

## Chapter 12

# Documenting the Trajectory of Your Teaching

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Being a teacher in a medical school is a challenge. It's a delightful, rewarding, surprising, engaging, inspiring honor of a challenge, but a challenge nonetheless. Whether you give lectures to large groups, facilitate small groups, guide teams in Team-Based Learning, or teach in clinical rounds, you are likely to find that as you try things out, you learn more and more about what does and does not work. The changes you make, for better or worse, plot the trajectory of your teaching – the ascent of a successful lecture, the descent of a difficult tutor group, the subsequent correction in style or approach that demonstrates your reflection on feedback or evaluation. Chapter 13 encourages you to be deliberate and evidence-based in your approach to improving your teaching. In this chapter, we will encourage you to document the trajectory of your teaching, and will discuss mechanisms for gathering information about your teaching from various sources.

Why go through the trouble of collecting information about your teaching, or considering how you have changed over the years? There are several reasons. First, there is the satisfaction derived from observing your own growth and learning. Documentation can facilitate your ability to reflect on your practice and to be deliberate in the changes you make.

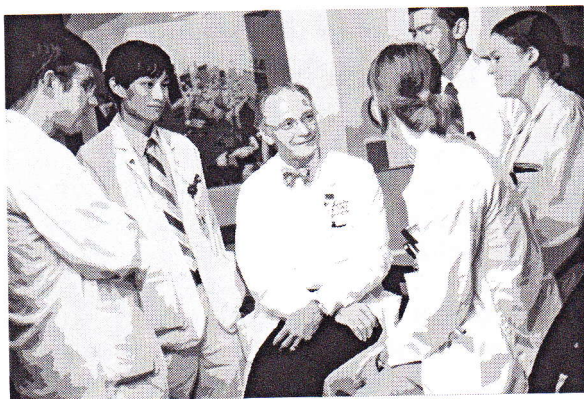
External forces may also weigh on your decision to document your progress. For instance, with increasing frequency the public questions the cost, and the cost-effectiveness of higher education. Universities document their value, and within universities, individuals document their effectiveness in delivering on the mission of the university. For the teaching professor, this means not just being effective at research and service, but also being effective in teaching. In fact, in some institutions, promotion and tenure decisions rest on documented effectiveness of teaching.

What follows is a discussion of one mechanism for documenting the effectiveness of your teaching, along with some thoughts about materials that might be included in your documentation. In this chapter, we will discuss the concept of the

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teaching portfolio, including potential content, uses, and structure. Then our attention will focus more on some specific approaches to gathering information that will be useful to the documentation of the trajectory of your teaching.

## Portfolios

A portfolio is simply a mechanism to help you tell the story of your teaching to yourself and to others. It is a collection of materials, either paper or digital, that documents various aspects of your work as an educator. A portfolio can be used to demonstrate your effectiveness, show your growth over time, explain how you respond to feedback and evaluation, document your commitment to the teaching mission of your institution, and help you advocate for your promotion and/or tenure. Creating and maintaining an educational portfolio gives you cause to reflect on and refine your practice in a systematic fashion. It is also a method of communicating with others. You will likely share at least some aspects your portfolio with a variety of audiences, including your supervisor, a trusted mentor, or a promotion and tenure committee.

Essential elements to the educator's portfolio include the following:

*Educational philosophy statement:* Your statement of your educational philosophy will likely change as you gain experience and knowledge of educational theory. However, it is useful to think about what matters to you as an educator. What do you think the educator's role is in student learning? The role of students? How do you make decisions about what to teach, and how to teach? It will be useful for you to revisit your educational philosophy periodically to see how experience has changed your assumptions.

*Five-year goals as an educator:* As with your educational philosophy, you may find that experience causes you to change your five year goals; however, creating the goal statement allows you to begin to solidify what you want to do as an educator. It also gives you a prism through which you can evaluate new opportunities and make rational decisions about whether or not to take them on.

*Educational contributions in any or all of five activity categories*

1. Teaching
2. Learner Assessment
3. Curriculum Development
4. Mentoring and Advising
5. Educational Leadership and Administration (Baldwin et al., 2008).

Simpson and colleagues suggest the Q<sup>2</sup> Engage standard for documenting any of these activities: Quantity, Quality, and Engagement with the educational community. To document quantity, you will collect information about the types and frequencies of education activities in which you engage. To document quality, you will collect information about the effectiveness and excellence of your educational activities. To demonstrate engagement with the educational community, you will collect evidence that your work was informed by what is known in the field of education, and that over time, you have contributed to the field. Of course, your documentation will also include a description of the activity and your role in it (Simpson et al., 2007).

