Journal of Surgery*, 183(3):251-5, 2002 Mar.
- Finucane, P., Allery, L. A., & Hayes, T. M. (1995). Comparison of teachers at a 'traditional' and an 'innovative' medical school. *Medical Education*, 29:104-9.
- Griffith, C. H., Georgeson, J. C., & Wilson, J. F. (2000). Six-year documentation of the association between excellent clinical teaching and improved student examination performance. *Academic Medicine*, 75(10), October Supplement. <http://www.academicmedicine.org/cgi/content/full/75/10/S62>
- Hesketh, E., Bagnall, G., Buckley, G., Friedman, M., Goodall, E., Harden, R.M., Laidlaw, J.M., Leighton-Beck, L., McKinlay, P., Newton, R., & Oughton, R (2001). A framework for developing excellence as a clinical educator. *Medical Education*, 35: 555-64.
- Irby, D. M. (1992). How attending physicians make instructional decisions when conducting teaching rounds. *Academic Medicine*, 67: 630-8.
- Irby, D. M. (1994a). Three exemplary models of case-based teaching. *Academic Medicine*, 69: 947-53.
- Irby, D. M. (1994b). What clinical teachers in medicine need to know. *Academic Medicine*, 69: 333-342.
- Kaufman, D. M., Mann, K.V., & Jennett, P. (2000). Teaching and learning in medical education: how theory can inform practice. *Monograph published by the Association for the Study of Medical Education*.
- Kenny, N., Mann, K. & MacLeod, H. (2003). Role modeling in physicians' professional formation: reconsidering and essential but untapped educational strategy. *Academic Medicine*, 78(12), 1203-1210.
- Lawson, M., Seabrook, M., Jolly, B.C., & Pettingale, K.W. (1996). Teachers at King's: who teaches and how? *Medical Education*, 30, 71-8.
- Mann, K.V., Homes, D.B., Hayes, V.M., Burge, F.I., Viscount, P.W. (2001). Community family medicine teachers' perceptions of their teaching role. *Medical Education*, 35, 278-85.
- Norman, G.R. & Schmidt, H.G. (1992). The psychological basis of problem-based learning: A review of the evidence. *Academic Medicine*, 67, 557-565.
- Pinsky, L., Monson, D., Irby, D.M. (1998). How excellent teachers are made: Reflecting on success to improve teaching. *Advances in Health Sciences Education*, 3, 207-215.
- Pratt, D. D., Arseneau, R., Collins, J. B. (2001). Theoretical Foundations: Teaching across the medical curriculum. *The Journal of Continuing Education in the Health Professions*. 21(2), 207-215.
- Prideaux, D. (1999). Writing about curriculum change: beyond the local and particular. *Medical Education*, 33, 4-5.
- Prideaux, D., Alexander, H., Bower, A., Dacre, J., Haist, S., Jolly, B., Norcini, J., Roberts, T., Rothman, A., Rowe, R., & Tallett, S. (2000). Clinical teaching: maintaining an educational role for doctors in the new health care environment. *Medical Education*, 34, 820-826.
- Stone S., Ellers B., Homes D., Orgren R., Qualters D., & Thompson J. (2002). Identifying oneself as a teacher: the perceptions of preceptors. *Medical Education*, 36, 180-5.
- Suchman, A., (2004). Williamson, P. Litzelman, D. Frankel, R., Mossbarger, D., et.al. Toward an *informal curriculum that teaches professionalism*. *Journal of General Internal Medicine*, 19, 501-504.
- Wear, D. (1998). On white coats and professional development: The formal and hidden curricula. *Annals of Internal Medicine*, 129 (9), 734-737.

- Whitcomb, M. E. (2002). Research in medical education: what do we know about the link between what doctors are taught and what they do? *Academic Medicine*, 27: 1067-8.
- Woolliscroft, J. O. (2002). Medical student clinical education. *International Handbook of Research in Medical Education*, Boston: Kluwer Academic Publishers, 365-380.
- Zukas, M, & Malcolm J. (1999, September). Models of the educator in higher education. Paper presented at the *British Educational Research Association Conference*, University of Sussex.