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Looking back to move forward: Using history, discourse and text in medical education research

Research series

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Abstract

As medical education research continues to diversify methodologically and theoretically, medical education researchers have been increasingly willing to challenge taken-for-granted assumptions about the form, content and function of medical education. In this AMEE Guide we describe historical, discourse and text analysis approaches that can help researchers and educators question the inevitability of things that are currently seen as 'natural'.

Why is such questioning important? By articulating our assumptions and interrogating the 'naturalness' of the *status quo*, one can then begin to ask why things are the way they are. Researchers can, for example, ask whether the models of medical education organization and delivery that currently seem 'natural' to them have been developed in order to provide the most benefit to students or patients – or whether they have, rather, been developed in ways that provide power to faculty members, medical schools, or the medical profession as a whole.

An understanding of the interplay of practices and power is a valuable tool for opening up the field to new possibilities for better medical education. The recognition that our current models, rather than being 'natural', were created in particular historical contexts for any number of contingent reasons leads inexorably to the possibility of change. For if our current ways of doing things are not, in fact, inevitable, not only can they be questioned, they can be made better; they can changed in ways that are attentive to whom they benefit, are congruent with our current beliefs about best practice, and may lead to the production of better doctors.

Take Home Messages

- Making meaningful change in medical education requires questioning taken-for-granted assumptions about what medical education currently is and what it should be.

- Historical, discourse and text analysis approaches, which are widely and successfully used outside medical education research, can enhance our field by helping us to 'make strange' things heretofore accepted as 'normal' or 'natural'.

- History is not a singular linear development towards progressive improvement but rather a fluid construction incorporating multiple contextual perspectives.

- Discourse analysis enables researchers to understand the effects and relations of language, practices and power in our current assumptions about medical education.

- Text analysis, while often used in conjunction with discourse analysis, can also be useful for conducting many other types of qualitative research.

"Let us give the term genealogy to the union of erudite knowledge and local memories which allow us to establish a historical knowledge of struggles and to make use of this knowledge tactically today."

(Foucault, 1980, p. 83)

As medical educators we strive continually to improve the form and content of the education and training we provide for future physicians. While this is a noble aspiration, as a medical education community we are often limited in our ability to make meaningful change because we assume that large components of our current system are rational and inevitable. However, history shows us that the structures of medical education are instead arbitrary and contingent. Questioning the many things that we take for granted within medical education can give medical educators the freedom to re-imagine what medical education could be. Such questioning is often difficult because our ways of teaching and learning appear to be so natural that it is difficult for us to think that they could be undertaken in any other way.

We begin this AMEE Guide with an approach we call "making strange". This is a way of gaining new, even startling, perspectives about things that we would otherwise accept as "normal", because they are so familiar, so engrained in routine, so naturalized, that it becomes difficult to imagine that the world could be organized in any other way. The notion of "making strange" has been attributed to twentieth century German playwright Bertold Brecht. Sometimes called the "distancing effect" after the German term *"Verfremdungseffekt",* Brecht wanted the audience of his plays to have a particular

experience. Rather than being swept up in the drama in a way that allowed observers to lose themselves passively in the characters and the setting, Brecht instead wanted audience members to be critical observers and to be conscious of their critical observer position (Brecht, 1964). To do this he often crafted his stage settings to reveal the act of construction itself. Rather than trying to disguise the constructed nature of the play, he amplified it. In this way, the observer continues to participate in the drama, but in a way that allows them to remain conscious at all times that it *is* a drama – a drama that has been constructed in a particular and deliberate way.

Brecht's approach is helpful in thinking about medical education. Much of medical education is also constructed in particular ways. Faculty, students and patients play particular roles. Hospitals, clinics and classrooms are set in particular ways. We follow tradition and ritual in much of this but rarely reflect on their constructed nature. For example, for decades, medical school consisted of years spent in a lecture theatre, with a professor delivering wisdom to rows of students dutifully taking notes. Then, in about the 1960s, a new notion of small group, problem-based learning appeared. What had been taken for granted and assumed to be "normal" for so long suddenly appeared, if not strange, at the very least worthy of questioning – a rather arbitrary construction, one that perhaps could be re-examined or changed.

How do we "make strange"?

Practices that once appeared "normal" may gradually begin to seem strange with the passage of time as scientific, social and political practices evolve. However, for the researcher, there are at least two effective strategies that are helpful in "making strange" in a more deliberate fashion: applying historical and cultural lenses (Kuper & Hodges, 2010). Simply examining a taken-for-granted practice from the perspective of another culture is often an effective way of throwing its constructed nature into relief. Many such examples have been described in the medical education literature. Student evaluation of teachers seems "normal", for example, until one spends time with Japanese educators who explain that evaluation of an elder is culturally inappropriate. Assessing professionalism as an individual behaviour seems "natural" until one studies a Confucian culture and learns that the behaviour of individuals is considered less important than the behaviour of the collective (Ho et al., 2011). Having examinations seems to be a taken-for-granted aspect of medical education until one visits Denmark and discovers that assessment is thought to foster competition which is thought incompatible with professional behaviour.

Applying a cultural lens is a fascinating way of making taken-for-granted elements of medical education seem strange. Several researchers in medical education today are productively pursuing this line of work. In this Guide, however, we will not discuss

further the use of cultural lenses, but will delve into the second approach – applying historical lenses – in more detail. Examining practices in medical education at different periods of history is a very effective way of illustrating the constructed and therefore changeable nature of much in medical education.

