Maintaining Competence in the Field: Learning About Practice, Through Practice, in Practice

GLENN REGEHR, PHD; MARIA MYLOPOULOS, PHD

Many of the assumptions about the “adult, self-directed learner” that form the basis of the current model of formal continuing education delivery are largely unsupported by the literature. Yet most practitioners maintain competence despite the apparent flaws in this model. After elaborating a set of problematic assumptions regarding the current construction of the self-regulating professional learner who uses formal continuing education to maintain competence, this paper explores another likely source for the learning that allows practitioners to engage in their own continuing professional development: the process of learning from their personal experiences of solving problems in their daily practice.

Key Words: self-assessment, self-direction, self-regulated, learning, education, continuing, medical, professional development

Introduction

Despite the general trend in the health professional education literature toward learner-centered language, there is still a propensity in our field to speak about continuing education (CE) in a way that leads naturally to a framing of learning as participation in a structured delivery system, occurring outside the context of daily practice. Perhaps not surprisingly, this model of CE tends to focus on content delivery and defines CE program success by the extent to which participants have translated the content learned in the educational setting into the delivery of high-quality care in the practice setting. When this construction of continuing education as a formal, extrapractice content delivery process is interfaced with the community’s beliefs about professionals as self-directed, lifelong adult learners, it engenders a particular construction of the self-regulating professional and the learning activities in which she typically engages to maintain competence. As Regehr and Eva1 have described, this dominant construction of self-regulation as it relates to learning presupposes six steps that the learning professional enacts iteratively throughout her career: (1) through reflection on daily practice, the self-regulating professional regularly self-assesses performance; (2) through this self-assessment process, areas of personal knowledge or skill that seem to have dropped below professional (or personal) standards of practice are identified; (3) recognition of this “gap” in knowledge or skill leads to a decision to seek opportunities to improve in these areas; (4) the appropriate learning opportunities are engaged, such that the knowledge or skills necessary to perform well are learned or relearned; (5) the new knowledge or skills are translated into action in daily practice; (6) performance is reassessed to determine whether performance has achieved (at least) the minimal standard of practice in this area. A more elaborated discussion of this model has been richly and compellingly articulated by Handfield-Jones et al.2 Yet, as Regehr and Eva1 have pointed out, many of the cognitive mechanisms presumed to underlie and support this self-regulatory process are questionable at best.

In this paper, we will begin by elaborating four of these assumed mechanisms and describe some potential concerns regarding these processes that are raised by the literature: (1) that professionals naturally reflect on their performance for the purposes of highlighting their own weakness or gaps, (2) that professionals self-assess their own weakness when they do try to look for them, (3) that professionals try to redress weaknesses through learning when they do identify them, and (4) that professionals effectively incorporate knowledge acquired in educational settings into practice. We will then suggest an alternate source of learning that, while acknowledged by the CE literature, has not been heavily...
emphasized—the process of learning in the context of daily practice through the experiences of addressing the problems of practice as they arise. We will describe various mechanisms by which this process might occur and draw a distinction between what we refer to as practice drift and intentional learning. Finally we will elaborate some implications of these mechanisms for the development of expertise and propose that the CE community might benefit from a deeper study of this process of learning about practice, in practice, through practice.

Assumptions of the Current Model

The first assumption implicitly present in our current conceptualization of the self-regulating professional is the assumption that professionals reflect on performance data for the purpose of exposing gaps in knowledge. Research, however, has placed the strength of this assumption in doubt. Instead, studies have shown that people will often reinterpret data that would be evidence of poor performance in ways that reinforce their self-concept as competent professionals. In the most simple version of this, there is strong evidence that practitioners will simply ignore or actively discount formal feedback that is inconsistent with their beliefs about their own abilities and fail to use it as a source of effective performance change over time. However, the field of social cognition describes a variety of much more sophisticated mechanisms by which individuals maintain a strong positive sense of self in the face of information that would be threatening to one’s self-concept. As just one example of these processes, Gilovich has shown that gamblers do not ignore the negative feedback associated with gambling losses, but rather focus heavily on these losses, reinterpreting them as near-wins, thereby reinforcing their self-concept as effective gamblers. Such a process is sufficiently pervasive among humans to be immortalized in aphorisms such as “the exception that proves the rule,” a statement that does not merely discount disconfirming evidence, but actually uses that disconfirming evidence to strengthen further the original belief. Thus, it appears that it is in the areas where we struggle to learn, that adult learning principles are likely to fail us as a motivator for expending the necessary effort. In a sense, then, the formal model of CE might be thought of as satisfying the “needs” of clinicians by reinforcing their currently existing knowledge and reinforcing their sense of competence, but we might question whether this is contributing effectively to their continuing professional development in a way that maintains competence in areas where they are not currently strong.

