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ABSTRACT

Teacher educators have begun to explore the value of teaching cases in the preparation of teachers. The 10 cases presented in this casebook were developed by teachers to reflect on the problems of nurturing young women's talent in mathematics and science and are based on teachers' personal and professional experiences. The casebook describes classroom dilemmas in which gender issues surface in both central and subtle ways. Each case is preceeded by a short abstract and followed by an epilogue and a list of questions to consider. In these cases, teachers tell their own stories and reflect on dilemmas they faced and choices they made. For example, a teacher dedicated to the development of mathematical talent in young women describes how she nurtured a mathematically gifted young girl whose interests suddenly switched at adolescence from mathematics to males; or how an elementary enrichment teacher with a strong mathematics background established an accelerated mathematics class for gifted math students only to have her efforts derailed by school politics. Following an introduction which discusses case development, purposes of teaching cases, and studying and teaching a case, the document is organized into two parts: (1) Professional Problems of Female Teachers; and (2) Puzzles Young Women Pose for Teachers. (LL)

Teaching in the North: Gender Tales

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Contents

Acknowledgments

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Introduction

Teaching in the North: Gender Tales describes classroom dilemmas in which gender issues surface in both central and subtle ways. In these cases, the teachers tell their own stories, and reflect on the dilemmas they faced and the choices they made. Each case is a disguised but true story.

In *Jane: The Reluctant Mathlete,* for example, a teacher dedicated to the development of mathematical talent in young women describes how she nurtured a mathematically gifted young girl whose interests suddenly switched at adolescence from mathematics to males. The teacher faced the decision of whether she should go along with the girl's desire to drop out of the school's math team or whether she should urge her to stay in the statewide competition. The ending of the story raises questions about the basic justice of the teacher's decision. The case also illustrates specific strategies for nurturing mathematical talent in young women while raising the classic problem of why some bright young women lose interest in science and mathematics at adolescence and forego future career opportunities.

Other cases, such as *Mrs. Johnson Hates Me,* describe the professional problems of female teachers. In this case, an elementary enrichment teacher with a strong mathematics background established an accelerated mathematics class for gifted math students. Her efforts were derailed by school politics, organizational routines, personal rivalries, and discrimination from other teachers envious of her strong mathematical ability and the mathematics awards she had received.

While each of these cases raises gender-related issues, the cases raise other issues as well. Gender is one element in a complex situation involving other problems such as the relative power of administrators and teachers, fairness in grading, or the personal

identification of teachers with students who resemble them. A strength of these cases is the way gender issues are nested in concrete situations raising competing concerns.

Development of the Cases

The ten cases in this casebook were developed by teachers who met with university professors Judith Kleinfeld and Sue Yerian to reflect on the problems of nurturing the talent of young women in mathematics and science. While both male and female teachers were asked to discuss these issues and write cases, we were sorry to find that only female teachers accepted the invitation.

The teachers first developed a list of the most common problems they saw in developing the abilities of young women in elementary school and high school—for example, some girls' reluctance to assume leadership roles during science group work, talented young women who lose interest in schoolwork at adolescence, and gifted young women who are overwhelmed by family responsibilities in dysfunctional families and cannot fulfill school requirements. The teachers then proposed specific cases based on their own professional experience that raised these and other issues in a concrete way.

The teachers wrote draft cases themselves or else described their experience to Kleinfeld and Yerian, who wrote up their cases. The group then met to discuss each case and suggest new questions and perspectives. The cases presented in this volume thus offer not only each teacher's experience but also the perspectives of the group of teachers on the situations.

Each teacher's experience is individual and unique. We make no claim that the situations the teachers describe are representative in any statistical sense, but these kinds of situations do occur. Experienced teachers find them troubling and believe that prospective teachers will benefit from reflecting on them.

Purposes of Teaching Cases

Teaching cases have long been a cornerstone of professional preparation in schools of law, business, and medicine. Teacher educators have begun to explore their value in the preparation of teachers (Doyle, 1990; Merseth, 1991; Shulman & Colbert, 1989).

Cases offer rich, dramatic accounts of the problems teachers actually confront in the classroom. McRobbie and Shulman (1991) draw attention to the advantages of cases in capturing the complexity of teaching:

> Cognitive psychologists like Rand Spiro and his colleagues at the University of Illinois point out that principles alone tend to confirm the novice's already oversimplified notion of what teaching is all about. Cases, by contrast, illustrate how complex teaching really is, thereby better preparing newcomers for an "ill-structured domain" where there are few clear right or wrong courses of action. Advocates of case methods hope that with practice in analyzing a variety of cases, individually and in groups, students will learn to think like professionals. (p. 1)

Cases increase teachers' abilities to:

- identify the issues in a troubling situation and frame these problems in productive ways;
- understand the complexity of professional problems and how ethical, interpersonal, and policy issues may be implicit in what appear to be merely routine classroom decisions;
- apply theoretical concepts and research findings to concrete situations; and
- identify a number of possible strategies for handling situations.

A good case, like a good story, also gives pleasure. Students typically enjoy reading cases and thinking about these human dramas.

Studying and Teaching a Case

Each case tells an unfolding story. Some people prefer to read the case like a short story. But a person teaching the case may want to stop the story at critical points so that students can think about the issues. The case leader may want to ask such questions as: What problems does this teacher face? What options for action does she have? Can you spin out the consequences of the approach you are proposing? What do you see as the risks?

Many of the cases in this volume are presented in two parts or in a story followed by an epilogue. The case leader might want to make separate copies of the parts of a case, hand out the first part to students for analysis, and then hand out the next part of the case. Students are typically eager to see what the teacher actually did next and what the results were.

To encourage students to think about the issues and come to class with a position on them and a strategy for dealing with the problems, we often ask students to read the first part of the case before class and write a 1–2 page paper analyzing the case and recommending a course of action.

To help students consolidate what they have learned from the class discussion of the case, we often ask them to write a reflective paper on the case after the classroom discussion. We hope to find a more complex and nuanced analysis of the issues and an increased repertoire of potential strategies for action.

In reading and teaching a case, it is helpful to keep in mind the following general kinds of questions. Most have been culled from the instructor's guide to *Teaching and the Case Method* (Christensen, Hansen, & Moore, 1987) and from discussions about case method teaching (Christensen & Hansen, 1987).

These questions are:

1. What are the central issues in this situation? Which are the most urgent?
2. What, if anything, should anyone do? Why do you think so?
3. How would you evaluate what the teacher did up to this point? What other options does the teacher have?
4. How do you think this situation appears to others in the case—the students, parents, or principal?
5. How did this situation develop? What, if anything, might alter the basic conditions that created the present difficulties?
6. What, if anything, have you learned from the case?

Case discussions usually go better if students can talk with each other and not direct comments to the teacher alone. Arranging student chairs in a semi-circle or using a classroom with swivel seats encourages such student-to-student dialogue. The case leader can also suggest that students direct their comments to the last speaker, raise questions with each other, comment on each

other's responses, and take responsibility as a group for analyzing the case.

While student dialogue is desirable, the case leader also can take an active role in presenting helpful information. At strategic points, the case leader can bring up research findings or theoretical perspectives that illuminate the case. Students also appreciate a structured closure to a case discussion. Some case leaders summarize the issues of the case and the insights that have come up. Others ask students what they have learned from the case. Other case leaders close the case by presenting a conceptual framework that organizes the various issues that have come up in the discussion.

In discussing emotionally charged issues such as gender, case leaders may want to think through how to establish a classroom atmosphere where students feel free to discuss alternative points of view and question ideological positions. Case leaders need to be prepared to offer their own support to students who may be proposing unpopular ideas. Suppose, for example, that a student proposes the idea that women sometimes say "no" when they mean "yes," and other students begin a heated attack. The case leader may want to interrupt the attack with a comment like, "Wait a minute. Doesn't 'no' sometimes mean 'yes'? For example, when I asked my wife to marry me, she said 'no' at first." In discussing highly sensitive issues like gender, case leaders need to be especially sensitive to students' anxieties about expressing their ideas and take steps to create a classroom culture where alternative viewpoints can be explored.

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Part I

The Professional Problems of Female Teachers

The Alliance

Abstract

This case concerns a female math teacher who has difficulty with a male student in her basic algebra class. The teacher, who believes she is following school policy, will not issue passes to students during the last 10 minutes of the class period. The male student insists he needs a bathroom pass; the teacher refuses to give him one. The student challenges the teacher's rule by leaving the class without permission. In the ensuing action, the teacher perceives that the school administrators establish an inappropriate degree of camaraderie with male students and give in to parental pressure by accepting the student's version of what happened in class, not punishing the student for leaving the class without permission, and implying that the problem resided with her classroom discipline.

The case brings up the following gender-related issues: the differences between male and female classroom discipline styles, the standards by which female teachers are judged as classroom disciplinarians when the standards have been determined by male administrators, and the degree to which female teachers need to be backed by the school administration when physical size and an intimidating physical presence cannot be as easily used as discipline measures as they are by some male teachers.

The Bathroom Pass

"Mrs. Brown, I have to go to the bathroom. I've had to go real bad since the beginning of class." I looked at Trent and then the clock. It was 12:48.

"Trent, there are only 12 minutes left. Class will be over at one o'clock and then you can use the restroom." I shifted my attention to Anne, who had her hand in the air.

For several days I had been expecting Trent to ask permission to use the restroom in order to test me on an issue he had discussed with me a couple of days earlier. Trent had asked me what I thought of a student who asked to use the restroom during class and a teacher who refused to let him go. "A counselor told me it was a form of child abuse if a teacher wouldn't let a kid use the bathroom."

I explained to Trent that the 15-minute breaks between class provided the time to take care of student's personal needs. Trent didn't accept my reasoning. "If you have to go, you have to go. and you should be allowed to go."

Now, I couldn't tell if Trent really had to use the restroom, or if he was testing me. I suspected he was testing me in front of the other students. Trent was very social. He liked to get out of class whenever he could and meet his friends in the hall. My classroom policy had always been no passes except in an emergency. I strongly believe in letting students know how much I value the academic time in class, and how much they should value it too.

Trent gave me a long look, walked back to his seat, picked up his books and leather jacket, and headed for the door. "Write me up," he said, and walked out.

Immediately after the bell rang, I went to the office with Trent's detention form. The office keeps track of how many detentions the student has and the forms that notify parents of what has happened. I was surprised to see Trent in the office lobby talking with Mr. Hammet, the principal, and Mr. Gregory, the vice-principal in charge of discipline.

"Mr. Hammet, we need to put a time on the school calendar for our Timber Carnival," Trent was saying. "We want to have it during Spirit Week."

After a few moments of confusion, I realized that Trent was not talking about leaving my class early and not being permitted to

use the restroom. I was seeing a completely different Trent! In contrast to his behavior with me, he was very respectful of the two administrators. Was he buttering them up before I told them what had happened in my class? Trent was one of the jock stars of the school and active in the school's social events. He had to deal with the administrators all the time.

My plan to tell the administrators what had happened was delayed when a teacher rushed into the office yelling about a fight that had broken out in the lunchroom. Mr. Hammet and Mr. Gregory left immediately, and I realized I would have to wait to settle this matter until after school. Trent and I looked at each other. "I have to go to shop class," he said, and walked away.

After School

When school was dismissed, I went to the office and explained what had happened to Mr. Gregory. Believing I had school policy to back me up, I mentioned the numerous requests I had from Trent's class to leave the room for one reason or another. "I sprained my finger." "I need a pass to go to the nurse." "I need to call my mom so she can pick me up after school." "I need a drink of water." "I have to get a tissue to blow my nose." At one point, student requests were getting to be such a problem for so many teachers at the school that Mr. Hammet told the faculty at a staff meeting to "Just tell them no!"