Applying a historical lens to make strange

We begin with the premise that there is not a single "true" history of anything. Every historical event that has been interesting enough to be retold, be it a revolution, a war or a political transition, can be seen from different perspectives. Placing emphasis on different elements of an event, on the perspectives of different participants in that event and on their different causal motivations result in rather different tellings and retellings of the event. And as time passes, new perspectives on the event may lead to further retelling. Thus, history is fluid. A simple version of this is the observation that, in war, "history is told by the victor". So too in medical education, a widely cited example being the much-recounted history of the Flexnerian reforms of medical education in North America. Following the release of Abraham Flexner's 1910 report by the Carnegie Foundation, medical education throughout North America was changed (Flexner, 1910). But the way this bit of medical education history is told is subject to some very disparate interpretations (Hodges, 2005).

The Flexnerian history is told variously as: an heroic accomplishment that led medicine to finally develop a scientific base and relocate its education in universities; a

discriminatory turning point that led to the closure of medical schools for blacks and women (Strong-Boag, 1981); and/or the beginning of an century of conflict of interest between the medical profession and corporate interests (Brown, 1979). Interestingly, even the documentation of Flexner's own words does not come to us as a unified history (Whitehead, 2010). Flexner himself critiqued the results of his own report some 15 years later (Flexner, 1925).

The Uses of History

From this perspective, history cannot be about the telling of a singular truth from the past or sketching a long and uninterrupted line of progress towards a better world. Rather history is about the different ways in which events have been, or could have been, recorded. Taking this approach to history is decidedly optimistic: rather than placing emphasis on the fixity of life, attention is paid to what is changeable. This constructivist approach allows us to question the underlying assumptions of recorded history, wondering not only why it was written in a certain way, in a certain place and at a certain time, but also how it might be written differently.

Studying the different ways in which history is told is called "historiography" (Breisach, 1983, p. 487). Examining a historical event through a deliberate juxtaposition of its multiple retellings opens up the potential for a "critical" analysis. That is, questions can be raised about *who* told (or tells) which historical version, which *individuals or organizations* stand to gain or lose power or prestige from certain ways of recounting

history, and what goals are advanced by emphasizing those particular historical details and interpretations. We can see that certain versions of history are more prominent than others, and in particular times and places some become the dominant ways of understanding reality while others are suppressed. These different ways of seeing the world rest on conceptual systems and ways of speaking that together are termed "discourses" (as explained in more detail below). Untangling this can be a tricky business because some discourses dominate today (at the time of current reading) just as potentially different discourses dominated in the past (at the time of the original writing).

Let us look at an example in more detail. As we have described, a critical version of the history of the Flexnerian reforms focuses on the concomitant closing of medical schools for women. Seen through 21st century eyes an author might well interpret these events as examples of gender discrimination. However, a discourse of gender equity/discrimination was not very commonplace in 1910 in North America (such a discourse existed, but it was not dominant; for examples see: Jacobi, 1891). Feminist historians, writing in the late 20th and 21st century have been able to show, through study of historical documents, that in 1910 the mainstream discourse construed women as intellectually inferior, inadequately adapted to the study of science, and unable to cope with the demands of medical education and practice (Clevenger, 1987). Discourses that supported more equitable admission of women to medical schools did not become prominent until the 1970s (Cooke et al., 2010).

The history of admission of women to medical schools could be told simply as a linear story of the advancement of equity and of women's rights: in the 19th century there was discrimination and by the end of the 20th century there was great attention to gender equity. However that is only one telling, and it would miss a very important nuance. Prior to the Flexner reforms there were actually many women studying medicine in North America. The closure of medical schools was an attempt to address the multitude of "proprietary" (for profit) institutions that Flexner argued had very low standards. The new medical schools that would emerge, based on the Johns Hopkins model, would be much more exclusive and much more expensive. Exclusion was about gender, but it was at least as much about socio-economic status. Were one to take an interest today in rising medical school tuitions, rising student debt and the proliferation of for-profit medical schools around the world, another look at the history of medical education and the Flexnerian reforms could be taken from such an economic point of view. Yet it is only in recent decades that an economic history of the medical profession has been told (Starr, 1982).

We can see that the "science-revolution" version of the Flexnerian history compares in interesting ways to the "feminist-discrimination" version which can be juxtaposed with the "economic" version. It could be argued that all are "true" in some sense. However, the telling of the history takes on a different character depending on where emphasis is placed. Today, as we embrace a vigorous discussion about the appropriate criteria for admission to medical school, the ways in which we tell and retell medicine's grappling with this topic in the past are very relevant. An old adage, attributed to George

Santayana, holds that "*those who cannot remember the past are condemned to repeat it*" (Santayana, 1905, p. 284). The question that deserves our attention as medical education historiographers is, *which* histories are we doomed to repeat? Whitehead (2011) has illustrated that within the medical education discourse and literature the same topics and arguments recurring continually, albeit through the different lenses of successive historical periods. For example, the notion that medical knowledge has "exploded" in such a way as to overwhelm the curriculum has been articulated in nearly every decade since 1910 (Whitehead, in press). Understanding this "repetition compulsion" must surely be important in moving forward.

Methodology

Discourse

Discourse is a concept that is becoming increasingly recognized in the medical education field. Like many popular terms, while its meaning is often assumed, it is actually used to express a range of different constructs. Mills (1997) provides a very useful summary of differences in the use of the term in different contexts and disciplines, including linguistics, sociology and psychology. In general, discourse relates to language, texts and the contexts in which language and texts are used and put into practice. In some forms of discourse analysis, this includes how they shape and are shaped by power structures and relations.