When you first document your educational contributions, you will likely collect all evidence of any of the categories listed. As you become more experienced, you will begin to evaluate materials, choosing those that do the best job of telling the story you intend to tell about your teaching.

For instance, you may wish to tell a story about how you are exceptionally responsive to learner's needs. To tell that story, you might begin with refining your educational philosophy to show why you value responsiveness to learner needs. In your philosophy, you might reflect on what in the educational literature suggests that responsiveness is useful and effective. Then you might review the instances of your teaching that were exceptionally effective in demonstrating your responsiveness to learner needs, and how you used a scholarly approach to developing your approaches to teaching – and so on for any of the other categories in which you made an educational contribution. As you continue your portfolio development, you'll want to continue to refer also to Chapter 13.

For help structuring a portfolio, you can download a template created by the Educational Scholars Program of the Academic Pediatrics Association. This template provides a structure and some concrete guidance on how to construct your portfolio, and it can be adapted to suit your particular needs. The template is located at [http://www.ambpeds.org/education/educator\\_portfolio\\_template.cfm](http://www.ambpeds.org/education/educator_portfolio_template.cfm)

## **Evaluation of Teaching**

Some the key elements of your portfolio will derive from evaluations of your teaching and evaluations of student learning. In this segment, we will discuss elements of evaluation, definitions and purposes of evaluative activities, how you might go





about gathering evaluative material, and what you might do with the material once you've gathered it.

### *Definitions and Purposes of Evaluative Activities*

Evaluative activities span a continuum, from feedback to formal summative evaluation. Here we will discuss each of these ways of gathering information about performance. In addition, we will define some important concepts related to evaluation.

*Feedback* is a source of formative information. It is the first source of information you might seek about your educational activities. Feedback can be formal or informal, but regardless, its purpose is to provide information about the successes or failures of a recent performance in order to improve subsequent performances.

Feedback might include information you infer from watching your learners. When they lean forward in their seats as you lecture, they are providing feedback that suggests that what you are saying is holding their interest. Conversely, when they put their heads down on their desks, they are giving you feedback that says you have lost the battle for their attention. When your audience thanks you, you infer they got what they wanted. Though this level of feedback may tell you *that* something is going well or poorly, it doesn't give you information about *why*. For information about what worked, what didn't, and why, you should be deliberate in seeking feedback.

You can request feedback from various sources. Logical sources include participants in your educational activity, a trusted mentor or colleague, or even a supervisor. If your school has a teaching academy, you could ask a member of the academy to observe you. You might ask somebody in advance to observe your educational activity and tell you how it went. You could ask them to observe for a particular element or portion to see if it was successful or not. You could ask for a

simple description of your teaching. Or you might ask to be videotaped and to have an expert review your tape with you.

In order to assess whether or not your teaching encounter has served its purpose, you might ask participants to tell you (verbally or in writing) what they learned from the encounter, or what they are still unclear about, or what they wanted to learn but didn't.

It's important to understand, though, that the purpose of feedback is to guide your future performance. It is not to make a judgment about your quality as a teacher. Instead, it is intended to help the trajectory of your teaching ability rise, and to make corrections when it falls off. It will be useful for you to keep a record of the feedback you receive and your responses to it, to demonstrate your willingness and ability to reflect on your teaching practice.

*Formative evaluation.* Like feedback, formative evaluation serves the purpose of helping you improve your educational efforts. It answers questions like "As of now, how are you doing, what is going well, and what should you try to improve?" It may be useful to think of formative evaluation as a mechanism to process and analyze feedback and to respond to it to ensure that your teaching continues to improve. Once again, there are several sources you might consult for formative evaluations. For instance, if you are teaching a formal class, you might distribute a questionnaire to your students in the middle of the semester asking them how the class is going. If your teaching is primarily in the clinical setting, you might ask your students mid-clerkship if they are getting what they want from the experience. You can use this information to adjust your teaching practices as needed.

*Summative Evaluation.* Summative evaluation is intended to provide a judgment about your teaching ability or your educational interventions. It is used to make a decision about a person or a program. Summative evaluations take place at the end of a given term, for instance, at the end of a semester or the end of a clerkship. If you are on a promotion or tenure granting track, your portfolio will be an important part of the information you gather to inform a very important summative evaluation, the decision whether to grant you promotion and/or tenure. Your summative evaluation should be based on a variety of observations from multiple sources.

Two important concepts govern the fairness of evaluations, and as the stakes rise in evaluation, each becomes more important. For quantitative evaluations, validity and reliability are important measures of the quality of the instrument. Validity is the extent to which the instrument measures what it purports to measure. Reliability is the degree to which the instrument reveals the same results on repeated administrations, or that multiple items within an instrument reveal similar results.