When I reminded Mr. Gregory of this policy, he quickly corrected me. The school, he said, didn't have a blanket policy on passes. Every teacher ran his or her class differently. At the staff meeting, Mr. Hammet was merely stating what he thought each teacher should do individually. I was surprised. I thought the faculty had discussed this issue and the importance of time on task often enough that we had, unofficially perhaps, agreed to enforce a no-pass policy. Not only did we not have a school pass policy, Mr. Gregory said, but at Trent's mother's request, Trent was not to serve after-school detention. Instead, he would serve a day of in-house suspension when he had accumulated three detentions. I felt as if my feet had been knocked out from under me. If teachers were in charge of their own classroom discipline, then why wasn't my pass policy being supported?

The next day, Mr. Gregory told me that Trent's mother had called. She was angry that her son had not been permitted to leave class to go to the bathroom. She said he had diarrhea, and she wanted to schedule a parent conference immediately with the teacher who wouldn't let her son leave under those conditions. I could tell Mr. Gregory was upset with me for letting the situation escalate to this point. "Couldn't you have given Trent lunch detention instead of sending him to the office?" he asked. I told Mr. Gregory that I didn't monitor detentions during my lunch break. I felt discipline was the office's responsibility. "You're going to have to discipline your own students," he said. "Office generated detentions might not be an option for teachers anymore."

Later, Mr. Hammet called me into his office wanting to know what had happened with the student in my class who had diarrhea. After I explained the situation, he said, "There won't be a meeting with Trent's mother after all. In the future, you're going to have to be more clear, Mrs. Brown, about when and how students may leave your room. I would personally warn students that exception to a no-pass policy would be made, but only rarely." When I left the office, I wondered if an agreement had been made on the phone with the parent and if it no longer mattered what policy or learning environment I wanted to establish in my own room.

The next day, Trent and I met with Mr. Gregory in his office. Trent explained that after he had left my room, he had gone to the bathroom, put his books in his locker, and had gone to the office. Mr. Gregory looked at Trent and said, "The detention will be dropped this time, but understand: it is not child abuse for Mrs. Brown or any other teacher to ask you to wait." I was stunned. I felt as if I had been disciplined, not Trent.

Background

I have been teaching for nearly 10 years, the last 6 at Timberville High. I've taught different levels of algebra, computer programming, trigonometry, and analytic geometry. The math department has six teachers. I am the only woman. We all work well together and accept each other's differences in teaching and in personality. The other math teachers are more strict in the discipline

policies than I am. I sometimes wonder if my more nurturing teaching style or my gender makes students challenge me more. The male teachers don't have to make as big an issue of the rules as I do, and when they have a problem with a student they are more strict and inflexible on the consequences.

The Class

Twelve of the 11 boys and 12 girls in my class are repeating the course from the year before. Only 11 freshmen are taking the class for the first time. Three of the students who are repeating come from the resource room. Three other students failed Algebra I the year before and have been dropped back to elementary algebra. Two of these students, Jeff and Don, are extremely bright. Jeff recently commented that the only reason he attended school was to find out where the parties were on the weekends. Even though both students are failing, I feel they are misplaced in my class. They already know the content and don't take the tests seriously. I feel they would be more challenged in a higher-level class, but they both need to pass this class before they can move on.

Three other students are brothers and sister. Katie, whom I had in the same course last year, sits in the front of the room and has been a model student. She says she wants to pass this time so she doesn't have to be in the same class again with her brothers next year. Her older brother, Dan, often comes to class late with a pass from the office or has an unexcused tardy. He behaves as if he has just rushed back from someplace or is impatiently waiting to get somewhere else, with little concern for the math in between. Dan is also participating in the STARS drug intervention program and is usually absent once a week for his group's meeting. Katie's younger brother, Sam, has a learning disability and occasionally asks to work in the resource room because the class is too noisy.

Three other boys are athletes on the football and basketball teams. Bill's personality appeals to many of the girls in the class. Bill and his female "fans" work on note-passing skills more often than they do their math skills. Mark, a sophomore, is starved for attention and frequently interrupts my instruction by sighing, leaning back in his chair, or slamming his book down on the

desk and then apologizing. He tends to do what's necessary to get the class focused on him instead of the lesson. He seems to know what buttons to push without suffering too many negative consequences. Phillip, a senior, has math anxiety. It took the administration weeks to track him down and get him to attend class. He would still be skipping out if he didn't need the class to graduate.

It's difficult to predict how this class will respond to me, to each other, or to the lesson from day to day. It depends upon who is absent, who arrives late, who has been pulled out for counseling, the office, or other programs. Some days it feels like riding an out-of-control roller coaster.

The School

Timberville High School, home of the Lumberjacks, has nearly 700 students who are bussed in from as close as 2 miles and as far away as 40 miles. Many of the high-school students have a reputation of being rough, undisciplined and disinterested in academics as compared to the two other high schools in town.

The administrators consist of one principal and three vice-principals, responsible for discipline, attendance, and extra-curricular activities respectively. In the six years I have been at Timberville, I have noticed a change in the manner discipline is handled by the administration. In the past, discipline policy had firm consequences attached to misbehaviors. If a student did not show up for detention, the student spent the next day at in-school suspension. A further violation of rules resulted in a three-day out-of-school suspension.

During those years, students were not allowed to be in the building unsupervised half an hour after the last bell. Students were only allowed to be in the building if they were participating in sports or club activities and had an adult sponsor.

The present policy appears to be much more relaxed. More students stay after school just to hang out. The administrators don't question kids as to their reasons for being in the building, so the students can roam the halls freely, do their homework, or talk to their friends. The school's vandalism problems have skyrocketed.

Also, the school district has adopted a new policy toward students who have had drug or alcohol offences. There is more of an effort to get the kids to stay in school attending drug intervention programs rather than having them suspended and out wandering the streets for 10 to 20 days as in the past.

I t the students who don't fight the system seem to be the ones who end up getting punished with detentions. The chronic offenders appear to get more breaks by getting concurrent detention time, complaining the loudest, or having their parents complain. When parents complain, the administrators now seem to re-evaluate the situation and compromise. Some teachers have pointed out the inconsistencies in the discipline policy. Several female teachers have commented that male administrators don't support them when students are written up for discipline matters. As one female teacher said, "When I give a detention, I expect the administration to back me up. I don't expect my professional judgment to be questioned."

End of the Issue?

Three days after the meeting with Trent and Mr. Gregory, this case seemed to be over—or was it? Trent didn't receive any discipline for leaving my room without permission. I had made a judgment call about his leaving the class based on the conversation about abuse and the manner in which he had approached me about the pass in class. I still think he was testing my authority. I expected the administrators to back up the detention I had given Trent, whether it was a school policy or my own. If this had happened to another student whose mother had not been involved, the detention would have gone through. I wondered if the administration's actions would have been the same if Kent "Viking" Harrison, a strong male disciplinarian from the P.E. department, had written Trent up instead of me. I guess I'll never know.

Questions to Consider

1. Administrators are often caught between a teacher's and a parent's demands. Put yourself in Mr. Hammet's and Mr. Gregory's shoes. How would you have felt about Mrs. Brown's actions? What would you have done? Justify your response.

2. Now imagine you are Trent's parent. What would you have done in this situation?

3. Mrs. Brown thought that her case was handled differently than it would have been if she had been a more assertive teacher or a male teacher. Do you agree? What influence might the male camaraderie between Trent and the administrators have had?

4. The discipline policy at Timberline was vague and unclear. Who determines school policy? What school policies might have prevented this situation and how could they be established?

The Hunt for the Golden Egg

Abstract

Patsy, a science and physical education teacher, enjoys challenging stereotypes, particularly stereotypes about women. Patsy is the first female high-school teacher to work in Shumayuk in many years and the first student teacher ever. She sees herself as a role model for the young women in the Inupiat community where men hold public authority and women's lives are circumscribed.

While Patsy succeeds in increasing the interest and achievement of the junior-high girls in science, she finds herself constantly confronted with challenges to her authority from the high-school students. They refuse to follow her directives, goad her with obscene music, and are disinterested in science that doesn't come straight from the textbook. The teacher aides, maintenance man, and others in the community turn against her, setting her up as a scapegoat in the Easter egg hunt.

Issues include the nature of authority, gender role differences in the expression of authority, methods of handling challenges to authority, conflicts in gender role expectations in different communities, and the effects of social change on tensions surrounding gender roles.

The Game

"I have bum ankles!" yelled a senior-high-school girl.

Soon a chorus of kids began to call, "I have a bum leg, ankle, knee . . ."

"I have a bowel movement!" yelled a boy.

The situation developed so fast that the student teacher, Patsy, didn't know how to curb it. She gave them her "knock it off" look, walked to the center of the soccer field and said, "Time to begin. Set up your teams and let's GO!"

Ever since she arrived in Shumayuk, an Inupiat village off the Bering Sea coast, Patsy had been trying to come up with good athletic activities. The high school had a tiny gym and little equipment. The high-school students had already completed units on fitness, aerobics, Native Youth Olympics, Eskimo baseball, badminton, basketball, and cross-country skiing.

Patsy decided to try snow-and-ice soccer outdoors. Spring had finally come, and she could hardly bear to be inside.

The high-school students complained that they had never played soccer in the snow and ice, didn't want to go outside, and didn't have the right shoes. But on Monday everyone had a good time.

"We are playing soccer today for gym, and we will begin NOW," Patsy said. She placed the ball in the center spot and yelled, "GO!"

One boy, unopposed, took the ball and quickly scored. That got them started.

Play continued until Lorraine, the goalie, tried to kick the ball, missed, and landed on her back. She was laughing at first, but she didn't get up.

Patsy waited a minute and then slowly walked over and watched her.

"Don't stare at me!" she said, smiling and laughing. Patsy was aware that Inupiat didn't like to be stared at, but she also knew this girl loved attention and often played the "dumb helpless girl" routine. Patsy could not tell if she was really injured or not.

When Patsy asked the girl if she needed help getting up or wanted to go the clinic, the girl lit into her, telling her this game was stupid, that the conditions were too bad to be doing anything outside, and she didn't want to play. Theatrically, she arose,

and, milking the scene for all it was worth, hobbled like an old lady toward the school building.

Patsy ordered the students to resume play. She took Lorraine's place as goalie.

As Patsy defended the goal, the opposing team kicked the ball as hard as they could directly at her. One of the boys on her own team would not play defense.

A kick for Patsy's goal missed and the ball took off down the hill. Since Patsy had ducked, she didn't see where the ball went.

"Go get the ball!" Byron ordered Patsy.

"There are not out-of-bounds in this game," Patsy said. "The ball is still in play."

"The goalie is supposed to get the ball," said one of the boys.

Patsy responded, "Not true, the goalie CAN go get the ball but doesn't have to. There are no out-of-bounds. The ball is still in play."

No one moved. Patsy was fed up.

She decided she would go look for the ball, and when she returned with it, they would go inside. She would have them do push-ups. Then she'd take them outside to resume play.

The problem was, she couldn't find the ball.

"Where is it?" she asked.

"Around that building," replied one of the students.

Patsy looked around the building, a foul-smelling outhouse, but found no ball. The kids had deliberately misled her.

She told them to follow her back in to the classroom and ordered them to do 50 push-ups. Shirley refused, and Patsy kicked her out of class.

After push-ups, the class went back outside. Patsy saw the ball far down the alley and told one of the students to get it. As Patsy walked towards him to take the ball, he acted like he was going to throw it at her. Patsy said such a display was inappropriate and unnecessary.

"Man, what is your problem!" he demanded.

"I am not the one with the problem. You want to be treated like an adult—act like one."

All the other team members had been running a lot, said a quiet boy, why couldn't she go get the ball?

Were they just trying to egg her on, Patsy wondered, or didn't they really understand why she was so disappointed in their behavior?

She began to explain her reasoning when Byron exploded. She was making them play soccer outside, he said, when they were getting hurt and wet. He had sprained his ankle. Other guys were getting hurt. Lorraine got really injured, and Patsy didn't care and wasn't fair.