With a goal of "making strange," so as to better understand our taken-for-granted assumptions in medical education, we have found that critical discourse analysis provides an effective and relevant approach for questioning such assumptions. It has been used in many disciplines to explore how language relates to the social construction of phenomena (Hodges, 2009). Phillips and Hardy suggest that the different forms of discourse analysis can be categorized as focussing more on constructivist or critical approaches, depending on whether they highlight social construction processes or power dynamics (Phillips & Hardy, 2002). Types of discourse analysis can be further classified according to whether they focus more on text or on context (Phillips & Hardy, 2002). Critical discourse analysis, in this schema, is a critical, context-focused approach.

Critical discourse analysis examines the way that discourse makes certain statements appear inevitable and not open to questioning or doubt. As described by Rogers (2005), critical discourse analysis is characterized by the "movement from description and interpretation to explanation of how discourse systematically constructs versions of the social world" (p. 371). Critical discourse analysis, therefore, focuses on the relation of language and practices and power. Parker (2002) has developed a very useful framework to guide researchers in distinguishing discourses. **Box 1** provides a summary of this framework as presented by Shaw and Greenhalgh (2008).

Box 1:

Overview of Parker's framework

Criteria for distinguishing discourses	Description
Discourse is realized in texts	As the world around us is textual, we need to treat objects of study (e.g. documents) as texts which are described and put into words
A discourse is historically located	Discourses are embedded in history and should be considered in relation to time. We need to explore how and where discourses emerge and describe how they change
A discourse is a coherent system of meanings	Discourse is made up of groups of statements that present a particular reality of the world. The task of the analyst is to map the world as discourse represents
A discourse is about objects	Using language means referring to objects and representing them in particular ways. Hence we unpick what objects are referred to and how they are talked about
A discourse contains subjects	As discourse addresses us in particular ways and allows us to perceive ourselves in certain roles, we need to identify the rights we have to speak in relation to any discourse
A discourse refers to other discourses	Describing discourses necessarily involves the use of other discourses. Contrasting different ways of

	speaking helps to disentangle this
A discourse reflects on its own way of speaking	Each discourse comments upon the terms it employs, referring to other texts to elaborate. Hence there is a need to reflect on the terminology used
Discourses support institutions	Discursive practices involve the reproduction of institutions. Analysis involves identifying institutions that are reinforced or subverted when a discourse is used
Discourses reproduce power relations	Discourse and power are intimately related so we need to look at which categories of person gain and lose from employment of a discourse
Discourses have ideological effects	Different versions of how things *should* proceed can coexist and compete within discourse. Hence there is a need to show a discourse connects with other discourse to sanction control

* Parker (2002) as presented in Shaw & Greenhalgh (2008). *Reproduced with permission.*

Foucauldian critical discourse analysis

Many researchers who engage in critical discourse analysis from a historical perspective draw upon the works of Michel Foucault. Foucault did not offer a unified theoretical approach to history, but instead provided a number of concepts and theoretical lenses which can be combined to explore issues of knowledge and power as they vary across different historical periods. Foucault set out to study that which appears obvious or self-evident to us today, in contrast to what appeared to be self-evident to others in the past. He described this as unearthing the "history of the present" (Foucault, 1995, p. 31). In his examinations of madness, prisons and hospitals (Foucault, 1980; Foucault, 1988; Foucault, 1995) he showed the ways that particular discourses are made possible, arise, change, become dominant, and later disappear. Foucault focused on the analysis of discursive shifts (i.e. shifts between discourses), which he called *discontinuities* or *ruptures*. Several Foucauldian concepts, those of *archaeology*, *genealogy* and *serial history*, are particularly relevant to "making strange" in medical education and unearthing aspects of its history; these will be discussed in detail in the sections that follow.

Archaeology

We commonly think of archaeology as digging up ancient pottery shards in order to help us reconstruct long-lost civilizations and how they worked. Foucault's use of the term archaeology similarly describes a way to metaphorically dig up bits of language in order to reconstruct the ideas and practices (i.e. the discourses) of the past as well as of the present. Foucault's concept of archaeology is helpful as it focuses attention on the way our ideas of 'truth' have been embedded in the different language that has been used in

different ways in different times. It also requires us to analyse our current assumptions about accepted forms of knowledge since, for Foucault, "'Truth' is to be understood as a system of ordered procedures for the production, regulation, distribution, circulation and operation of statements" (Foucault, 2000, p. 132). By taking an archaeological approach, changes, or *discontinuities*, in the kinds of statements that are being made become extremely important, as these signal a shift in ways of thinking and in the rules governing discourse production. As described by Davison (1986), *"new statements which seem to be mere incremental additions to scientific knowledge are in fact only made possible because underlying rules for the production of discourse have significantly altered"* (p. 223). An archaeological approach probes something that might appear to be 'natural' and shows various factors that influence, affect and shape its emergence. Archaeology thus makes visible the confluence of forces allowing a discourse to emerge and the way the discourse operates. It *"attempts to isolate the level of discursive practices and formulate the rules of production and transformation for these practices"* (Davidson, 1986, p. 227). By so doing, the *"conditions of possibility"* (Foucault, 1994, p. xxii) are shown. Certain statements and ways of thinking are made possible; others are made impossible. Certain voices are heard and valued; others are not.

While discourses are characterized by particular ways of talking and thinking, they also encompass a number of other discrete but interrelated elements. These elements include roles for people to play, institutions to govern and have power, and objects (both real and conceptual) that are made possible by particular discourses. The Foucauldian historian

tries to unearth as many of these discursive elements as possible, assembling them into a developing understanding of the discourse of which they are constituent parts.