Finally, even when knowledge tests suggest that a continuing education event has been successful in teaching new knowledge or techniques to participants, what little evidence exists in the literature suggests that this new knowledge will seldom lead to sustained changes in practice (cf Davis). As just one example, Mazmanian et al reported that physicians attending a CE event, only 64 percent planned a change in practice as a result of the event, and fewer than 50 percent of those who did plan a change reported any actual change in practice 1 to 2 months later. These results remained consistent even when anticipated barriers to change were addressed in the educational intervention. There is some literature describing the source of this gap between knowledge gain and performance change. For example, Kennedy et al demonstrated that the expressed
barriers to performance in practice are often different from those that truly underlie the decision not to act, such as issues of confidence when faced with the challenge of implementing the theory alone in practice. While such work will be important in evolving mechanisms to help learners to overcome the gap between knowing and doing, our point here is to highlight the fact that the translation from knowledge in theory to implementation in practice is more complicated and less direct than might be implied by the model of the self-regulating professional described earlier.

In short, there are many steps associated with an explicit effort to improve practice in a particular content area through formal continuing education. One must acknowledge that one’s current knowledge or skills for dealing with this type of problem are generally inadequate. One must see that there is a new or different set of skills or approaches that are potentially better. One must see that the difference between the two is worth the effort required to learn the new way. One must understand exactly how to incorporate this newly learned way into one’s local practice. And one must have the confidence to try when in the field alone. The literature, however, casts doubt on our ability as humans to enact these steps effectively. Importantly, this is not just a case of a few individuals who suffer from these weaknesses, and the issues raised here cannot be dismissed as a case of “fix the problematic minority if we can, but most of us are fine.” Rather these propensities are inherent in all of us as humans. As Eva and Regehr have pointed out previously with regard to self-assessment, this is not a “they” problem, but a “we” problem.

Of course, our assertion that the literature casts doubt on all professionals’ capacity to enact any of these steps effectively is a direct challenge to those with the responsibility to offer formal educational delivery models. Their job is to ensure the continuing competence of individuals in a self-regulating profession that utilizes self-direction as a vehicle for making explicit decisions about what is worth learning. Yet, if people cannot explicitly identify their weaknesses, then how will we help them do so effectively? If they are likely to avoid learning in areas of weakness, how will we encourage them to engage such opportunities? And if these are areas where learning is particularly difficult for someone, how can we arrange the formal educational experience to maximize the learning and the translation of that learning into effective practice? Such are the questions that must be grappled with by those responsible for the delivery of formal continuing education.

Perhaps more importantly, however, these conclusions also create an interesting conundrum for the field. That is, it would appear that the current construction of the self-regulating professional is an implausible model for describing how professionals maintain competence. Yet, despite the fact that this is the model on which we have based our formal continuing education activities in the field, we are not overwhelmed with incompetent professionals. We might ask, therefore, If our formal model of self-selected continuing education is not likely to be the source of maintenance of competence in practicing health professionals, what is? Where and how are health professionals learning, and how is this manifesting as the continuous development of safer and more effective practice? To address these questions, we might do well to look to other constructions of expertise for understanding the relationships among practice, knowledge, and learning. In particular, the literatures related to adaptive expertise and practice-embedded knowledge may help us to understand the phenomenon of learning about practice through practice.

Practice-Embedded Learning Opportunities

It has been argued that much of an experienced practitioner’s daily practice has less to do with solving problems than with remembering solutions. As Dreyfus and Dreyfus describe, “When things are proceeding normally, experts don’t solve problems and don’t make decisions: they do what normally works.” In this sense, the mark of an experienced practitioner, according to Dreyfus and Dreyfus, might be described as spending much of one’s practice day relatively unchallenged and therefore with little need (or opportunity) for additional learning. However, as Moulton et al have described, what is less clear in Dreyfus and Dreyfus’s model is what happens when things are not proceeding normally, when the solution is not immediately apparent. Of course, the answer is that good practitioners become active problem solvers and discover a solution, either by search or by invention. For the individual patient (who just wants the practitioner to be “right” for a particular problem), the mere identification of a good solution is likely sufficient. However, for the practitioner and her broader patient population, it is not. The need to discover a solution for this patient is not only an opportunity to help this patient, but also an opportunity to improve future practice: an opportunity to learn. Sometimes this learning involves simply the accrual of new facts such as the dosage of a particular drug or the Latin name for an uncommon disease. At other times it might have the potential to invoke a radical shift in understanding regarding some aspect of practice, a sudden understanding that colors the conceptualization of future cases and past ones alike.

