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Kenneth W. Thompson
Marshalltown Community Schools

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THE EMBRYONIC TEACHER: A BEGINNING SCIENCE TEACHER IN A SELF-PACED CLASSROOM

Kenneth W. Thompson
Marshalltown Community Schools
Marshalltown, Iowa 50158

Introduction

Most beginning science teachers enter schools in the fall with fervor and dedication. Those entering a self-paced classroom typically will find it to be a center of bustling activity with students working on a number of diverse activities. The first year of science teaching is a time of confrontation, of shock, and of conflict. The beginning science teacher must act. Out of this need to act comes a great amount of activity, some effective and some ineffective. The beginning science teacher in a self-paced classroom encounters problems because he is a first year science teacher and because there are problems that are peculiar to the self-paced classroom. With little experience in self-paced instruction, the beginning science teacher finds that the first year of teaching is a time for developing an individual teaching method appropriate to the self-paced nature of his classroom.

Teacher Preparation

A precise description of how a teacher learns to teach is lacking. However, a teacher appears to draw from at least four categories that determine his individual pedagogy. A teacher draws from: the human tendency to teach, teacher observation, education courses and student teaching, and actual classroom experience (2).

The human race owes its existence, in part, due to the human tendency to teach others. This method is a "Let me tell you" and "I told you so" type of teaching method. This human tendency is helpful for primitive teaching situations, but it is more important for teachers to encourage the pursuit of knowledge. The philosophy of the self-paced classroom is, in part, the encouragement of the pursuit of knowledge.

Teacher observation and imitation is an area from which a beginning science teacher learns to teach. While the example of former favorite teachers serves as a resource, often-times the former teachers' methods were developed and used in a classroom not employing self-paced methods. Another serious drawback of this method of learning to teach is that the dynamics of human interaction are so dependent upon the individuals involved that what works with one teacher and group of students rarely works in the same manner for another teacher and group of students.

A third category from which the beginning science teacher draws is education courses and student teaching. Unfortunately, the preparation in these courses all too often has the teacher acting as a "sage on the stage" rather than as a "guide on the side," which is the predominant teacher role in a self-paced course. Certainly the much maligned education courses serve a useful purpose, but more often than not they focus on what should be rather than what is. The student teaching experience may or may not be in a self-paced situation. Either way, it is unreasonable to expect that student teaching can accomplish the awesome task of preparing a neophyte for full teaching responsibility because of the built in limitations of the student teaching experience.

Ultimately there is the much revered actual classroom experience. The reverence attributed to experience by many veteran teachers undoubtedly lies in the fact that many of them consider their first year of teaching experience as the most significant factor in their development as teachers. In a self-paced classroom during the first year, much of the teaching experience is based on learning gleaned from trial and error methods. It is a hard way to learn for both the teacher and the student.

There is the shock that teaching is not the opposite side of the coin from being a student. There is also the shock that comes from making the transition from being a university student to that of a member of the science teaching profession. There are a variety of causes for this shock. They range from unexpected and disappointing student action to the realization that the emotional and physical drain of teaching leaves little time for anything else.

For the vast majority of teachers there is the realization that the teacher's official role in the classroom does not allow the teacher the luxury of being themselves. The students are looking for a typical teacher, a strong personality providing leadership. This differing set of attitudes and expectations is at the seat of many discipline problems. As a result, the beginning teacher in seeking a role that is both satisfying to himself and the students generally yields to the more traditional role of being authoritarian and aloof.

The emotional, social, and physical factors that affect the development of a self-paced science teaching strategy are many and varied. What does a first year science teacher learn in the first year of teaching? Some of what he learns is common to all first year teachers but there is also that learning that is inherently a part of teaching in a self-paced science program.

Conclusion

The first-year self-paced science teacher learns that he must be organized. He or she must be organized in a manner that is different from the organization required in a traditional classroom. His or her organization and

use of time must satisfy the requirements of students working on a wide range of laboratory activities. It must, on one hand, meet the demands of several students wanting individual help at the same time. On the other hand, the science teacher's ego must be satisfied when he discovers that there are times when he is not needed. His organization must provide for student-teacher contact and student feedback. Standards for noise levels and laboratory safety are necessary.

Most importantly the first year science teacher must learn about the nature of his students and how they learn best. The first year of science teaching provides the opportunity for acquiring this "sense" of the teaching-learning process. It is with the acquisition of this knowledge that the embryonic science teacher matures in to an experienced, productive teacher.

Literature Cited

1. Exline, Joseph D. 1975. *Individualized Techniques for Teaching Earth Science*. Parker Publishing Co., West Nyack, New York.
2. Ryan, Kevin D. 1970. *Don't Smile Until Christmas* University of Chicago Press, Chicago.

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Humane Biology Projects

The Animal Welfare Institute has just released a new edition of *Humane Biology Projects*. The first edition was published in 1968 and, due to demand, went through eight printings.

Teachers who wish to order a free copy of the new version, may write to Animal Welfare Institute, P. O. Box 3650, Washington, D.C. 20007. Make the request on school stationery.

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Nature's Notebook

A new publication is now available to upper-elementary teachers desiring nature-centered materials and activities for classroom teaching. The publication, *Nature's Notebook*, is published by Carl Brown, Box 634, Lakefork, Idaho 83635. It is recommended that you ask for a sample copy before purchase. The theme of the first issue was "Birds of Prey", the theme of the second issue was "The Sun".