Foucault's study of madness is classic in demonstrating that the twentieth century discourse of madness as illness is completely different from previously existing notions madness as spiritual possession or social deviancy (Foucault, 1988). Once madness is understood as mental illness, care of the insane becomes the job of doctors and hospitals, rather than clergy and churches or jailors and prisons.

Similarly, in *Discipline and Punish*, Foucault demonstrated a dramatic conceptual shift, as crime became something for which to be imprisoned rather than something to be punished by torture (Foucault, 1995). Foucault showed that prison reforms, considered by proponents in nineteenth century as 'humanitarian' and 'progressive,' led to a marked change in disciplinary techniques. Instead of "brutal but unfocused physical punishment" of the body of the criminal, there is instead "intrusive psychological control" (Gutting, 2005, p. 81). Self-control, self-discipline, and self-surveillance are all products of this discourse. Implications of such different ways of thinking for society more broadly can be profound.

Box 2 presents a worked-out example of discursive changes within medical education derived using Foucauldian discourse analysis.

Box 2:

Discursive changes in the *good doctor* in medical education

The *good doctor* as a Flexnerian *Scientist*: The discourse of the *scientist* physician formed the basis of Abraham Flexner's proposals for reform. Flexner's *scientist* was an erudite and incisive thinker, who incorporated various forms of knowledge into his approach to his care for his patients. Flexner's *scientist* was generally socially well-placed, white and male.
The *good doctor* as a man of *character*: Flexner's notion of the *scientist* physician was not adopted with the changes to medical schools that followed his Report. Instead, science became curricular content and the discourse of the *good doctor* as a man of *character* became prominent.
The *good doctor* as a compilation of *characteristics:* In the late 1950s the discourse of the *good doctor* shifted from *character* to *characteristics*. Psychometric measures were increasingly used to dissect the medical student into his component parts
The *good doctor* as *roles-competent*: This discourse considers the *good doctor* as *competent* in the performance of various *roles*. Discourses of *production* combines with competency language to depict a manufacturing model of medical training.

Material derived from (Whitehead, 2011)

Genealogy

Foucault used the term genealogy not, as in common usage, to describe the discovery of individual family trees but rather to link knowledge and power. Whereas archaeology, in this framework, describes the specific discourses and their elements as they exist at particular points in time, genealogy is a study of the evolution of these discourses and the ebbs and flows of their relationships to each other. These ebbs and flows are not random; rather, they are animated by shifts in how power is enacted. Power is taken to be a force like electricity that is present in every interaction, every communication and every moment, and so does not lie in particular individuals or institutions. Using a particular discourse perpetuates a particular arrangement of power linked to that discourse, which in turn perpetuates the discourse itself. Genealogy thus examines the relationship between power and discursive practices, providing a "history of the present" (Foucault, 1995, p. 31). Foucault did not see knowledge and power as separable, meaning that shifts in what is considered to be "true" are also inevitably shifts in power relations. In this framework, knowledge and power are interchangeable.

Foucault explicitly linked power and truth, describing *regimes of truth* that are made possible by certain discourses:

> [T]ruth isn't the reward of free spirits, the child of protracted solitude, nor the privilege of those who have succeeded in liberating themselves. Truth is a thing of this world: it is produced only by virtue of multiple forms of constraint. And it induces regular effects of power. Each society has its regime of truth, its 'general politics' of truth: that is, the types of discourse which it accepts and makes

> function as true; the mechanisms and instances which enable one to distinguish true and false statements, the means by which each is sanctioned; the techniques and procedures accorded value in the acquisition of truth; the status of those who are charged with saying what counts as true (Foucault, 1980, p. 131).

As we try to understand the effects and relations of language, practices and power in our current assumptions in medical education, genealogy helps to show how the relation of language, practices and power creates *regimes of truth*.

Power, most importantly, is not only something that is repressive, but is also very much a productive force. For Foucault:

> Power must be analysed as something which circulates, or rather as something which only functions in the form of a chain. It is never localised here or there, never in anybody's hands…. Individuals are the vehicles of power, not its points of application (Foucault, 1980, p. 98).

Serial History

Mapping of shifting discourses allows for an understanding of changing *regimes of truth*. In medical education, this allows us to see the way our assumptions change over time, and the implications and effects of these changes. Foucault clearly distinguished the difference between his notion of serial history and a linear history. Linear history seeks

to explain events in terms of causal factors, are generally designed to demonstrate progress, and examine the past as a way to justify and explain the present (Foucault, 1999, p. 423). A serial history, in contrast, does not take current conceptions or ideas for granted but seeks to understand how they came to be, examining the various factors and relations that allow new ways of speaking and thinking to be adopted:

> Serial history makes it possible to bring out different layers of events as it were, some being visible, even immediately knowable by the contemporaries, and then, beneath these events that form the froth of history, so to speak, there are other events that are invisible, imperceptible for the contemporaries, and are of completely different form (Foucault, 1999, pp. 427-428)

Serial history, therefore, offers a powerful way to focus on changes and shifts in language, and the way that such changes in language connect to the construction and conception of other related ideas.

Elements of Discourse: Example of Physician Competence

In summary, discourse consists of a variety of elements, analysis of which can demonstrate the connections between language, practices and power. These elements can best be described by using specific examples. A very current example of a discourse in medical education is that of physician competence (Hodges, 2012). Competence, within this framework, is our discursive **object**. One discourse of competence is that of

competence as **knowledge**. If a competent physician is one with appropriate knowledge, then the **role** for the student is to memorize facts. The role for teachers is to be a fount of knowledge, often delivering such knowledge through large group didactic teaching sessions. Compilations of facts, such as textbooks or lecture handouts, are provided to students for memorization and reproduction. Multiple-choice exams allow assessment of appropriate memorization; hence testing centres are dominant **institutions**. This knowledge accumulation approach draws upon the monastic tradition, in which the student is a passive recipient of knowledge approved by higher-order experts.

