

Supporting the Student Teacher

Pressure on science teachers is at an all-time high. We have not one, but two sets of professional guidelines (AAAS 1993; NRC 1996). On top of the national models, most states and local districts have their own set of academic standards and benchmarks. Science teachers often have to use old textbooks and spend their own money for classroom materials. These daunting challenges for science teachers are added to the pervasive problems of low pay, greater scrutiny and criticism, and lack of respect for the teaching profession. Adequate preparation during student teaching is crucial for developing the teaching skills and expectations necessary for new teachers to flourish during the first, and most difficult, years of professional service.

The cooperating teacher continues to be the major influence on the student teacher, and most readers of *The Science Teacher* have probably been asked to serve in that capacity on at least one occasion. Ideally, student teachers are placed with teachers who serve as role models of professionalism. Ideal role models' lessons are well planned, organized, and include ample laboratory experiences that help students achieve important scientific standards and develop higher-order thinking skills (NRC 1996, p. 30–32). Strong role models also provide appropriate accommodations for students with special needs, pay attention to laboratory safety requirements, and use instructional technology in suitable ways. Assessments and evaluations are matched well to the student learning outcomes (NRC 1996, p. 78). Finally, good role models think about and reflect on their teaching practices.

To guide student teachers, cooperating teachers should model analyzing the various steps of the teaching process. The following questions are examples of ways to facilitate lesson discussions with a student teacher:

- ◆ In what ways was the lesson successful?
- ◆ What things did you think about as you planned this lesson for the first time?
- ◆ What alternative methods did you consider before deciding on this lesson?
- ◆ What philosophical or theoretical principles guided your instructional decisions?
- ◆ How much time was required to put the lesson together at first? What does that lesson plan look like?
- ◆ What are the learning objectives for the lesson and how well do they match the performed activities?

- ◆ How did you assess whether students were learning?
- ◆ What types of accommodations for learners with special needs have you included over the years?

The answers to these questions will help student teachers understand how good lessons evolve. Mentor teachers should focus on one or two of these questions each day so student teachers can learn how to develop strong lessons. Honesty and objectivity are important—ways in which the lesson did not originally unfold as expected should be addressed. When questioned about their teaching, student teachers will be prepared to respond in the same way.

When the student teacher begins to teach, the cooperating teacher should set time aside each day to discuss and evaluate their lessons. This regular feedback is crucial at the beginning—the student teacher needs to know that the cooperating teacher is interested in how lessons are taught and is willing to offer supportive and corrective feedback.

Time spent on conferences may gradually decrease as the student teacher becomes more confident and capable, but they should still be held at least once a week. Written assessments are also very helpful. They enable the novice to look back and identify growth over the course of the semester.

Asking open-ended questions provides a platform for the student teacher to analyze the strengths and weaknesses of lessons. Usually, they will more easily identify the weaknesses. The cooperating teacher's role is to ask them to troubleshoot the weaknesses, but also learn to identify the strengths. In this way, they will be well equipped to deal with the challenges that lie ahead in the first years of professional service. The cooperating teacher's importance in the development of these abilities cannot be overstated.

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References

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