"Byron, you just do not understand," Patsy said. "I am the teacher in this class, not you, and we will do the activities that I decide on. The behavior of the class will be to *my* satisfaction, not yours, or there will be consequences to pay. If you do not want to abide by my decision, you can take an *F* for the day. That is your prerogative. My prerogative is the activities that we will do, when we will do them, and how we will do them."

"No, *you're* the one who just doesn't understand," Byron yelled. "You just won't understand. WE DON'T WANT YOU HERE. YOU ARE NOT WANTED HERE. We won't do what you say, because WE DON'T WANT YOU HERE!"

Patsy marched the students into the school building, told them to stay in the gym, and went straight to Darren Sawyer, her cooperating teacher. He told her she did the right thing, and they both went back to the gym.

The school, Darren announced, would offer two gym classes for the rest of the year. One would be inside with him—gym out of a book. The other would be activities with Patsy. Each student could choose, but his class would entail homework every night and reading and reports every day. He reminded the students that Patsy's gym class had the backing of the school.

"The only injury you will sustain in my class," Darren concluded with heavy sarcasm, "is writer's cramp. We're doing this because YOU don't run the school. The principal, the teachers, and the school board run this school. YOU don't."

He turned and walked out with Patsy right behind him.

A Female Student Teacher in a Male World

Patsy had been ecstatic when she found out she would get to do her student teaching in Shumayuk, her first choice school. After many years of trying to prepare herself for teaching and living in an Alaska village, she finally felt ready to tackle it.

Patsy looked at village teaching as a commitment to a community and a people. Her professors felt she exhibited a high degree of sensitivity and an eagerness to learn from Native people.

Patsy chose Shumayuk in large part because of Tim and Laura McNeil, teachers who had lived in this community for many years. Patsy wanted to find out what it took to be a long-term committed teacher and what difference it would make. The system of transient teachers, she believed, created an educational climate that was not good for the students, the village, or the teachers. For this reason, Patsy did not choose to work with a well-known science teacher or to find a village in a fantastic setting. She chose to work with teachers who were committed to a community.

Shumayuk was exactly what she had hoped for—a small, dry village, an Inupiat culture she held in high respect. The village even had a church of her denomination. She was excited to find out that the current pastor was Native. She would teach science classes from grades 6–12 and might even be assistant coach of the cross-country ski team. A fantastic adventure was beginning!

When Patsy asked to become the first student teacher Shumayuk ever had, the administrators warned her that no community housing was available. Patsy ended up sleeping in a cubicle in the school. She used the home economics facilities as her kitchen, a high-school classroom as her dining area, the elementary office as her living space, and the elementary school's only bathroom as her toilet and shower.

Patsy knew that privacy would be non-existent. The first week she arrived the toilets were backed up, smearing the bathroom with human waste. The smell was overwhelming. Toilet back-ups, she soon learned, were routine. But the cubicle wasn't so bad. Patsy had lived in a tent for five months at a time. She could handle it once more. After all, everyone in Shumayuk was crowded into small houses.

Gender Issues and Science Teaching

Patsy was not only the first student teacher in Shumayuk but also the first female high-school teacher in several years. The last female high-school teacher, people told her, had been run over by the students and had left not only Shumayuk but also teaching.

The first hint of community attitudes toward women came when she observed Darren Sawyer's junior-high-school social studies class. He had married a Native woman, so he had a personal as well as a professional perspective on the local culture.

"Now let me get this straight. . . . You are saying that girls are not as smart as boys? There is something genetic so that girls can never be as smart as boys?" Darren was asking incredulously.

"That's right!" answered a chorus of students, mostly eighth-grade girls. Most of the boys weren't saying anything.

"Girls are just dumb," one female student said.

"Well, you have already told me that girls can't be good athletes . . ."

"Yeah, that's right," one girl said. "Girls are stupid and girls are weak."

No one was smiling.

"So if girls can't think and girls can't do well in athletics, what can you do?"

"Nothing!" another eighth-grade girl exclaimed, straight-faced. She appeared to be serious!

"Gee, I'm glad I'm not a girl growing up in Shumayuk. I wouldn't want to think I am good for nothing. What does that say about how you feel about yourself?"

As he gathered up his books, he said, "You have a lot of work to do here, Patsy."

Patsy thought the girls had been joking, but Darren later told her they had not been. Women have no place as authority figures within the culture, he explained. The last female teacher at the high school, he said, had given up trying to discipline them. He exhorted Patsy to remain firm and not to negotiate. She should

be authoritarian, he advised her. He gave several examples where male high-school students literally ran their homes and ordered around their mothers and grandmothers.

Patsy felt she was ready for the challenge. She had experience in the field of science. She was full of innovative teaching ideas. As a female in science, she had faced bias and discrimination before.

Patsy did not fit the mold of the typical female anyway. Not only was she teaching high school and teaching science and math, but she was taller than most men in the village. She was single and without children, when all the village women of her age had children whether or not they were married.

Patsy enjoyed being different. She went to church, which no other local teacher did. One day she was delighted to surprise men cutting firewood when she was skiing 10 miles from town. She was amazed that people were afraid to venture far from town without vehicles or guns, especially women. Patsy was not afraid and thought it amusing that people were in awe of this feat. She was hoping she would be a good role model for some of her female students.

Patsy approached instruction very differently from the other high-school teachers. Science class prior to Patsy's arrival had been a matter of reading from the book and copying the answers to the questions at the end of the chapter. Patsy taught the students how to read carefully. She tried to get them to think about the process of doing science rather than just doing experiments in a cookbook fashion. She tried to incorporate into her lessons examples of scientific principles from village life. Her junior-high science class centered around activities, labs, and educational games.

After the expected period of initial testing, the junior-high students settled down and accepted Patsy as their teacher. Even though she had been warned that some junior-high students had severe emotional and behavioral problems, these students seemed to catch on to Patsy's style of teaching. They realized they would have a lot more fun doing science Patsy's way than just reading the textbook. Two junior-high-school girls went from barely passing grades to getting *A*'s and *B*'s and another girl's grades rose from *F*'s to *C*'s and *D*'s.

Patsy also helped out with science mini-lessons for the kindergarten class and assisted in field trips and activities. The kindergarten class and Patsy started writing letters and notes back and forth, and Patsy was their "guest speaker" on a few occasions. When Patsy got them to sit still for a 20-minute lesson, she knew she was getting them intrigued with science.

With the high-school students, however, the situation was out and out warfare. The initial testing seemed to intensify rather than recede. The students did not treat any other high-school teacher the way they treated Patsy. Every day she had to send students outside the room or to the principal's office and flunk them for the day.

Even though science was all around them, the students could not make connections between science in the classroom and science in the world outside the classroom. They were not interested in learning how to think when they had already learned how to read a textbook and regurgitate it for an exam. They vehemently resisted anything new or different, even though they were bored and uninterested in their classes. Whatever Patsy tried went wrong—like the time she took the students outside to examine the snowmachines, and one girl sprained several fingers by getting her hand stuck in the snowmachine track.

Of the 12 high-school students in the school, Patsy had constant problems with five of them. One student, whose father was the head of the local school board, quit school after a confrontation with Patsy. At least the principal had backed Patsy. While the student came back after a week, she sought out fights with Patsy.

Patsy did not feel comfortable with the authoritarian methods of discipline the other teachers used. She tried to speak with students individually to explain her actions and reactions. She entertained questions. She tried to be reasonable and appeal to their desire to be treated as adults.

When it became apparent that the students viewed her methods of discipline as personal weakness, she tried other methods. After talking with the other male high school teachers and observing the ways they disciplined students, Patsy tried their methods—sarcasm, anger, yelling, flunking students who were misbehaving, sending them to the principal's office. None seemed to work any better, and Patsy herself did not feel comfortable with any of them.

The Tape of 2 Live Crew

As Patsy prepared her lunch one afternoon, music started blaring from the gym. The boom box had been placed on the shelf next to the home economics room where she was eating. Irritated by the volume of the music and her lack of privacy, at first Patsy paid no attention to the words of the rap song. She was soon shocked to hear the sexually explicit lyrics of 2 Live Crew. She stepped into the gym and turned off the tape recorder.

"Hey! What are you doing? We're allowed to play music after lunch," the boys yelled.

Patsy explained that it was not the music itself, it was that music in particular that was unacceptable on the basis of the lyrics. The language of the tape was inappropriate for school and would not be tolerated.

By the time Patsy had walked back into the home economics room, the offensive tape had not only been put back on, but the volume had been increased. Patsy turned and walked back into the gym where only Byron remained, shooting baskets. She snapped off the tape recorder, took the tape, and started to leave.

"Hey, you have no right to take that tape. That's not even my tape!" Byron protested.

"No, Byron, you have no right to play that tape here. And it's your problem that it is not your tape." Patsy walked out, slipping the tape into one of the drop pockets of her jumper.

Byron followed, furious, yelling at her to give back the tape. Patsy thought he would give up, but he kept walking after her.

"Byron, knock it off! You are not getting anywhere—you are only making things worse for yourself! Just button your lip!" said Patsy, turning toward him.

Byron faced Patsy, hands tightly clenched into fists with arms bent. He was trembling in anger and yelling over and over that Patsy had no right to take that tape and should give it to him.

Patsy ducked around him, intending to go to the principal. To her amazement, Byron continued to follow her, screaming as he

went. Lorraine joined him, saying it was her tape and she wanted it back.

To Patsy's immense relief, the students left and she located the principal. He told Patsy to keep the tape. After he talked to the students, he said, he would return it to them.

Patsy asked, "You're going to give it back to them?"

Tim said, "Yes, I will."

Patsy locked the tape in her locker. She did not want to have the tape on her person and certainly did not want to return the tape to the students. Nothing was being done for her benefit, she thought. The students would speak with the principal, but no one had apologized to her or served any punishment. She was in a daze.

At the end of the school day, Tim asked Patsy for the tape. Byron and Lorraine were trailing behind him, laughing and joking. Patsy had no choice but to walk over to her locker, retrieve the tape, and hand it to the principal. The principal handed it to the students.

Patsy felt that she was the one who had been punished and abused.

The rest of the week that same tape blared in the gym every day at lunch. The best way to handle it, Patsy decided, was to skip lunch and escape to her cubicle. To her, the tape represented the students' victory over her authority.

Detentions

The one disciplinary method that Patsy found successful was detentions. Students had to stay 45 minutes after school, and Patsy claimed detentions as time for the students to help Patsy with her work—setting up bulletin boards or tying strings for an educational game. Students could not socialize or do homework during a detention.

One day Patsy sent Lorraine to the principal's office during science class. After class Patsy went to the office to ask Lorraine what had set her off. Lorraine told Patsy to "Fuck off!" Patsy was shocked that a student would say that to a teacher, and in the principal's office. Patsy gave her another detention and told her to go to lunch.

As Patsy started to leave, she turned around to say something, and Patsy and Lorraine bumped into each other. Lorraine pushed Patsy. Putting both hands on Lorraine's shoulders, Patsy told her to calm down and leave when she was calm.

Lorraine's mother, Alice, was a regular substitute in the school and happened to be in school that day. Patsy told her what had just taken place.

"I wouldn't let her get away with saying that at home," Alice said.

"I don't intend on letting her get away with it in my class either," Patsy replied.

Later that day Alice and Lorraine approached Patsy about serving the first detention that day rather than the next. Lorraine had made special plans to get away for the weekend and didn't want to serve a detention on Friday afternoon. Why couldn't Patsy change her plans so Lorraine wouldn't have to ruin her Friday afternoon? Patsy was irritated and reminded them that a detention was a consequence of Lorraine's actions. Patsy was not going to change her plans for the convenience of a student who was being punished.

Friday afternoon, Lorraine began her detention and brought with her several friends. Patsy separated the other students from Lorraine and set her to work on a bulletin board. Immediately Larry, the custodian and Lorraine's uncle, came in. He started harassing Patsy, telling her that she couldn't handle her classroom or teaching, that she needed a break from work, and that she was suffering from spring fever and blaming the students for her own problems. Lorraine jumped right in and agreed with her uncle. Patsy had stopped her work when the custodian came in to talk but quickly decided the best response was no response at all. Patsy went back to her work and the custodian went back to cleaning.