In contrast, another discourse of competence is that of competence as **performance**. In this discourse, Miller's pyramid (Miller, 1990) focuses our attention not just on knowing but on showing. Hence a student's **role** is no longer that of memorizer, but instead becomes that of actor and performer. The teacher becomes an observer and demonstrator of skills. Instead of multiple choice exam questions, the student is assessed through the use of Objective Structured Clinical Examinations (OSCEs) or simulations. Standardized patient centres and simulation labs become dominant **institutions** in this discursive framing. In this discourse, which draws upon behaviourist understandings, observation of performance provides proof of competence.

Competence, in outcomes-based models, is positioned as a discourse of **production**. In this discourse, the student's **role** becomes one of raw material to be shaped and moulded by teachers who themselves take on the role of assembly-line management. Efficiency, accountability, quality assurance and standardized measures are valued, and this

discourse of production draws on capitalist and corporate language. Interestingly, even when medical educators use outcomes-based models, current testing methods still hearken back to previous discourses of knowledge and performance in assessment, since nobody has yet found a foolproof way to measure outcomes. The emerging discourse of competence as **reflection** is appearing in conjunction with discourses of production, yet it builds upon very different foundations. The **role** of the student shifts from one of raw material to one of self-analyst; the **role** of the teacher moves from one of production-line manager to one of mentor and guide. This discourse draws on a belief that self-reflection and self-assessment provide a path to competence. Portfolios provide the measure of competency assessment in this framing.

As this example shows, when we approach the idea of physician competence from a variety of discursive lenses, we find that very different beliefs and values are at play in each. Teachers and learners assume different roles. Different institutions take on more prominent positions. Different people or institutions gain and lose power as these discourses privilege one or another form of teaching, learning and assessment. There are real and practical effects of discourse change.

While it is important to analyse each discursive strand separately, discourses do not, of course, appear in isolation. Instead, different discourses interact, with certain discourses rising to prominence at different times. Discourses co-exist, sometimes clashing, sometimes bouncing off each other, and sometimes subtly transforming each other. Foucault notes that as a discourse is taken up in a different setting it:

> [C]irculates, is used, disappears, allows or prevents the realization of a desire, serves or resists various interests, participates in challenge and struggle, and becomes a theme of appropriation or rivalry. (Foucault, 1972, p. 105)

Looking at the intersection of discourses allows us to examine the various threads that are coming together in our daily practices.

Discourses in practice

Now let us see how we can use our understanding of discourse in a practical way, using the discourses of competence just discussed. Medical school admissions criteria are one obvious place these discursive framings can be helpful. If we wish to select students who will absorb and regurgitate large quantities of knowledge, marks in pre-medical school subjects that are taught and assessed in this way will be a good guide. If we wish to admit students who will perform on simulations, tools such as the Multi Mini Interview (MMI), which is increasingly being used in North America for medical school admissions (Eva et al., 2004), should be a better marker of success. If we wish students who self-reflect, we might be able to better consider such abilities through an essay or interview. What it would be unwise to do would be to use marks in a biochemistry class as a measure of reflective capacity.

In practice we often find a muddled mix of discourses. The CanMEDS competency framework (Frank, 2005), for example, uses the terminology of Roles to describe its competencies and draws together performance and production discourses in so doing. Behaviourist roles are combined with outcomes-based statements. Assessment of competency in outcomes-based models generally combines examinations of knowledge, reflective exercises, performance measures and standardized checklists. Hence these outcomes-based assessments are drawing upon knowledge, performance, and reflection discourses of competence. It is very important to be aware of the different discursive threads that are being woven together in combining these assessment tools and the history of the development of each. After all, each of these discourses (knowledge, performance, production, reflection) is based on different assumptions and is an expression of different values and practices. Taking this historical analytic view, it should be no surprise that we sometimes end up with combinations of disparate elements that may not actually make much sense together. By understanding the disparate elements, and the ways they fit (or do not fit) together, we may be better able to shape our tools in the future.

Method

For the researcher interested in taking these ideas about history and discourse and putting them into practice, the next step is to be deliberate and rigorous about identifying, collecting and analysing the appropriate data sources for this kind of research. Text

analysis naturally aligns with the discourse analysis approach we have been discussing above. However because text analysis can be a useful method for many types of qualitative research, the following section also provides a more general overview of text analysis.

Why Texts?

As for most qualitative methodologies, there are four major methods that can be used to gather data for discourse analysis: interviews, focus groups, observation and text analysis. Of these, observation is intrinsically limited to the study of events that are occurring in the present or that will somewhat predictably occur in the near future. Interviews and focus groups are somewhat more flexible in that they can be used to gather perspectives on events and occurrences from the recent past. These methods are, however, firmly limited by the life spans of the potential research participants: one could imagine contemporary researchers interviewing Admissions Committee members from the 1980s but of course not from the 1880s.

There are also theoretical issues inherent in gathering current perspectives on the past. Individual opinions and understandings shift over time. These shifts are often slow and subtle enough as to be imperceptible but may, over a prolonged period, become quite radical. As different discourses become dominant, different ways of thinking about the same questions become natural and obvious. These ways of thinking will colour participants' recollections and descriptions of past thoughts, decisions and actions. Thus

current interviews about past events are likely to be more useful indicators of current discourses than of the discourses that were in circulation at the time of those events. In order to access discourses contemporary to a particular period in the past, it becomes necessary to use data that was created in that period – that is, to gather and analyse texts.

