

Strength: More successful intern
Subject: Science

Note: Name of intern has been changed.

Michigan State University's Teacher Education Program

Mary is a graduate of a teacher education program in which she engaged in a year of postgraduate study after earning her B. A. in biology with a minor in chemistry. The professional education portion of her program began with nine semester hours of coursework during her junior year. She took an additional 11 semester hours of professional education courses during her senior year, including four hours a week of required field experience in a high school chemistry class. After graduation, she engaged in a full-year internship that combined observation and teaching in schools with four graduate-level education courses. Mary's education thus included a full course of undergraduate studies in chemistry combined with an extensive program in professional education and extensive work in schools over a two-year period.

Teaching Situation

During her internship year, Mary taught biology and chemistry at a large comprehensive high school in Lansing, Michigan. The student population is economically and ethnically diverse. The school's academically successful graduates score well on college admissions tests and are admitted to many different universities. On the other hand, the dropout rate is about 50%. Most students are from working class families.

Mary worked two periods a day in biology classes and two periods a day in chemistry classes. In the biology classes European American students were in the minority, with the majority of students being African American, Hispanic, or Southeast Asian. In the chemistry classes the majority of students were European American and college bound. In both the biology and chemistry classes, she sometimes observed, worked with individual students or small groups, and prepared for future teaching. At other times she was the lead teacher with primary responsibility for the class. Her sustained teaching experience lasted about four weeks in the fall and 11 weeks in the winter and spring. This was a very challenging teaching assignment, especially in the biology classes. Many of the students were alienated from school and Mary thus faced the challenge of finding new teaching materials or adapting available ones for work with a challenging group of students.

Subject Matter Teaching

Mary's understanding of the content that she teaches is excellent in biology, adequate and rapidly improving in chemistry. She is very good at finding resources and developing her own teaching activities. She invited several outside speakers to her classes who gave presentations that were appropriate and interesting to her students. She planned many demonstrations and laboratory activities and pulled them off successfully. Many of the activities and materials that she used in class were developed by Mary herself.

As a teacher Mary is competitive, idealistic, and fearless. She is an athlete, a rower who is preparing for the Olympic Trials in 1996. She is not afraid to take risks in pursuit of excellence, and she accepts the failures along with the successes. Although I have seen her upset and frustrated, I have never seen her nervous or afraid. At one point this fall she was doing an activity where students worked in groups, then had to report to the whole class on their work. I remember her wonder when she realized that

some students were nervous about reporting back. She said, "I have never felt nervous about getting up in front of a class and talking to people, for as long as I remember." She kept working with the students on doing presentations, though, and by the end of the year the biology students identified a series of activities in which they made presentations to each other about specific monerans, viruses, and protists as their favorite part of the year.

Mary's sense of humor is also apparent in her teaching. This fall, for example, she tried addressing the problems her students were having with protein synthesis by writing a story: "Living Things: They Can't Live with Me, Can't Live without Me, by DNA." In the story DNA tells a first person narrative about itself and how it makes proteins that includes all the key ideas she wanted them to understand. She reported that when she gave it to her students in class, one of them said, "Miss Sauer, now tell us the truth. You really wrote that story, didn't you?"

The humor is accompanied, though, by hard work and clear-headed analysis. She has clear goals in mind for her teaching, and she uses a variety of techniques to evaluate how well her students are achieving those goals. She can also develop clear, well reasoned explanations of the nature and limits of her students' knowledge that help her to understand her students and improve her teaching.

Classroom Management and Student Engagement

Although she was successful at keeping her classes orderly, Mary never felt that was enough. From the beginning of the year, she was frustrated by the biology students' alienation, chronic absenteeism and lack of engagement and by the diminished opportunities that they faced as a result. Her comment on the situation was, "That stinks!" Although most interns in urban schools share Mary's frustration, I have known few who matched her determination to do something about it or her success in making connections with her students. She never gave up, and by the end of the year the transformation in her class was impressive. Students who had previously sat in class doing virtually no work were participating and contributing, particularly in cooperative group activities.

Mary's skills in monitoring what her students were doing and engaging them as individuals were also impressive. By the end of the year, she was clearly aware of what every student in her class was doing. She remembered who had gone to the library and when they would be back. She noticed the students who were having trouble getting started and stopped to help them. She figured out what roles her limited English proficiency students could play and helped them with their work. Even when the students were engaged in complex and independent activities, Mary was fully aware of what they were doing and supporting their work.

Professional Development and Relationships

Mary is a leader among the group of interns. She is honest, outspoken, perceptive, and humorous. She is always willing to say what other people are thinking, often in ways that keep us laughing, and often in ways that add new insights to the conversation. When she talks about her students, for example, she "does voices" and acts out their body language in ways that bring them, their attitudes, and their

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problems into the group of interns. Mary is also the outstanding networker of the class, always finding out what other people are doing, trading ideas and materials, and soaking up whatever information is available from her peers and her instructors. She has played an important role in her school, too. For example, she and several other interns helped to organize a Science Olympiad team. Seeing the enthusiasm of the students, the regular teachers in the school have committed themselves to continuing the team next year.