Whether and how a practitioner chooses to take advantage of this learning opportunity may vary from person to person and from situation to situation. There are times, for example, that the discovery of the solution is sufficient and, once the problem is solved, the new knowledge is lost again. Each of us has examples of details that we must look up or ask a colleague each time the situation arises: the telephone number we use regularly but still seem to need to look up every time we need it. It would take relatively little extra effort to “learn” the number, but we are too busy using the information to bother learning it. This, then, is simply problem solving and should not be confused with learning. This is just a case of getting the job done and getting through the day. And even if the newly discovered solution is a good one and the immediate job is done well, because the individual
is not learning anything from the experience, engaging in this form of pure problem solving on a daily basis has negative implications for continuing professional development, for it has no impact on future practice.

There are other times when this novel solution may become registered in long-term memory for use when similar cases arise. Such accrual of experiences and resources over the course of practice may often occur without much reflection on why the solution might work, why this might be the right answer, whether this is the best answer, or how the implications of these questions might shape the way in which one practices. Such relatively unreflective learning, therefore, might be considered a form of incremental, often incidental practice improvement. It is important for practice change and may even be the basis of developing “expertise” as it is often conceptualized in the medical education literature. However, this form of learning, when used exclusively, imposes crucial limitations on the continuing development of practice in two important ways. First, this form of practice improvement is centered on improving efficiency, rather than on acquiring a deep understanding of one’s practice. As such, it might be considered a form of surface learning that limits practitioners’ ability to make flexible use of the newly acquired knowledge in future practice settings. Second, because of its often unreflective nature, the resulting changes in practice might be described as a form of practice “drift” (in the spirit described by Amalberti) and may sometimes lead to inappropriate shortcuts and erroneous approaches to practice rather than to true practice improvements. Despite its potential shortcomings, however, this form of incidental learning may capture the bulk of the lifelong learning involved in a practitioner’s development toward the stage of performance described as “intuition” by Dreyfus and Dreyfus or as the “efficiency dimension” of practice as articulated by Schwartz et al and may very well account for the majority of practice refinement that allows the typical practitioner to maintain competence on a daily basis.

In the best of circumstances, there will be moments when the new knowledge that is created by way of practice-based problem solving is used not only to alter future practice, but also to inform future practice. Under such circumstances, careful and effortful reflection on the problem, the solution, and the reasons why the solution worked can result in explicit and intentional change in the conceptualization of some aspect of practice. This will likely involve the development of higher-order questions of practice leading to a recognition that current knowledge is inadequate and therefore to searches for relevant information and the development of “new ideas.” Such learning has been conceptualized as the “innovation dimension” of practice. Because this type of learning is rooted in a deep understanding of practice, it allows the practitioner to apply her knowledge flexibly and creatively in her future practice, so the form of learning that results from this process is the basis of what has been described as “adaptive expertise.” Of course, this form of learning is effortful and cannot be an ongoing, unrelenting activity, nor the only source of learning for practice improvement. However, if practice improvement is to be anything other than a process of incidental accrual and drift, this form of reflective practice-based learning is a crucial complement to the “efficiency dimension” of practice-based learning described earlier. Thus, adaptive experts will tend to work within an “optimal adaptability corridor,” balancing the innovation and efficiency dimensions of practice improvement. In doing so practitioners can continuously develop their conceptualizations of practice in an intentional and informed way, while making effective use of their past knowledge and experience.

Summary

Lifelong learning is the cornerstone of continuing professional development. And while the delivery of formal, extrapractice continuing education activities should continue to be an important component in this process, the current constructions of the role of these formal structures are likely inappropriate. As a result, our practitioners are likely continuing to improve practice more in spite of us than because of us. However, they may often be doing so suboptimally, through practice drift alone rather than by way of intentional and reflective improvements in their conceptualization of practice. Recognizing these possibilities, if the continuing education community is to have an important role in practitioners’ maintenance of competence, we would do well to reorient our efforts in two ways. First, by understanding and accepting the limits of human abilities and propensities to self-identify and redress areas of weakness, we may be able to reposition and effectively improve the value of formal continuing education activities. Second, by shifting our perspective from a focus on education to a focus on learning, we will be able to direct additional efforts at understanding how professional learning not only arises from practice, but actually occurs in practice and is informed by practice. It is our hope that by focusing research efforts on further understanding and developing this form of learning in practice, continuing education may have a chance to become sub-

Lessons for Practice

- Many of the daily problems of practice act as opportunities for learning; spending time to reflect on these moments can lead to informed and intentional changes to practice.
- Physicians may be improving ordinarily and suboptimally through incidental accrual and practice drift.
stastically more relevant to the continuing professional development of our practitioners.

References