What are Texts?

The term 'text' encompasses a wide variety of physical objects that contain and convey meaning. Texts are most commonly taken to mean written documents but can also include such media as: visual arts including photographs, paintings and sculptures; graphic design; textiles; music; and film. (See **Box 3** for an example from medical education of a discourse analysis of a particular graphic design, the CanMEDS diagram.) However, given the nature of our own expertise as well as the predominant textual medium currently taken up in discourse analyses, our focus in this Guide is on texts composed of written words.

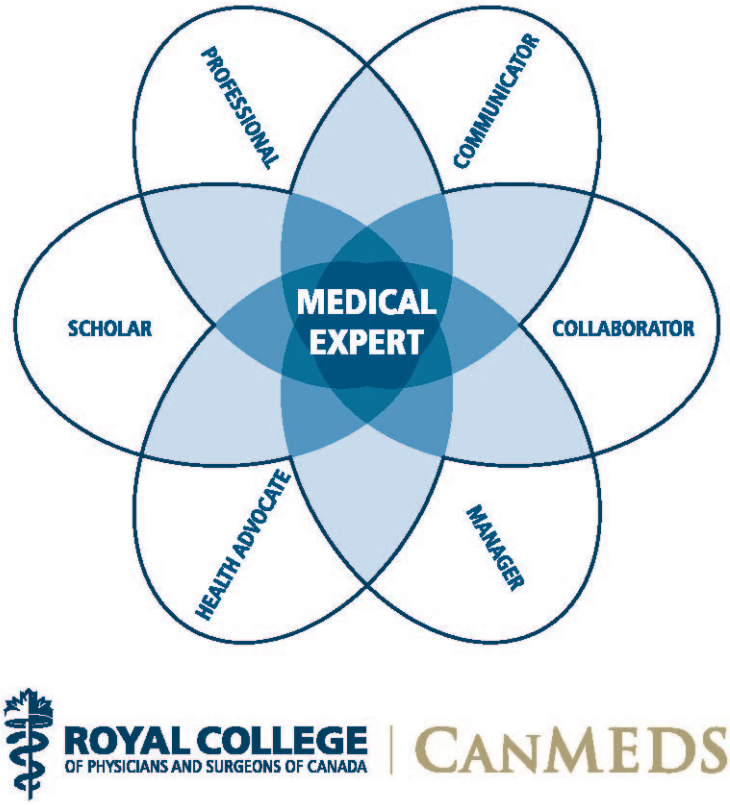

Figure 1:

The CanMEDS Diagram

Box 3: A

Discourse Analysis of a Graphic Design: The CanMEDS Daisy

This discourse analysis examined the CanMEDS diagram (see above). Textual documents used in this analysis included the archives from the Educating Future Physicians for Ontario (EFPO) project (University of Toronto, Thomas Fisher Rare Books Library). The EFPO project developed a series of roles, which were modified by the Royal College of Physicians and Surgeons of Canada and organized into the daisy-shaped CanMEDS diagram. The discourse analysis aimed to understand the graphic design by identifying the discourses at play during roles development.

The EFPO project began as a response to a strike by physicians in Ontario, Canada. Project leaders aimed to better align physician education with societal needs by defining a series of roles that physicians ought to play. The project involved extensive public consultations with physicians, educators, students, other health care professionals and members of the public, including representatives from multicultural groups, disabled persons groups, women's groups, AIDS groups and seniors' groups.

The principal author examined all documents in the EFPO archive. One prominent discourse identified was a discourse of threat (to physician expertise, status, and authority) and need to protect the profession from these threatening forces. A second discourse was that of societal need. The discourse of societal need was repeatedly invoked in the discussion of roles. The proposed use of 'roles' appeared in the earliest

EFPO documents as the way to achieve societal needs. However, nowhere in the archive was the relationship between roles and societal need explained. Instead, the two were placed side by side in sentences, and their connection rhetorically assumed by their direct and recurrent juxtaposition.

Visual images are not simply aesthetic, but convey messages that are value-laden (Zibrowski et al 2009). The visual structure of the CanMEDS Framework is an innocent daisy, in which medical expertise is surrounded and encased by petals. Understanding the discourse of threat and a need to protect the profession's expertise that pervaded the EFPO documents, one possible interpretation of the graphic design could be that the 'petal roles' are functioning to 'armour' medical expertise.

Material derived from (Whitehead et al. 2011a)

Even within written texts there is a broad variety of different kinds of texts that offer different research possibilities. There are, for example, texts that were intentionally written to be read by many others (e.g. books, magazine and journal articles, blog postings), texts that were meant for a limited audience (e.g. letters, emails) and texts that were intended only for private consumption (e.g. diaries, notebooks). As another example, there are texts that are currently considered to be authoritative (e.g. articles in the New England Journal of Medicine), texts whose authority may be contested or denied (e.g. patient narratives posted in online communities), and texts which may be seen as illicit for transgressing ethical boundaries (e.g. medical student narratives about patients posted in online communities).

Which Texts?

The selection of texts, often called 'delimiting the corpus', is a key step in textual analysis. This choice often begins with a research question, ideally situated within a particular theoretical and methodological framework, and proceeds with the identification of relevant texts. A researcher studying the spread of a particular discourse within a field of practice might, for example, want to focus on authoritative public texts in that field like journal articles or textbooks, albeit with a clear understanding of the limitations that this focus may engender. Another researcher interested in the impact of that same discourse on the medical student experience may need to search for other, less readily available texts like diaries or readily available but non-authoritative texts like blogs.