Larry and his wife Wendy had spoken with Patsy a few weeks before about detention slips Patsy had made up and sent home. Patsy's idea had been to send home a detention slip that the student and a parent or guardian had to sign before the detention. Patsy had thought it would open up communication between herself and the parents, and the parents would know more of what was going on and how their children were being disciplined.

Larry and Wendy questioned whether Patsy could make up such a form as the detention slip and start instituting detentions without first checking with the local school board. The tone of the conversation was pleasant. Larry and Wendy said they thought the detention slips were a good tool to keep parents informed but did not think a student teacher had the authority to start enforcing such a policy. Patsy had discussed detentions with the principal before implementing them, and Tim had said it was her choice. Patsy had never thought about approaching the school board with a matter this minor.

Patsy discussed the meeting with Larry and Wendy with the principal and asked again about the detention slips. The principal said they did not need school board approval to institute detentions, and if she felt detentions were valuable, she could do so.

Patsy was also concerned about the friction that had already developed between her and Wendy, who was a teaching aide in the primary grades. Patsy respected Wendy as did the other teachers. But Patsy noticed that if she ever disciplined Wendy's daughter, Shirley, Wendy was particularly unfriendly. Patsy was surprised because she knew Wendy had almost completed her teaching credential and should appreciate the importance of discipline in teaching. Patsy had tried to encourage Wendy to finish her credential and had thought they would get along well.

The principal explained that Wendy was jealous of Patsy. Wendy might have been the first student teacher at Shumayuk, not Patsy, except that her husband had not allowed her to finish her education. Wendy was no longer taking classes. Every time Patsy tried to encourage Wendy to finish school, said the principal, she was pouring salt into Wendy's wounds.

The Lock-Out

Tim had told Patsy to lock the door to her cubicle right from the start, but Patsy had not seen any need to. Her few valuable items were in a locker in the hallway and she did not feel threatened.

After the problems with Byron and Lorraine, however, Patsy decided to lock her door. She felt she was losing her privacy. One morning, three different people walked in on Patty when she was in the bathroom taking a shower or in her cubicle dressing.

In April, Patsy's university supervisor was observing her, and Patsy went down to the kitchen to see if she could get her supervisor some juice. She left her book bag and books on the cot with the room key in full view on the small desk. When she returned a few minutes later the door was shut and locked. Patsy thought that was odd—surely she would have remembered locking the door since it usually stuck and it took a couple of tries to lock it.

Patsy remembered that once before she had gotten locked out and had gone to Larry the custodian for a spare key. Patsy approached him for the spare key, apologizing for somehow getting locked out. But Larry said he had no spare key to that door.

The principal could not find a spare key either. They tried to pry open the window from the outside but that didn't work. Rather than break the window to get inside, Tim decided he would have the custodian saw off the door handle to the room.

"Poor thing, now we have to saw off the lock, and you won't be able to lock your room anymore," Larry said.

Patsy was shocked to realize that Larry had been working just outside her room when she left, and his tone of voice was an admission that he had locked her out of her room.

When she told Tim what had happened, Tim said he wasn't surprised and to try not to let it get to her. Her university supervisor suggested she pleasantly ask Larry why he did it. Tim said that would do no good, he would just deny it, and then Patsy would have the additional problem of having made an accusation. Patsy knew the custodian was baiting her and was glad to see that her university supervisor could witness her situation first hand.

As soon as the doorknob was sawed off, Larry sat down on the cot and said, "Well, looks like you can't lock your door anymore, doesn't it? That's too bad—now what will you do? Looks like you'll just have to trust us now, doesn't it?"

Patsy left the room.

Later that morning Tim instructed Larry to remove the doorknob from the junior-high classroom and put it on the door to Patsy's cubicle. Tim kept the extra key himself.

Talking to an Elder

Did the entire village hate her and want her to leave? Had she tried to make too many changes in the classroom? The junior high did not seem to have problems with her and her teaching. So why did the high-school students?

Patsy decided to ask one of the village elders for his opinion. While fearful of making cultural mistakes, Patsy decided to ask him frankly if she was doing things that were insulting or culturally inappropriate that she didn't realize. Patsy knew the man from church, and several of his children were on the ski team that Patsy was helping to coach.

To her surprise, the elder told Patsy that the village as a whole thought she was doing a fine job, and that he personally would like to see her return to Shumayuk as a full-time teacher. He cited examples where some of his children had commented on what they had learned in her classes. His children liked her as a teacher and coach. The students she was having problems with, he said, were known to be troublemakers. Many parents, he added, did not teach their children to respect teachers or education, but it was not her personally.

Patsy and the elder spoke for some time. In the olden days, he said, the harshness of the physical conditions disciplined people. Childhood was an indulgent time, and children were considered precious indeed because many died before adulthood. As a child grew up, the elements would discipline them soon enough and life would be harsh. There was little need for discipline in those days.

His explanation regarding the detention slips was also revealing. To some parents, he said, if a child needs discipline at school, that is the teacher's responsibility, not the parents'. Sending home a detention slip was like pointing a finger at the parents.

The Easter Egg Hunt

On the Saturday night before Easter, Claire, one of the women Patsy met at church who had a husband on the school board, stopped by Patsy's room and asked for her help in hiding eggs for the village's Easter egg hunt. Patsy was happy to help, think-

ing this would be a positive community activity to join and assist, and great fun for the young children. Perhaps her participation in a pleasant community activity would help her relationship with the village and ease tensions.

Claire especially asked Patsy for help in hiding the "golden egg," wrapped in shiny gold foil and containing a note for $50. About 20 of the 200 eggs they would be hiding had notes for money rewards. Last year, Claire told Patsy, the golden egg hadn't been hidden well, and people found it much too quickly.

Patsy was not pleased when she realized she would have to get up at 3:30 a.m. to hide the eggs but decided to go ahead.

As Patsy, Claire, and Naomi, a friend of Claire's, worked to hide the eggs around every home with children, she was surprised to find a house with adults still up, gathered on the porch. She asked the young men if they wanted to help hide the eggs, but they refused. Following Claire's instructions, she hid the golden egg in a remote spot, near some spruce trees by the airstrip.

Next morning Patsy was awakened at 6 a.m. by children begging for hints as to where she had hidden the golden egg. She was dismayed to find that the majority of the eggs had been retrieved not by the children of the village but by the adults. The young men who had been up at 3:30 in the morning watching her hide the eggs had gathered them up, including the ones with money notes.

Patsy was disgusted to think that the adults would take these eggs from the children, especially on Easter. The children kept coming to her all day long, begging for clues to the golden egg. Some had been searching in vain since 6 a.m. Claire said she had children participating in the hunt so she did not want to know where the golden egg was hidden and did not want to talk to Patsy about giving hints. Naomi had left town to go fishing for the day and wanted nothing to do with the Easter egg hunt.

The other teachers seemed to think the situation was hilarious. That's the reason, they said, that they didn't get involved in village affairs.

If the golden egg weren't found by 8:00 p.m., the village council said, Patsy should retrieve it. At 8:00, Patsy started walking from the school building to the airstrip to get the egg. Along the way children joined her. When they asked her who would get the

money, she told them to ask Claire, as the decision was not hers to make.

Accompanied by her entourage, Patsy walked onto the airstrip. She was surprised to see about 20 people, mixed between adults and children, combing the airstrip road again and again. No one was looking off the road. Patsy went directly to where she remembered hiding the egg, praying it was where she thought it was. To her relief she could see the egg from the road. She quickly picked up the egg and the children started shouting that the egg hunt was over. People came over asking where the egg had been hidden.

Patsy started to explain when a cloud of smoke swept into the airstrip. It was Claire on her 4-wheeler, rushing toward Patsy as fast as she could and yelling, "Don't pull the egg! Don't pull the egg! The IRA Council decided you shouldn't take it until 9:00!"

Patsy just stood there, hand outstretched toward Claire, with the golden egg in her palm.

The crowd yelled their disapproval. Now, not only had she hidden the golden egg so people couldn't find it, she also disregarded the IRA Council's directions in retrieving it. Who did she think she was, anyway? The crowd was clamoring for the golden egg to be rehidden so someone could find it before 9 p.m.

Patsy made it back to her cubicle before the tears came. The past 24 hours seemed like a perfect set up to her. Instead of improving her relations with the village and doing something positive, she had succeeded in alienating more people and found herself much more likely to be condemned. How could this happen? she thought. Why can I try so hard just to fail so miserably? How could I have foreseen this? What could I have done to have prevented this whole thing?

Epilogue

Patsy decided to talk with the principal, Tim McNeil.

"I can give you four reasons why you are having these troubles with the high school," Tim explained. "First, you are female. Second, you are new. Third, you are temporary. And, fourth, you are young. Don't take it personally."

She had heard this advice before. Although the other teachers were nice to her, they did not seem to grasp how she felt.

When Patsy talked with Darren Sawyer, her cooperating teacher that weekend, he finally caught on to how desperate Patsy was feeling. When he told her not to let it get to her or make her think about leaving teaching, Patsy exclaimed "THINK about leaving teaching?!" She said she had wanted to leave Shumayuk weeks ago and would have packed her bags in an instant. The gravity of the situation dawned on him.

After talking for hours with Patsy, Darren decided to speak with every one of the high-school students on an individual basis. He would look over their grades and emphasize to them that Patsy was indeed a real teacher, that her grades counted, and that they should begin to treat her as a teacher.

The students' immediate response stunned Patsy. Their behavior was exemplary, and most were trying academically.

Evidently most of the students were shocked to discover that after getting four weeks of *F*'s, these grades counted. Patsy wondered if the concept of student teacher had never been explained to them. She began to understand their view that school with Patsy was just "play school."

All along Patsy had been telling them that she had the same authority as their regular teachers, but she had no authority to tell them she had authority. Patsy was thankful that Darren had spoken with them. But why did it have to get to this point before anything was done?

Questions to Consider

1. Patsy ends her story asking, "How could this happen? Why can I try so hard just to fail so miserably? How could I have foreseen this? What could I have done to have prevented this whole thing?" How would you answer Patsy? Do you see anything that she could have done right from the start to have prevented this situation?

2. Darren Sawyer attributes her problems to being new, female, young, and temporary. Would you go along with this explanation?

3. How would you describe Patsy's approach to authority and ways of talking with adolescents? Could her style be part of the problem?

4. Consider Patsy's story from the viewpoint of the school administration. If you were a principal in Shumayuk, could you have anticipated the problem and headed it off? If so, how?

5. Teachers often enter communities where gender roles and appropriate expressions of authority are different from those of the teacher's cultural community. Considering Patsy's experience, what suggestions do you have for negotiating this difficult terrain?

6. What are the bases of a teacher's authority and especially a student teacher's authority? Could you suggest different ways of handling such problems as the students' rebellion in the ice soccer game or the 2-Live Crew issue?

The Teacher Who Knew Too Much

Abstract

In this case a teacher strongly identifies with a female student she has in her chemistry and physics classes. As she gets to know the student, she finds that the student's life parallels her own: an alcoholic father, too much family responsibility, not enough time for her own activities. The teacher has high standards and strict deadlines. The young woman cannot complete her spring project by its due date because of too many after-school family duties. The teacher debates whether she should allow the student to turn in a late project—something she has never permitted before—because she understands on a personal level what this young woman's life is like.

The gender issues that arise from this case include: How flexible should a teacher be with established classroom policy in order to encourage a young woman's interest in science? How involved should a teacher become in the personal lives of her students? Does the science teacher's gender and non-competitive classroom environment positively affect the attitudes of her female students toward science?

Katie

Katie was in my chemistry class during her sophomore year. She sat in the back of the room and didn't participate in class discussions very often. The only interaction I saw between her and her peers was with a girl who sat next to her and who later became her best friend. Academically, Katie was an *A* student earning a *D*. She had problems with any class that required outside work and constant attendance, mentally or physically. I sensed she was a conscientious person, but I couldn't understand why she wasn't turning in her work or coming to class.