## Levels of Outcomes Measured in Evaluation

Donald Kirkpatrick wrote the seminal work on evaluating training, and his levels of outcomes are often used in the education world. The four levels of outcomes for an educational intervention are listed from simplest to most complex to measure (Kirkpatrick, 1977):





1. *Reaction*: How well did people like the educational intervention?
2. *Learning*: What principles, facts, techniques, and ideas did they gather in the educational intervention?
3. *Behavior*: What changes in their performance resulted from the educational intervention?
4. *Results*: What was the impact of the educational intervention on the rest of the system in which the participant works?

More recently, Belfield and colleagues adapted Kirkpatrick's levels of outcomes specifically for medical education. In their adaptation, the levels are listed from most complex to simplest (Belfield et al., 2001):

1. *Healthcare outcomes*: What measurable patient/population outcomes can be demonstrated to have been changed due to the educational intervention?
2. *Health professionals' behavior, performance, or practice*: What behaviors, performance, or practices can be demonstrated to have been addressed, changed, or implemented due to the educational intervention?
3. *Learning or knowledge*: What learning or new knowledge did participants acquire in the educational intervention?

4. *Reaction or satisfaction of participants*: How well did participants like the educational intervention?
5. *Participation or completion of the educational intervention*: To what extent did people complete the intervention, or how many people completed the intervention?

Kirkpatrick notes that not all levels of outcomes will be collected for all educational interventions, and this is true of the Belfield system as well. However, in the continuing medical education (CME) world, providers are expected to document the impact of the educational offerings at least at the level of showing behavior, performance, or practice change according to the new US Accreditation Council for Continuing Medical Education standards. If practicing physicians are the audience for your educational interventions and you intend to offer CME credit, you will likely be expected by the accredited provider to assist them in documenting the outcomes of the educational event at that level.

Various methods can be used to gather evaluative information. Below we present a table with the Kirkpatrick and Belfield evaluation schema and suggested sources of information (Table 12.1).

**Table 12.1** Outcome levels and sources for information

Belfield	Kirkpatrick	Sources	Evidence
Participation or completion		Participants	Sign in sheets, roll call, attestation of participant
Reaction or satisfaction	Reaction	Participants, stakeholders, supervisors of participants	Written evaluation form, follow up polling of participants, follow-up requests from same audience, requests to repeat an event from a different audience, satisfaction of supervisors of audience members
Learning or knowledge	Learning	Participants, educators who receive participants at next level	Multiple choice examination, Audience Response System quiz at end of event, follow up survey of participants, survey of "upstream" educators
Health professionals' behavior, performance or practice	Behavior	Participants, coworkers of participants, supervisors of participants	Questionnaire for participants asking about behavior, performance or practice, direct observation, interviews with others who work with providers, interviews with supervisors, focus group with participants exploring behavior, performance or practice
Healthcare outcomes	Results		Quality improvement data from healthcare organization, public health data, prescribing data from associated insurance company

## Summing Up

- A teaching portfolio is a useful mechanism to document your teaching trajectory
- Part of the portfolio is your reflection on your evolution as a teacher
- Part of the portfolio is documentation of your evolution as demonstrated by your response to feedback and evaluation
- Evaluation can serve multiple purposes, including guiding your growth and providing a judgment on you or your educational interventions
- Evaluation can serve to document the outcomes of your educational interventions
- There are multiple sources you can consult for information about your teaching

## References

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- Kirkpatrick DL (1977) Evaluation of training. In: Craig RL, & Bittel LR (Eds.), *Training and development handbook*, McGraw-Hill Book Company, New York, pp. 87–112.
- Simpson D, Fincher RM, Hafler JP, Irby DM, Richards BF, Rosenfeld GC et al. (2007) Advancing educators and education by defining the components and evidence associated with educational scholarship. *Medical Education* 41(10): 1002–1009.

## For Further Reading

- Lewis KO, Baker RC (2007) The development of an electronic educational portfolio: An outline for medical education professionals. *Teaching and Learning in Medicine* 19(2): 139–147.

This provides a more detailed approach to developing an educational portfolio, and gives advice on how to create an electronic portfolio.

- Hesketh EA, Bagnall, G., Buckley EG, Friedman, M., Goodall, E., Harden RM, Laidlaw JM, Leighton Beck I, McKinlay P, Newton R, Oughton R (2001). A framework for developing excellence as a clinical educator. *Medical Education* 35: 555–564

The framework developed in this article serves multiple purposes, but for somebody new to medical education, it can serve to outline the various activities that medical educators undertake.