Once the general category of texts that are relevant to a research question has been identified, the researcher then selects specific texts according to his or her particular methodological approach. Some methodologies require a more rigid, predetermined delimitation of the texts to be studied whereas others are more fluid or eclectic in their collection of textual data, but all require setting some sorts of boundaries around the texts to be studied. Examples of boundaries that might be considered in selecting particular texts are listed in **Table 1**. So, for example, if a researcher was studying changing admissions practices to the University of Toronto's Faculty of Medicine, she might delimit her corpus to include all documents produced by and for the admissions committee for that medical school, including its meeting agendas, its meeting minutes and its reports, between 1945 and 2010 (thus delineating boundaries of time, place, institution, authors and intended audiences). The time span would have to be justified (e.g. with respect to known changes in admissions to higher education in North America after World War II), as would the choice of institution. She would also have to justify other potential types of texts she had considered and chosen not to include (e.g. student newspaper articles about medical school admissions processes). Note that not all boundaries will be addressed in every situation; in this case, content, genre and language are not part of the formal boundaries of the corpus but rather are determined by possibilities allowed by the other boundaries.

Table 1:

Boundaries That May Be Considered in Selecting Particular Texts for Analysis

Boundary	**Examples of What Might be Specified**	**Examples of Selected Texts**
Time	Weeks Months Years Centuries Etc	The medical charts produced on a ward over a six week period The programs of a health professions education conference over a ten year period
Place	Neighbourhood City Region Country Etc	The reports about health care from a city's newspapers The government regulatory documents related to a country's nursing education policies
Institution	University Medical School Hospital Hospital Ward International Non-	The diversity committee documents from a University The policy documents governing clinical work on a ward

	Governmental Organization Committee Etc	
Language	Dominant international languages Minority languages Language(s) known to the researcher Etc	The academic journal articles written in English about the globalization of medical education The academic journal articles written in Chinese and Arabic about the globalization of medical education
Content	Subjects Theories Etc	The blog postings about the medical school application process from Canadian and British websites The academic journal articles about professionalism in the nursing education literature
Genres	Prose fiction Poetry Academic journal articles Academic books Blog posts Popular press articles	The memoirs of medical school experiences published as mass-market paperbacks in English since 1970 The poems published in the Arts sections of high-impact general medical journals

	Etc	
Authors	Educators Learners Clinicians Patients Researchers Etc	The stories written by patients for an online literary healthcare journal The reports written by medical school Deans during accreditation reviews
Intended Audiences	Educators Learners Clinicians Patients Researchers Etc	The patient-information leaflets about the presence of medical trainees within a hospital The grant applications about knowledge translation submitted to a national health research funding body

It should be noted that although in medical education research this particular directionality, coming from a research question to a text, predominates, there are disciplines in which the text sometimes or often comes first. That is, there are many domains of research in which a researcher may begin with a text (or a group of texts), determining relevant research questions based on the nature, content, and/or context of that particular text. A classic example of this is the discipline of literary studies, where a researcher may begin by wanting to study a particular novel. In order to delineate a research question she would then immerse herself in everything previously written about that novel and potentially, depending on her theoretical and methodological orientation, about its author and the rest of that author's oeuvre, about the time the novel was written, about its literary antecedents, etc. Throughout this process the novel would be the central focus of her work and her jumping-off point into other writings and various ideas. Other disciplines in which this sort of text-centred process often occurs include art, rhetoric and history.

Primary vs Secondary Texts

The texts that are selected as being relevant to a particular research question – the texts that are actually under study – are usually referred to as primary texts. Many methodologies also make use of secondary texts. These are texts that are outside the delimited boundaries of the corpus and are not being used to directly answer the research question, but that are nonetheless helpful in understanding the phenomenon under study.

For example, the aforementioned researcher studying changing admissions practices at one medical school between 1945 and 2010, whose primary texts are its admissions committee documents, might also need to gather a selection of medical education journal articles, government documents, university policy documents and student information leaflets (among other things) to get a fuller picture of medical school admissions during that period. Primary and secondary texts, then, are not defined by the nature of the texts themselves but by the uses to which they are put in the research process; thus the primary texts for one study might be the secondary texts for another, and vice versa.

Delimiting a Foucauldian Archive

As described above, there are many decisions to be considered when deciding how to set appropriate boundaries and reasonably limit the texts that will be analysed. While the basic issues are similar (we all need a rigorously reasoned and well-described rationale for inclusion and exclusion of texts appropriate to our research questions and methodologies, with sufficient openness to needs and issues that emerge as the research is being conducted to make reasonable adjustments), Foucauldian critical discourse analysis employs some specific terms and approaches. Unlike some other forms of text analysis, a Foucauldian approach requires bi-directionality. That is, a researcher does not just choose her set of texts and move from text to discourse. Instead, there is a process of back and forth between text and discourse. This may at first seem confusing, but if we look back at Parker's framework (**Box 1**) we see the importance of institutions, power relations and links to other discourses in a critical discourse analysis. So, for example, if a researcher

wanted to undertake the study described above of the University of Toronto medical school admissions criteria from 1945-2010 as a critical discourse analysis, she would need to choose an initial set of texts as a starting point. While reading those texts, she would begin to locate key statements about admissions processes. From these, she would start to identify how these statements are constructed: who is saying them, for what purpose, and in what contexts. She would very likely find that she needed to look beyond the originally chosen documents in order analyze how these discourses were being legitimized and made possible. As she then moved to position the discourses she had identified within the broader social context she might need to examine additional texts to see how these statements relate to and are reinforced by specific practices, institutions and power relations. Obviously, since the researcher would not know what discourses would be identified when beginning the analysis, the initial choice of texts is a starting point rather than a rigidly defined archive. A descriptions of Foucauldian methodology will articulate the processes used and choices made by the researcher in delimiting her archive over the course of the research process (Hodges, 2009, p.50-51).