I found the answer a year later when Katie was in my physics class. Little by little she began to see that I was trying to create a safe place so students could trust each other and learn to work together. She saw that I cared, that I was interested not only in her academic performance but in her. Eventually, she began to tell me about her life.

Both her parents worked. Her dad was almost always drunk at night. After work, her mother sat in a chair all evening and watched TV. Katie told me that her sister and her sister's two-year-old son lived with them. Her sister worked and went out a lot, and her parents had given Katie the responsibility of taking care of her nephew as well as taking care of the household chores. She told me that these things needed to be done and that she alone was the one responsible for them. She believed this sincerely. Occasionally she seemed resentful that she couldn't go out with friends or join a school activity. As I learned more and more about Katie and her home life, I felt sad and angry. I suppose a little sadness and anger was for myself, having grown up in similar circumstances.

The Teacher

I am the second oldest in my family, as was Katie. I too had to take care of the household chores and my little brothers. My sister, like Katie's, went out drinking and partying and took none of the responsibility for the family. My father drank constantly, and my mother was either yelling or watching TV. I got good grades in school and found some esteem in that. Katie, however, didn't do well academically.

I grew up with a lack of caring and consistency in my life just as Katie had. I think I went into teaching so I could provide a safe

place, a class where teenagers could get excited about science, where they could be loved for who they were, no matter how badly they performed. I wanted to provide students with a consistent environment where they had certain responsibilities and knew the consequences of their actions.

My classes are known as being hard yet fun. For the most part, I teach upper-level science classes (chemistry and physics) to college-bound kids. I expect a lot from my students in terms of doing their own work and getting it in on time. I heavily penalize late work and in some cases will not accept it under any circumstances.

The School

Manning High School is considered the elite high school in town. It is relatively new, and in contrast to the other three high schools in the district, has carpeted floors, clean bathrooms, and unmarked halls. To visitors, Manning gives the appearance of being a well-rounded college preparatory school where students and faculty find spirit and pride in belonging. To an insider, however, it does not feel this way. After five years of teaching at Manning, I have never felt a cooperative spirit among staff or students.

I believe that the lack of cooperation is a result of the high percentage of Manning students who come from professional homes where parents have high standards for their children as well as for the Manning staff. The pressure from parents and administrators for teachers to perform above and beyond their colleagues creates an atmosphere of stress that no one acknowledges. This is the atmosphere in which I work and in which I met Katie.

The Project

In my physics classes, the students are required to do two major experimental projects, the first a group effort during fall semester and the second an individual project during spring semester. The projects in the spring are displayed in the library for three days so that faculty and students can look at and play with them. This arrangement makes it impossible for the projects to be turned in

late. I make no exceptions. I had devised a system by which the students had to give me a data update every two weeks for eight weeks before the project was due. This approach helped keep some students current, but a few students still chose to put their projects off. Katie was one of these people.

Two weeks before the projects were due, I talked with her again abut getting started. She had chosen the difficult task of setting up a holography lab at the university. Since my students had been using equipment and lab space there for four years, I knew that wouldn't be a problem. The problem was with the time it would take to set up the optics and find the correct laser exposure and developing times. Katie responded sheepishly that she had tried to go to the university lab two nights before. She had gone home from school first and was told by her mother that she had too much to do at home; it was more important for her to be at home, and who the hell cared about a stupid physics project anyway because it certainly wasn't going to get her anywhere in life. I asked her if she wanted to do something else, a project she could work on at school or at home. Her response was a soft-spoken but emphatic no.

Two days later, Katie approached me. I rarely saw her so excited. She had been to the university, she said, and had talked with Don Maler, a professor of physics, and some of his graduate students about setting up the optics lab to do holography. Since they had never set up the holography lab before, they were eager to have the opportunity to assist Katie. Katie was to be the one in charge of the project. She was scared but enthusiastic. She went to the university two more times that week to look at equipment and go through catalogues to find film and developer. I heard from Don that Katie was doing a great job; both he and the grad students were impressed with her knowledge, enthusiasm, and sense of what needed to be done. He felt she would make a good physicist.

The next week Katie told me that she had ordered the film and chemicals but that they wouldn't arrive until the day the projects were due to be displayed. I knew that even when the materials arrived there was no way Katie could get her project done before the end of the three-day display period in the library. This was agonizing news. Although Katie never specifically asked for an extension (she would never ask for special treatment), I felt that I had to make a decision. I had made a deadline. I had never

made an exception to a deadline. Should I make an exception now because I cared for this young woman and her success? I knew she could have started the project earlier. I also knew it was hard for her to get away from her family responsibilities and parents' attitudes. I could see a glimmer of self-esteem when she talked about her project. Did I have a right to squelch her feelings of worthiness for an arbitrary deadline that I had set?

But I also had an obligation to her and the rest of my students to stick by my rules and deliver the consistent system that I promised them. Would it be fair to the others to make an exception for Katie? Maybe one of them needed extra time just as much. It was a dilemma I wrestled with for many hours.

Epilogue

I allowed Katie to turn in her project late. In lieu of displaying it in the library, she was to give a presentation to the class. It was two weeks past the deadline before Katie finally completed all the project requirements. The presentation went well. The other students in the class saw a home-made hologram and learned about the process and concepts of laser photography.

As I look back, I don't know how my other students felt about my decision. I never asked. I know that Katie felt good about completing it and about gaining the respect of Don Maler and the graduate students, but I don't know how she felt about my extending the deadline for her. I wonder if she felt it was fair. As for me, I still don't know what decision would have been more beneficial to her in the long run. In my life, people have made exceptions for me. The funny thing is that the ones who didn't are the ones I remember and respect the most.

Questions to Consider

1. Do you see this teacher as having gone too far in her efforts to encourage a bright young woman in science, or as not having gone far enough?

2. Katie's performance in this physics class is especially impressive in view of her background. Many bright science students do projects with help from their parents, often parents who work in scientific fields themselves. Katie has achieved on her own. What else might a teacher do to encourage her?

3. Consider the teacher's poignant observation at the end of the case, that "people have made exceptions for me. The funny thing is that the ones who didn't are the ones I remember and respect the most." How do you interpret this observation and what are the implications?

4. Was the teacher's decision to accept the project late fair to the other students in the class? Possibly other students had problems as serious as Katie's but never brought them to the teacher's attention. Should she have offered the same opportunity to other students?

5. Consider the teacher's general policy of not allowing late projects under any circumstances. It is easy to say that the teacher should be more flexible, but as a practical matter, such flexibility often results in projects that are turned in late and done in a haphazard manner. Having a firm deadline and displaying the projects to the entire school sends important messages. Moreover, this teacher has 119 students. If students turn in projects at many different times, she will find it extremely difficult to keep track of them and grade them fairly.

   On balance, do you believe the teacher's policy is the right one or do you think the policy should be changed to take into account students like Katie? If you argue that it should be changed, what policy would you establish in its place?

Mrs. Johnson Hates Me

Abstract

Parental pressure encourages an elementary enrichment teacher with a strong math background to develop an accelerated math class for the school's fifth- and sixth-grade gifted math students. The female teacher carefully follows the guidelines established by her colleagues and principal for choosing the students and contacting parents, but her efforts are derailed by school politics, misunderstandings, and personal rivalries. The case follows the teacher as she attempts to place Nate, a math prodigy, at the proper math level, and how this attempt eventually involves teachers and counselors at all school levels in an increasingly complex dilemma.

The gender issues in this case stem from the elementary enrichment teacher's strong math background and discrimination from other teachers, both elementary and secondary, whom she felt were threatened by her strong content background, math ability, the math awards she had earned as an enrichment teacher rather than as a math teacher, and her persistence in trying to keep her gifted students out of the district's lock-step math system.

Nate's Sixth-Grade Year

Nina Martin looked at the sobbing sixth grader standing next to her desk.

"Mrs. Johnson sent you to the principal?"

"She said I was wrong when I told her she had a mistake on the board. And when I tried to explain it to her, she got mad and sent me to the office."

Nate wiped his face with his sleeve. "Mrs. Johnson hates me."

Nina, the enrichment teacher at Wood Lake Elementary School, knew that Nate had been getting poor marks all semester in his regular math class for what seemed to her to be minor things: forgetting to put a period after *ml* and *gm*, as Joyce Johnson insisted; solving simple arithmetic in his head; skipping problems he could easily do; and having sloppy writing. Joyce criticized Nate unnecessarily, Nina thought, for asking inquisitive questions and challenging the teacher's answers. But Nate was one of the most brilliant math students Nina had seen in her nine years as an enrichment teacher. In her math enrichment class last year, he was an *A* student who easily grasped algebraic and geometric concepts.

Nate was in the regular sixth-grade math program this year. He was bored with the work and the slow pace of the class. "Mrs. Johnson makes a lot of mistakes," he had told Nina. "She doesn't explain things very well. All we do are dumb worksheets, and then she gives us the answers from the back of the teacher's book."

Nina was tutoring Nate secretly, at his father's request. The three sixth-grade teachers at her school, led by Joyce, had convinced the principal to eliminate Nina's proposed advanced math class this year because it "would take the 'bright lights' out of the regular math classes." From the enrichment class, Nina knew that Nate thrived on challenge and extra attention. The advanced math class would have been perfect for Nate and for other students with high math ability.

Nina looked at the disheveled, rumpled boy. She had counseled him in the past to toe the line with Mrs. Johnson, not to challenge what she said, and to do the work she asked. Now it appeared that Nate was bearing the brunt of the conflict that had occurred last year between Nina and the other teachers at her school. Maybe her advice to Nate to cool it had been wrong.

Joyce would always find fault with Nate, no matter how hard he tried. Perhaps Nate should be moved to another classroom . . . but whose? The two other sixth-grade teachers were no better in math than Joyce. The principal backed his regular classroom teachers and the status quo, so there was no point in taking the problem to him.

Nina had to tell Nate something . . . but what?

What Nina Tried To Do

Nina Martin had been Wood Lake's gifted and talented program teacher for the past 6 years, ever since the school opened. She had established a reputation as a highly creative, bright, student-centered, and energetic teacher, well suited to the emotional and academic needs of the gifted kids who qualified for her program. Nina had a math specialist credential from Michigan State University and a master's degree in math education from Harvard. In 1989 she had won the Presidential Award for Excellence in Math Teaching. Her original curriculum materials in writing, math, and social studies had gained recognition at the local and state levels.

Nina's enrichment classes were structured to supplement the regular classroom curriculum. Students who had composite scores at the 95th percentile and above on both achievement and aptitude tests were eligible to enter the program. Students generally worked on projects within their own areas of interest. In specific content areas, Nina would broaden the child's knowledge by giving the student more diverse, creative work at the same grade level rather than accelerating the student to the next grade's material. This class format enabled her to challenge the students without stepping on other teachers' toes.

The Dilemma

Last spring, Nate's father, Evan Parker, had come to see Nina. Mr. Parker was moving his family across town to a larger house in the Wood Lake area. His son was in an accelerated math class through the enrichment program at his current school, and Mr. Parker wanted to know if Nina would provide the same acceleration opportunities for Nate that he had been getting since he was

a first grader in next year's math class. Nina thought accelerating some students in math rather than giving them broad enrichment was a good idea and something she could easily put into practice within her program. For the past few years, she had been bothered by the remarks her high math students had made about their regular math classes—how boring they were. She knew that in at least one instance, the teacher was excusing one of her high math students from the class so he could grade his classmates' math homework. She promised Mr. Parker to get back with him once she had checked things out with her principal.

Nina's principal, Jack, told her the accelerated class was fine, but that she should come up with a plan that she could present to the other teachers during the next week's faculty meeting. Nina spent most of the week thinking about how she could schedule all the gifted and talented students and still have one block of time free for an accelerated math class of fifth and sixth graders. She decided to open the class to any student who might benefit from it. She would have to ask the teachers to coordinate their math teaching times, so that all the qualified students could be "pulled out" together.