Conclusion

I see in Mary an idealistic determination to make the world right that will be tempered by experience, but not, I hope, too soon. She brings with her commitments a level of energy and vitality, social and intellectual problem solving abilities, and sheer enjoyment of people and of life that will make her a great teacher and a potential leader. I recommend her highly.

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Michigan State University's Teacher Education Program

Bill Doe is a graduate of a teacher education program in which he engaged in a year of postgraduate study after earning his B.S. in biology (with a minor in chemistry). The professional education portion of his program began with nine semester hours of course work during his junior year. He took an additional 11 semester hours of professional education courses during his senior year, including four hours a week of required field experience in a high school biology class. After graduation, he engaged in a full year internship that combined observation and teaching in schools with four graduate level education courses. Bill's education thus included a full course of undergraduate studies in biology combined with an extensive program in professional education and extensive work in schools over a two-year period.

Teaching Situation

During the internship year, Bill taught tenth grade biology at a suburban high school located adjacent to Lansing, the state's capitol. The school has a population of approximately 1,000 students from grades 10-12. The student population is primarily European American, with a growing number of recent Asian immigrants. The population also is economically diverse, with most students coming from working class families. More than half go on to two or four-year colleges after graduation. The drop-out rate is less than 5%. The school is a professional development school, and as such, is characterized by numerous innovative teaching and professional development projects by its faculty and significant interactions between the teaching staff and faculty from MSU's College of Education.

While biology is taught for the entire year, students enroll in cell biology for the first semester and then have the opportunity to select from a number of life science alternatives. For the majority of the first semester, Bill was lead teacher in one period of biology and two periods of Genetics I; in the second semester, Bill took responsibility for lead-teaching two periods of Genetics I, team taught one period of Physiology and observed two periods of Genetics II. Thus, his most consistent teaching experiences have been in cell biology and Genetics I.

Subject Matter Teaching

Bill's background in biology was quite strong. He was faced with an unusual and demanding science curriculum situation at his placement school (see above), and he recognized that his undergraduate training would not allow him to immediately step into a lead-teaching role in the Genetics courses. Therefore, Bill decided that he would best prepare himself by observing Genetics I in the first semester in order to identify the main objectives of the course, make connections to the Genetics II curriculum, and become comfortable with the content of both of these courses. In addition, in order for Bill to gain more experience in a class which might be useful in his professional preparation, it was arranged that he would team teach Physiology with the intern who was working under the mentorship of another science teacher at the school, and this he has done.

In Genetics, Bill initially struggled with ways to effectively teach important concepts; this struggle arose from his own lack of familiarity with the concepts themselves. He has done a tremendous job in trying to find ways to help himself and his students understand the material, and even when Bill was frustrated with his lack of understanding of some of the concepts his mentor was teaching, he

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persevered, and as his own understanding has grown, his teaching has improved as well. Now, he seems quite comfortable with major concepts and demonstrates increasing flexibility in dealing with students' questions and lack of understanding. He could easily teach a course in this subject or incorporate aspects of it into a general biology class.

Bill appears to be quite comfortable in Physiology as well. The subject matter has been much more familiar to him, and he and the intern with whom he has been working have been doing a very effective job coordinating the planning and teaching responsibilities for this class.

Classroom Management and Student Engagement

Bill has developed excellent skills in this area. Like many beginning teachers, he arrived in the classroom with all good intentions, but with no classroom teaching experience which might help him develop effective strategies in this regard. Over the year, I have seen him develop such strategies. He has puzzled over the best ways to deal with behavioral issues in his classroom; establish a good relationship with students without simultaneously feeling as though he has to be their "pal"; help students who are struggling in ways which do not embarrass them; engage his students in multiple and effective ways. All of this did not come at once, and the process by which Bill shaped these strategies to mesh with his own personality was a gradual one. He listens and responds to each and every one of his students with respect, and it is clear that they feel comfortable and safe in his classroom and are not afraid to either ask questions or challenge his statements. He is also comfortable enough with his content knowledge and his relationship with students to admit when he does not know answers, and he follows through on efforts to find and share these with his classes.

Professional Development and Relationships

Bill has demonstrated significant effort in this area as well. Initially, he did not take as much advantage of the resources at the school as he might have (e.g., visiting other science classes, talking with teachers there about their teaching and their projects, becoming involved in some useful school sponsored activities). It is clear, however, that as the year has progressed, Bill has begun to feel more comfortable in his position at his placement school and with his teaching generally. He has participated in the weekly PDS-related and other professional development opportunities and with a group of interns who made a presentation about their internship experiences at the annual Michigan Science Teachers Association meeting. He has become a valued member of the science department community. I hope that he continues to put forth the effort (which, when you are teaching full time, is substantial) to develop professionally, by participating in in-service workshops sponsored by his school district, as well as workshops at nearby colleges and universities which sponsor such activities; by attending meetings such as MSTA and NSTA; and by maintaining active memberships in these worthwhile organizations, as well as other state, regional and national professional societies.

Conclusions

Bill has improved greatly in this past year of teaching. He can envision objectives for an entire course and for a single unit and has developed strategies for both short- and long-term planning. He relates well to colleagues and to students, treating everyone with respect and camaraderie, and he cares about doing the best for those he teaches. It is also clear that he gets great satisfaction from

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what he does in the classroom and in the larger school setting. He is well on his way to becoming an effective secondary science teacher.