Organizing the materials

As will by now have become clear, most forms of text analysis (including Foucauldian critical discourse analysis) require collecting, organizing and analysing a large volume of text. The practicalities of managing this amount of data can be disconcerting and potentially overwhelming. There is no one 'right' way to do this, but there are several factors researchers might want to consider in their decision-making. In recent years, the

availability of many documents electronically has dramatically shifted organizational paradigms, and those whose corpus or archive is available in electronic format can make use of any one of many available software programs to store and manage them. Even when texts are not available electronically, database or referencing software can be used to maintain lists of texts being used in hard copy. However, no matter how sophisticated the software being used, it is still only an organizational tool. While researchers (and reviewers) can be seduced by fancy software, it can be just as effective to use index cards to keep lists of texts, to sort documents into piles, and to identify key pointy with sticky notes and highlighters.

How to read and analyse a text

However a particular text is selected, and however the data drawn from it will be organized, the next step in using a text for research it is of course to read it and to analyse it. Those two steps, reading and analysis, are intimately bound up with each other. It is only to be expected that a researcher reading a text with a particular research question in mind will immediately start thinking about how it relates to that question, to other research texts she has already read, and to her analytic understanding thus far of those texts. As well, the particular questions shaping themselves in her mind as she read the text (and the notes she would be taking as she read) would be guided by her theoretical and methodological orientation. This is no more or less true for text analysis than for the analysis of observations, interviews and focus groups; theory and methodology will

orient the researcher to the relevance of different facets of her data and enable her to enter into the analytic process.

For example, a Foucauldian studying discourses of medical training – of what it's like 'to become a doctor' – might read her archive's tenth mass-market memoir from the 1980s about the medical training experience looking for words linked to discourses she had already begun to identify through her ongoing research, for moments when discourses interacted or even clashed, for examples of groups and institutions that gained or lost power within a particular dominant discourse. On the other hand, a critical feminist studying gender differences in descriptions of physicians in the 1980s might read the same memoir paying particular attention to who wrote it and their social location (gender, age, ethnicity, socio-economic status, class, etc.), specific words and phrases that were used in it to describe male and female physicians, the social locations of the character(s) in the memoir to which those descriptions were attributed, etc. Despite these theoretical nuances, there are certain basic questions that can be usefully kept it mind when reading texts; these are listed in **Table 2**.

Table 2:

Questions to Keep in Mind when Analyzing Texts

General Question:	**More specific questions that may be important depending on the text, the theory/methodology being used and the research question:**
What is the text?	Is it a book, journal article, blog post, letter, dairy, photograph, painting, film, etc?
Who wrote the text?	What is his/her/their gender, age, ethnicity, country of origin, country of residence, socio-economic status, class, educational level, profession, job, etc?
When was the text written?	In what century, decade, year, etc?
Where was the text written?	In what country, city, type of institution, specific institution, etc?
How was the text written?	In what language, genre, form, etc? Using what key words, metaphors, symbols, etc? Making what key arguments?
Why was the text written in that way at that place and time by that person/group?	Was it commissioned, submitted, self-published, secret, paid for directly by a funder, funded indirectly, a plea for funding, supported, a plea for support, required, forbidden, authoritative, contested, transgressive, etc?
How does the text relate to the research question?	
How does the text relate to other primary texts already analysed?	
How does the text relate to secondary texts relevant to the study as a whole?	

This particular approach to text analysis is grounded in our particular expertise as medical education researchers who use history to make visible the contingent aspects of contemporary medical education, and more generally in our disciplinary affiliations as social scientists. Our goal is to reveal possibilities for change. Others who study texts, such as rhetoricians or social linguists, might pay even closer attention to phraseology, grammar or even punctuation; however, like Shaw and Greenhalgh (2008*), "although our analysis is not focused on the micro-analysis of texts, wherever possible we draw attention to concrete language use*" (p. 2519) as part of our research data. Still others who study texts, such as literary scholars, might focus on intertextuality, character development or narrative structure; such interests are well-represented in the Literature and Medicine community, and occasionally cross over into medical education research. All of these approaches are useful; they simply draw on different theoretical and methodological armamentaria to answer different types of research questions. As well, they all share a common understanding: that analysing texts is not about a particular type of coding, about the software using to organize the textual data, or about coming to a single incontrovertible truth, but rather about considered thought, methodologically-informed meaning-making, and theoretically-grounded interpretation.

Conclusion

We began this AMEE Guide with an approach we called 'making strange' and discussed how such an approach can produce unexpected insights about things we would otherwise accept as normal or natural. Our goal is to illustrate the utility of this approach for the

medical education researcher. In undertaking such work, it is important to be aware that this approach, which questions the foundations of people's assumptions, can sometimes be perceived as provocative. We have all three occasionally encountered this reaction to our own work (see for example Whitehead et al 2011a, Sherbino et al 2011, Whitehead et al 2011b). We would never advocate avoiding controversial topics. However, in reframing currently-accepted 'truths', the wise researcher might want to take into account that these 'truths' may be touchstones for some of their readers and should aim to gently lead their readers towards a more nuanced understanding rather than to shock them into a different awareness of particular issues.

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Conflict of Interest

The authors have no conflicts of interest to declare.

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