At the faculty meeting the following week, the teachers reacted favorably to Nina's plan. Nina suggested that the teachers themselves choose the students they felt would benefit from the accelerated class, as Jack had suggested. Nina offered several criteria that would help the teachers in their selection of qualified students: scores in the top fifth percentile on standardized math tests, consistent *A* work in math, and students who seemed bored or unchallenged. The teachers agreed to look for these characteristics and to schedule their next year's teaching blocks to coordinate with Nina's class.

By the next week, 13 students had been identified as having the potential to benefit from Nina's accelerated class. The students' math scores ranged from the 60th to the 99th percentile. The teacher descriptions of the students' characteristics ran the gamut: hard worker, brilliant, involved in lots of extra-curricular activities, lazy, spoiled, introverted, arrogant, space case, manipulator, forgetful, responsible, careless, doesn't listen, artistic, argumentative, "BSer." About half of the class would be composed of Nina's enrichment students; the other half were identified as "having potential." The next year's accelerated math class was shaping up. Nina realized it would take a lot of effort on her part to bring

these diverse students together and to challenge all of them, but she was excited at the opportunity she would have to use the creative teaching strategies, manipulatives, and higher-level thinking activities in a regular accelerated math class.

Confrontation

Two weeks after the faculty meeting, Joyce Johnson came into Nina's room. Nina was grading papers at her desk.

"I've thought about your math class next year. I don't think it's going to work. June and I have changed our minds about having those students pulled from our math classes next year."

"Why?"

"Those students are our 'bright lights.' If they leave, the whole class is pulled down. They're the only ones who know the answers, or ask questions. If I didn't have someone like George in my class, I'd have to stand there all day before someone gave me the right answer. I'd never get through the material quickly enough."

"But do you think it's fair for the good math students to have to slow down for the poorer ones? George is far beyond what he's learning now. He's bored with the regular class. Don't you think he should work at his own level?"

"He can work at his level through your enrichment class, and won't have to miss his regular math period. I don't want those kids pulled out of my math class. The other students would suffer for it."

When Joyce left, Nina pondered her options. Mr. Parker and the other parents had already been told that the class was available to their children. It seemed too early to involve the parents or the principal in what might be a bad day on Joyce's part. Nina decided to check with June and Ralph, the other sixth-grade teachers in the school. June and Ralph seemed much less enthusiastic now about Nina's accelerated class than they had been at the staff meeting. Both echoed Joyce's concern about their classes falling behind if the bright lights were taken out. Although June and Ralph were excellent language arts teachers, neither one liked teaching math and relied heavily on traditional lectures, seat

work, and drills. All three sixth-grade teachers were balking at the new class, even though, Nina felt, their bright students were the most likely to benefit from it.

Nina stopped in the office to talk to the principal before she left school that day.

"I'll do whatever the sixth-grade teachers want to do," he said. "If they don't want an accelerated math program, we won't do it."

Politics

At the grocery store that evening, Nina ran into Mr. Parker.

"I saw Mary Seiglund the other day," he said. "I told her about the new math class you would be starting. Her daughter, Karin, has been placed in Joyce's class next year and Mary isn't too pleased about it. Her daughter's pretty good in math, her mother says, so I suggested she talk to the principal about getting into your class." Nina realized that this girl was not one of the students the teachers had selected. Mrs. Seiglund was, however, one of the main parent volunteers in the building and very active in the local and state PTA.

The next morning, Nina talked to the counselor to see who had been added to her next year's math class.

"We added Karin Seiglund to the list," she said. "Mrs. Seiglund asked us to do it. The principal said OK." She closed the door to her office. "That afternoon Joyce came down here, hot as could be. She really lit into Jack for approving another kid being taken out of her class next year without her permission. She said she thought the teachers had the final say on which kids were pulled for your new math class. Jack finally said that whatever the sixth-grade teachers wanted was what he wanted. When Joyce left the office, she was a little cooler. But it wouldn't surprise me if she convinced Ralph and June not to agree to this class next year. I hear from other teachers that it might not work out."

Nina was troubled the rest of the day. It was difficult to keep her mind on her teaching. In the teacher's lounge at lunch, a friend confided that she had heard that Joyce thought Nina was encouraging parents to call the principal in order to get their children out of her math block next year. Also, Nina remembered the

caustic comments Joyce had made when Nina had vehemently complained about a particular substitute teacher that the principal had insisted on calling first if there happened to be a teacher who needed a substitute. The sub had been the second finalist for a job at the school this past year, and rumor had it that she had been promised a first call each day as a consolation. This sub had no experience in math, and Nina hated to be forced to use her. When Nina returned to school after an absence, the students were always a day or two behind. Joyce had said something about letting the kids have an easy day with the sub once in awhile; they were "too brainy" already. Nina knew Joyce thought the enrichment class was elitist. She wondered if Joyce knew the sub outside school.

That afternoon the principal came to Nina's door. "We're going to have to cancel the math class next year, Nina. A parent of one of your accelerated students called earlier. She said that a boy her son knew from another state was coming to live with them and wanted the new boy to be with her son in your math class. I heard the sixth-grade teachers have changed their minds about having an accelerated math class next year, so I told her the class was being dropped. Sorry, but I have to keep the other teachers in mind, too."

Nina thought of the 13 students she had on her original list for the accelerated math class. She had called parents, looked over files, and had made a point of greeting them in the halls and talking to them on the playground. She thought what a waste of potential it was to keep these kids in the regular math class, and how much her students had enjoyed the math sessions she ran in enrichment classes.

She looked at Jack and wondered what she could do to help these kids.

Compromise

"What about running an after-school math class? I'd be willing to stay after school with the kids who could come, and that way the students wouldn't have to miss their regular math classes."

Jack thought for a moment. "Well, if you're willing to do it, I don't see how that could interfere with the other teachers. I'll let you know."

In a few days, Jack told Nina that her after-school class would be all right. He asked her to call the parents to let them know the in-school accelerated math program had been eliminated and that the after-school option was offered in its place. The school received many calls from irate parents, but Jack refused to change his policy. The parents wanted to schedule a meeting for all concerned parents and involved teachers. The enrichment teacher from the junior high school called Nina to ask why Nina was trying to mess up her junior-high enrichment program.

"If you accelerate these kids, I'll have to fit them into advanced classes here. With our schedule-driven classes, that's impossible. After a year, they'd have to be bused back and forth from their regular math classes at the junior high to the high-school math classes and back again. Our secondary schools are on different rotating schedules. It would be a nightmare to coordinate each student's schedule. And I don't have the time or the inclination to teach different levels of high-school math to each group of kids as they come over . . . that's not my field."

Everyone attended the meeting—the high-school math teachers and counselor, the junior-high enrichment teacher, the elementary school parents who had asked for the meeting, and Jack, Joyce, Ralph, and Nina. The high-school math teachers said that accelerated students had been allowed into the high-school math programs in the past, and although most of them were extremely good at conceptual understanding, they lacked the basic arithmetic skills, organization skills, and emotional maturity required for high-school classes. Many of them had not done well, and their lack of basic skills combined with their immaturity took too much of the teacher's time. The counselor said these students would eventually "get lost in the system." The math students should stay with their peers through the junior-high level where the academic and personal support structure was better. By the end of the meeting, the principal's decision stood. The 13 students would remain in the regular math classes, but could attend an after-school accelerated class if the parents desired.

Aftermath

In the weeks after the meeting, Nina noticed a change in the sixth-grade teachers' attitudes toward her regular enrichment classes. Ralph's students began staying in the regular classroom instead of coming to her room during the enrichment time. "He gives pop quizzes when we're gone," one student said. "We can't make them up and they count on our grade." June was outwardly supportive but still used her bright lights to grade papers and make copies. She occasionally asked Nina to help with the math material. Joyce never asked for Nina's help.

Nate was placed in Joyce's class the next year. Mr. Parker asked Nina to tutor Nate in advanced math outside school hours. Mr. Parker insisted on paying Nina for her time. Both of them agreed to keep the arrangement secret because of the ethical considerations, the professional ramifications if the other teachers found out, and protection of Nate from harassment. Already Nate had begun to complain that Mrs. Johnson hated him and picked on him in class. Nina knew Nate was an outspoken young man who needed proof before he would believe anything a teacher said. Nina enjoyed the intellectual challenge Nate provided. He needed to be in an environment that stimulated him, not held him back.

And now, five weeks into the new school year, Nate was standing in front of her and crying.

Epilogue

Nina told Nate to stay quiet in Mrs. Johnson's class until she could work something out. By working closely with Mr. Parker and the counselor, Nina was able to get Nate switched into Ralph's class. It wasn't the best placement for Nate's math talents, but at least Ralph wouldn't destroy Nate's self-esteem. Nina continued to tutor Nate privately through the rest of the year.

As Nina expected, most of the gifted math students could not attend her class after school. Many of these youngsters were also involved with music lessons, after school sports, or had to take the bus home right after school. The few students who could attend did so sporadically. Eventually Nina dropped the program.

At the beginning of the next school year, when Nate entered junior high, Nina discovered that all her math students had been placed in the regular seventh-grade math classes. She called the counselor to tell them that most of these students were beyond that level; they should be tested and placed appropriately. She got no response. Mr. Parker continued to be an outspoken advocate for acceleration, but in the end nothing was done.

Nina heard that the high-school teachers felt she had "stirred things up" and had tried to "screw up the algebra program" at the high-school level. She wondered if her national award had anything to do with the resentment she felt from the secondary math teachers, many of whom competed for the same award. Nina suspected the elementary teachers also resented her success, especially because she was a woman with strong mathematical skills.

Nina's enrichment class has become a de facto accelerated math class for students who choose to do the work. Nina doesn't want trouble; she calls the class enrichment.

Questions to Consider

1. In this case, the teacher was not able to arrange a class for students with math potential, despite her careful preparation and consensus building with colleagues. What went wrong? Could she have turned the situation around?

2. The teacher suspected that her strong math background and the recognition she received for her innovative, award-winning curriculum may have created feelings of jealousy among the teachers in her building and the other math teachers in the district.

   If you were in the teacher's position, what would you have done to address this problem? How could the school principal and school district administration have taken advantage of this teacher's outstanding abilities without fostering jealousy or resentment on the part of her colleagues? Could the resentment be due to the teacher's gender?

3. The teacher's enrichment activities enabled her elementary students to accelerate, but the placement of these students at the junior-high level became more problematic in terms of their schedules and for the teachers who would have to accommodate them. How could schools be structured to meet the needs of students especially talented in mathematics?

4. Look at this case from the principal's perspective. What were his goals in dealing with the math teachers, the other teachers in the building, his administrator colleagues in other buildings, and the parents? What else could he have done?

Part II

Puzzles Young Women Pose for Teachers

Jane: The Reluctant Mathlete

Abstract

A female middle-school math teacher who also coaches the school's math team gradually realizes that within a matter of months, Jane, one of her top female team members has changed interests from math to males, clothes, and parties. The teacher prepares the four team members for the district and state competitions, wondering at various moments if she should permit Jane to drop off the team, as she wants. To win the state competition would mean a chance at a college scholarship for Sean, another student living at the poverty level.

This case highlights the following gender issues: To what degree should a teacher support and nurture an under-represented individual, a female, in the field of math at the expense of other students? How should math be taught to middle-school students, particularly girls, who may lose interest in the subject during puberty, fall behind boys in math courses completed by the end of high school, and give up opportunities for further advancement and future careers in math and science?

From Mathematics to Males

"No, you can't miss the state math championships, not for a stupid party!"

That's what I wanted to say to Jane when she asked me, the coach, if she could drop off the math team—but I didn't. It's true she had been frustrating me with her boy-crazy behavior in class for the past few months, but I was so pleased that her team had won the district competition two weeks before and made state. She and her three teammates would compete in Juneau against other district winners.

Imagine my shock when Jane stopped at my desk after class and announced she wasn't going to Juneau because she didn't want to miss her girlfriend's party that weekend. I felt Jane was making a bad choice—throwing away a chance to use her exceptional math talents.

I gave Jane my usual "you can do it" pep talk, even though I was fed up with her recent behavior: her boy craziness, poor attitude, unwillingness to work closely with her team, and disappearances at critical times during the district competition. I thought how easy it would be to coach the team without Jane, and how motivated John, the first alternate, was. I also thought about Sean, the only boy on the team. Sean, Jane, Kristy, and Deidre worked very well together. Each one had strengths that had contributed to the success of the team. Introducing a new student at this point would have disrupted that cohesiveness and jeopardized Sean's chances at winning a college scholarship, one of the prizes offered for winning at the state competition.

No one in Sean's family had gone beyond high school. Without financial help, he would never get to college. I felt committed to doing the right thing for both Sean and Jane. I wanted Sean to have the best chance at that scholarship, but I wanted to develop Jane's mathematical abilities and help her get the recognition and awards that she deserved. Jane had real potential and showed women could be brilliant at math. By the end of my pep talk, Jane looked unhappy. I was confused and didn't know what to do: Should I encourage Jane to stay on the team or let her quit?

Jane's Background

Jane was in seventh grade at Fairview Junior High, a medium-sized suburban school of approximately 800 students. She was a year ahead of her peers mathematically and, as a result, placed in

my eighth-grade Algebra I class. The math competition was one way students could complete the requirements for a math project that each student had to do by the end of the year. Practice for the school's math competition lasted from October through December. The school level tests were held in January; the district tests were in February; and the state competition was in March. The four team members were chosen on the basis of scores on the school tests. These four students practiced together for the month prior to the district competition, and another month if they placed either first or second at the district level and went to state. Jane's algebra class had 27 students, 22 of whom elected to enter the math competition.

Jane's test scores in all academic areas were superb—99th percentile on both achievement and aptitude—and she was a straight-*A* student. Jane's performance, comments, attitudes, and quick wit in class showed that she was an extremely bright girl. Her parents (her mother was an engineer and her father was self-employed) were very supportive and permitted Jane to make many of her own decisions about her school courses.

In the beginning of the year, Jane was a model student. Her cheerfulness contributed to the overall positive atmosphere that existed in my class. Jane was eager to take risks, paid attention, and enjoyed learning. She was happy, outgoing and friendly.

I began to notice a change in Jane around December. I was halfway through the three months worth of practice sheets for the math competition, and about one month short of the school competition that determines which people form the team going to district. Jane was forgetting to do her assignments, seemed unconcerned about her grades, socialized more often, became more sophisticated in the way she dressed, daydreamed in class and talked constantly about boys, clothes, and parties. She had become friends with a different group of students in my class who were more popular and less academically oriented. There were many kids in that class who wanted to be on the math team. Because it was a voluntary activity, most of the students who chose to do the competition were diligent about getting their work in on time and getting the right answers. I mentioned to Jane and her group that they would have to get their work done in order to have a chance to go to the district competition, but they would shrug, do their work for a day or two, and soon begin missing assignments.

My Background

I had spent three years developing and refining the math competition materials so they were both fun and challenging. The first year I only had five students who wanted to participate. Now my students were begging to be allowed to compete, and asking me each fall when they would start the practice sheets. Younger sisters and brothers told me they were eager to get to Fairview so they could get into the program and have as much fun in math as their older siblings. I was especially pleased at the increase in the number of girls who entered the competition—one of my goals.

I have always felt that we needed to approach math teaching a little differently with girls. The boys seemed more competitive, enjoyed getting that one right answer, and were more self-assured. The girls preferred to work in groups and took wrong answers more personally. I tried to make the practice sheets fun, downplayed the fast response and right answer aspect, played a lot of math games, let groups rather than individuals find answers, and held more after school and lunch time parties for mathletes only. It seemed to work. Each year in the competition, all my teams were very strong. And the girls were just as good as the boys.

The Competition

In January, I gave the math students the three-day test that would determine who was to be on the official school team. Half the points would come from this test and half would come from the grades on the practice sheets. I could usually tell ahead of time who would be on the team, based upon the practice sheet grades and a guess at the exam scores.

This year's results surprised me. I couldn't believe the totals. I calculated twice to make sure I had it right.

Sean had made it, as expected from the consistently high marks he had made through the semester on both his practice papers and tests, but also three of the girls had placed, one of whom was Jane.

I didn't t' ink Deidre and Kristy had a chance because, although their practice papers were very good, they tended to score low on the tests. I thought they wouldn't be able to handle the time pressure. I thought Jane had blown her chance because of the lousy papers she had been handing in, but her test score was so extremely high that it brought her up. I thought she had made a tremendous final effort to join the team.

Jane's performance throughout the next month, practicing with her three teammates for the district test, was, at best, poor. This is the time we build team spirit and camaraderie, and Jane just wasn't committed. She participated just enough, though, that I kept my hopes up.

At the district competition my team won a place in the state competitions. Although Jane had done well on her section of the test, she became enamored of one of the boys on the other school teams, and spent a good share of her practice time walking around with him or calling friends from a nearby phone. The team didn't do as well as they had expected, but they still won the opportunity to go to Juneau. This was an exciting moment for all of them, especially for Sean and his parents. Sean came from a large, blue-collar family. His father, a carpenter, barely made enough to keep his family in the small trailer they rented near the school. They realized that Sean had a chance of winning the college scholarship, a prize at this meet. He had a good chance IF his overall scores were high, but that included the team round.

I started to drill the four students every day. I knew a good place at state would open doors to other programs, trips, and prizes, and I wanted those opportunities for my girls and for Sean. After one of our practice sessions, Jane came up to my desk and asked to leave the team. I flashed back to a recent talk I had with the school's wrestling coach on how I should handle my math team and Jane's superior ability but lackadaisical attitude. With no hesitation he had said, "Kick her off the team. Winning isn't as important as learning to work together. I don't care how good my wrestlers are, if they mess up, they're off." That made a lot of sense, but in my case the team wasn't just going for junior-high trophies and a little bit of glory. More was at stake. I decided to try to keep Jane on the team.

The State Competition

I gave Jane the weekend to think about continuing the competition. That night I called Jane's mother to let her know what was happening and hoped she would have the good sense to convince her daughter to stay on the team. I felt that her mother had to know if Jane were to decline the honor of representing the region at the state contest. I would want to know if my daughter won such an award and turned it down.

On Monday, Jane announced that she would continue to participate. I had some doubts as to how serious she was. I thought her mother had persuaded her to continue and that maybe Jane wasn't as serious about it as I hoped she would be, but when I asked Jane about that, she happily insisted she had made up her own mind. Knowing how often Jane was allowed to make these important school decisions by her family, I thought she had.

Jane joined the other students at a separate table near the side of the room. Their work was primarily self-directed group practice with periodic help from me. The other students in the class needed my help with their work. The math team consisted of very able, highly motivated students. They knew what they had to do and didn't need much direction.

I began noticing how quiet Jane had become. She sat back in her chair, rarely talked to the other teammates, and daydreamed. I encouraged her as much as I could, but nothing worked. She didn't seem to associate with the two other girls. They were more academic and not as popular as Jane socially, but they were friendly. Occasionally Jane would be drawn into an animated conversation with them.

By the time the team arrived in Juneau three weeks later, the girls were getting along again. That didn't last long. I began having trouble with Jane on the second day of the competition. She disappeared at critical times—generally to find a phone, or "to find a store." I warned her to stick around. She spent lots of free time with the boy she liked from the other team. The boy stayed with his team, so at least I could see her on the other side of the gym, talking to him.

I got very angry with her when the teams were called together by our hosts to do some practice drills that were designed to be fun.

All the teams were busy—you looked out over the gym and saw the students' heads bent over the papers—that is, until you got to our table. There was Jane, sitting apart from her teammates reading a *Seventeen* magazine. I was furious! "Get busy," I hissed, and took the magazine away. Later, she did very poorly in the competition. That afternoon while our team was shopping at the mall, she disappeared, and our team had to look for her. She was shopping at another store and said she had forgotten the time.

The last straw came at the awards banquet. Everyone sat with their own teams; Jane sat with the team the boy belonged to. I could have forced her to sit with us but decided to let her enjoy the evening. I was kicking myself for not letting her leave the competition when she wanted to a month before. The worst part was that Sean didn't have a chance at winning the scholarship because Jane's scores were low and pulled down the group total. I felt I had let everyone down. Jane's past performance should have told me that her behavior was too erratic for her to be part of the team. She enjoyed her social life too much. I had tried to support her because of my commitment to helping girls in math but instead prevented Sean, the alternate boy, and the other two girls from doing their best. Though many years have passed since that competition, I still think about the decision I made and how it affected so many other lives.

Questions to Consider

1. In the end, the teacher believes that she made a poor decision that adversely affected all of the students on the math team. Evaluate her belief. On what grounds do you agree or disagree with her? How would you have managed the math team and the problems with Jane?

2. Compared to her social activities, the math class was no longer holding Jane's attention. How directive and forceful should a teacher be in guiding an under-represented student when the student is making academic decisions that are not in his or her best interests in the long run?

The Disaster: Gender-Mixed Science Labs

Abstract

This case tells the story of a first-year female teacher who tries to use the heterogeneous grouping techniques she learned at the university in a seventh-grade science lab. The teacher notices that the students segregate themselves by gender and ability. Her attempt to change the class grouping structure two months after school has begun results in a chaotic lab.

The issues raised in this case concern the effects of established gender and ability patterns and whether a teacher can or should attempt to change them.

I thought I could apply all the theories on heterogeneous grouping and cooperative learning I had learned in my education classes last year to the laboratories I was running in my seventh-grade life science classes. I prepared. I re-read all the handouts we had gotten in the school in-service program on the value of mixing students by gender and ability. But the class turned into chaos. The unpopular kids got called names and bullied. Sexism persisted, despite the mixed groups.

I should have listened to Bob Jacobs in the class next door who has taught here for 15 years. He said to let the kids group themselves and ignore what I had been taught at school. After the disaster, I concluded he was right.

Background

I graduated last year from Westmont College with a bachelor's degree in biology and secondary science certification. After doing some substituting with the school district, I landed a permanent position at Northland Middle School. Its 800 students come from a population that is predominantly white and middle class. About 15% are minorities, mostly African-American and Alaska Native students.

The classes have students of mixed ability and backgrounds. About 5% of the students have been identified as gifted; 20% receive some kind of remedial help. Special education students are mainstreamed as much as possible. In a single class, I can have as many as five special education students, two gifted students, and one student for whom English is a second language. Many students have learning problems but do not qualify for special help.

I was lucky enough to get mostly life science classes to teach. I want my students to do experiments, not just to memorize facts. My classroom is always crowded with geology trays, displays of fur samples from Alaska mammals, tree trunks cut to display their concentric rings, and student drawings, essays, and compositions. I've got fish tanks, animal cages, and even a pet rat.

I philosophically believe that brighter students should help slower ones. I believe that boys and girls should be given equal opportunities to lead groups, take notes, and collect data. I want

everyone in a group to strive to help everyone else succeed. I assumed that students felt the same way. I expected students to respond positively when I applied the grouping and cooperative learning strategies that I had learned in my classes. I wasn't prepared for the disaster.

The Students in Their Natural Groups

My life science classes meet every day for 50 minutes. Labs or hands-on activities are part of most daily lessons. I let students select their own seats at the beginning of the year, arranging themselves around eight black-topped tables that seat up to four students each. I noticed that boys and girls sat in separate groups. Bright boys and bright girls formed the two strongest cliques. One boy, Danny, sat by himself in the back of the room.

I was too busy with all the other details of teaching to be too concerned about grouping when I first started. The students had formed groups naturally, and although these groups were obviously gender segregated and to a lesser degree ability segregated, I decided to leave this problem to a later date when I had more time to deal with it.

I did have to deal with the loners, those who didn't fit in with any group. One was a girl who is neglected at home. I thought she was slow until I discovered she didn't have glasses and couldn't see the board. She needed to be seated at the front of the room, but another group of girls occupied that table and didn't want her to join them. Another girl had learning disabilities. She achieved at an 11th-grade level if she was allowed to listen and write, but, if she had to read from the board, her achievement dropped down to 2nd-grade level. Her erratic performance was driving me crazy until I talked to other teachers and the counselor, who told me about her problem. Danny never found himself a group because of his personality quirks. I put him with one group, then another, but he couldn't get along with anyone. No one wanted to work with him. The kids complained that Danny leaned into their space, kicked them, or disrupted their work. He tattled on them and did odd things. Danny never turned in assignments. One day I sent him to the back of the room as a punishment and discovered he liked playing there with Ratso, the class rat. Eventually, I discovered that if I let him

stay at the back study carrel with Ratso, he happily did his work, and I didn't have to devote so much attention to what seemed to be the impossible task of fitting him into a group.

An Experiment with Natural Groups

After two months of teaching, I decided to do something about the inequities I had observed in the natural lab groups. I didn't like the same-sex groups because the boys and girls were not learning to work together cooperatively. This doesn't prepare them for later life. If the boys and girls did get put together occasionally due to class absences, the boys seemed to be valued in any group. The girls were not. The boys would accept any boy who did the work, but the girls would not work with any girl outside their own group of friends.

By accident, I found that slower boys did best when placed with the average girls, who seemed to give the boys more status in their group and the opportunity to show off. The slower or defiant girls worked best with the popular boys. I would group students this way to be efficient, but I hated it. I felt I was contributing to gender stereotypes—at the girls' expense.

My evaluation was coming up in a couple of weeks, and I wanted to have the students working in heterogeneous groups using cooperative learning. I decided I would apply to my classroom the strategies I had learned at the university the very next day.

I created new lab groups, mixed both by gender and ability. The boys and girls hated it from the start. They argued that I wasn't being fair and that they wanted to be with their friends. Some of the students swore, and a few said they would not do the "stupid" assignment.

The shy students and loners, who hadn't fit into any group, got attacked. "He's a jerk, no way!" Jason yelled when told he'd have work with Bill.

With a lot of effort, I managed to get the students seated together in mixed-ability groups of three students, with each group having at least one girl. I left Danny in the back of the room doing a laboratory on his own. I gave my usual instructions for the lab. Each group was to have an experimenter, a secretary, and a

director. They were to choose their roles, finish the lab by the end of the period, and turn in written observations.

Some groups spent almost the whole period arguing over who was going to be the secretary, the most unpopular task. In 20 of the 29 groups in all my classes, the girls ended up as the secretary. In one class, every secretary was a girl. Boys actually stood up and said, "This is a girl's job." "Men shouldn't be secretaries." "I won't do this."

The lab took two days to complete instead of one. By the second day several groups had fallen apart because several bright students stopped working. Two boys in one group started to fight across the lab table over a slur one had made about the other. The girls who didn't get along made sarcastic comments about their enemies in the group. The students mouthed off at me for trying to keep the labs going. I sent a few boys to the office for disrespect and sent a couple of others outside the door from time to time to cool off. The number of lunch detentions zoomed.

I spent a lot of time just trying to get the groups to turn in anything. The work was poor and sloppy. I abandoned my plans to use mixed grouping for the rest of the year. A parent called me after that first day and wanted to know why her son was put in a group with another boy who always bullies him, and why I didn't stop some of the name calling that went on. He had come home in tears and didn't want to go back to school the next day. The truth was that I didn't hear a lot that went on in the class. It was much too noisy and out of control. I only heard the most vocal students.

I don't know anyone else here in the school who uses mixed grouping. I think it would benefit the students, but I don't want to take a chance on this fiasco happening again. The aftermath was awful. It took weeks to get the class to trust me again. My class control was weak, and the students took advantage of it. The shyer kids didn't come around to talk to me as often, as if I had lost something in their eyes. The class bullies were bolder. Other teachers, who heard what had happened from the students, approached me with this "You poor new teacher, you'll learn" look. That made me angry. I didn't feel I should be blamed for trying something new in the class.

Reflections

I had done an experiment with my science class—a social experiment—and I tried to evaluate the results. In these mixed groups, the boy usually became the experimenter, even though the girls could have outvoted him. One very assertive girl insisted that everyone in her group take a turn at each role—the most democratic approach I saw. If the girls were extremely insistent, the boys would back down, responding to reasoning if the girls could persist in their arguments. Many groups appealed to me to solve their dilemmas. I told them to work out a system that seemed equitable to them. I didn't anticipate that equitable would mean sexist and putting down the slower kids.

But my experiment had ended up reinforcing negative stereotypes rather than sensitizing kids to them. Furthermore, the weaker students were treated worse than they had been before my grouping experiment.

I may try to do mixed grouping next year, starting from the beginning of the year. But I know that these students enter junior high with friends they have been together with since elementary school, and they know who they work best with. I wonder how reasonable it really is to put two or three strangers, or kids from different social groups, together and expect them to work well. Is it possible for me to counter years of stereotypes and established friendships in just one class period?

The girls want to be popular, so is it reasonable to expect them to become assertive and stand up for themselves when it might hurt their popularity? Can I expect the brighter kids to want to help the slower ones when it seems so boring to have to slow down? How do I teach students to accept differences when all they want is to be just like their friends? And I still don't know what to do with kids like Danny who never fit anywhere. I do know that I never want to face a day like that again.

Questions to Consider

1. What is this teacher's conception of cooperative grouping? Does her idea of how cooperative grouping works in the classroom differ from yours? How?

2. What else could the teacher do to encourage cooperative work in her classroom, assuming she abandons cooperative labs for the rest of the year? How should she set up her labs during the next year? Now that she knows how her students sort themselves out—by ability and gender—what kinds of problems can she anticipate? How should she address these problems?

3. The teacher next door recommended that she use the grouping patterns that he knew worked best from his long experience in the classroom. How does a teacher overcome colleague pressure to conform to the ways things have always been done?

4. Shannon's first efforts at cooperative grouping failed. How can she overcome her colleagues' "I told you so" attitudes? How can she explain and justify what she is doing to parents?

5. Does this teacher have a right to experiment with the interpersonal relationships of the students in her class, particularly when the experiment results in so much negativity and emotional pain for some of the less popular students? By the time students are in junior high, social groups are well established. What would the teacher gain by changing those patterns? Is her lost academic time worth the struggle?

6. Danny never fit into any group in the science lab. What should the teacher have done to help Danny fit into a group? Should children be required to join and work with groups if they don't want to? What is your justification for your decision?

The Square Parachute: Science in Gender-Mixed Groups

Abstract

Meg Eliot, a new science teacher, comes to Beluga Bay intent on teaching science through inquiry methods. She wants students to be able to frame scientific questions, observe and measure, and design experiments. But her carefully prepared activities and laboratories founder. The class careens out of control when she tries a laboratory dissection. Boys always assume leadership roles in group work, even when Meg specifically rotates the role of leader through the group. Meg's principal is unsympathetic to her aims either in science teaching or in developing the skills of young women. The case traces Meg's eventually successful efforts to teach inquiry skills, to develop the abilities of both boys and girls to work in mixed gender groups, and to teach young women to assume group leadership roles.

Issues in this case include developing young women's scientific and leadership abilities, problems of implementing cooperative learning, and conflict between teachers and administration on instructional philosophies, especially the philosophy of gender equity.

The Fish Lab is a Bust

"Eeeeeeeeeeee!" Marilyn screamed. She was one of the younger girls, pretty and very feminine. (She spent a lot of time working on that.)

Teddy was smart and smart-mouthed. He understood the fish lab, had completed the tasks, and when he was done he wanted to do something fun, like take a skein of fish eggs, sneak up on one of the girls, wave it in her face, and yell, "Yaaaaaaaaah!"

Predictably, Marilyn screamed and sent the fish eggs flying. Immediately all the girls were screeching and all the boys were laughing and grabbing fish guts.

The fish lab, thought Meg Eliot, the new science teacher in this Inupiat community, had been a bust. The kids had been loud and rowdy. The room was a mess.

In an effort to control her rising anger, Meg Eliot calmly asked the kids about the lesson. The students didn't have the foggiest idea what part of the fish was the stomach, liver, or brain, let alone what any of these parts did for the fish.

"If I had a brain, I would stick with my tightly structured activities," Meg thought. When the kids were in their seats talking about fish anatomy and fishing in Beluga Bay, things went all right. They could handle observing the fish in the classroom aquarium. But they had never dissected anything before. They had only watched her. The dissection lab was falling apart.

Meg had set up the dissection lab with clear objectives. Students would come to know the names and functions of the parts of the fish. They were also supposed to investigate the age of the fish through observing the scales. They were to weigh, measure, and determine the sex of the fish as well. Meg set up dissection trays and broke the students into groups.

First she demonstrated what she wanted the students to do, and what she wanted them to find out. "This is how you cut open the fish. Be careful to be gentle so that nothing gets cut that you don't want cut. Open the fish and look carefully at the internal organs. See how many you can identify, then carefully remove the ones on top so you can see what is underneath."

The students were clearly interested and delighted at the opportunity to do this dissection themselves. They all set to work diligently until Teddy's group got done first.

Meg reminded the kids that they had promised not to be rowdy. To her surprise, Teddy pleaded with her. "We were just having a little fun, Ms. Eliot," Ted said. Meg just looked at him. This fish lab was their second chance. Indeed, it was their umpteenth chance at doing active learning in science labs. The principal had warned her to keep things under control. He would have her hide.

Background

Meg loved teaching science. Since her first year of teaching, she had taken summer courses in science education and Alaskan science, especially if the courses were held outdoors. She had come to the conclusion that science could best be presented to students as something one does, rather than something one reads about. She had a strong bias toward showing students how to do science rather than telling them what scientists had learned over the centuries.

When Meg accepted the job of teaching a middle school class at Beluga Bay, she decided this was an opportunity to try out some new ideas about teaching science. She wanted to try to teach science in such a way that, at the end of the year, students could independently arrive at a question to be studied, state the question as a hypothesis, design and implement an experiment to test the hypothesis, collect and interpret data, draw conclusions, and apply the understanding gained. She felt it could be done, but had nagging doubts about whether it could be done in a year or if she could do it.

Beluga Bay was a small northern coastal village of about 150 Inupiat people. Her class consisted of 14 students in grades five through eight. She had been told at her interview that they were a difficult class, especially the older boys. Junior high school students, she realized, could indeed be difficult. She was also told that three of the students had "moderate to severe problems learning at school," whatever that meant.

When she arrived, the principal told her that the students were three to four years behind academically, and he expected her to make them work quietly and diligently. While he wanted them to achieve at grade level, he really didn't expect that to happen. Their former teacher, he said, was "burnt out" and had found

these students difficult to cope with. The former teacher spent his energies getting the students to behave and felt, according to the principal, that bringing them to grade level academically could not happen until they learned to behave in school and have respect for learning. The previous year the students had all been in the fifth-grade adopted text, regardless of grade level.

The principal also informed Meg that she would have girls' physical education and shop, and the male high school teacher would have the boys. The shop teacher, he explained, had felt that the boys needed a real shop class, while the girls really needed crafts more.

"The girls make all those knick knacks," he said, "but the boys really need to *know* this stuff."

Meg spoke to the high school teacher and they concurred that they didn't want to have boys' P.E. and girls' P.E. because the kids ranged from small fifth graders to adult-sized 20-year-old high school seniors. Instead, they felt it would be safer to have the P.E. by grade level—junior high P.E. and high school P.E. That way, the kids would be of similar size and strength, and the fifth graders wouldn't get run over.

"I understand what you are saying," responded the principal, "but we'll do it this way. This is what the shop teacher wants."

"Well, this sounds like a challenging year!" Meg thought, "but at least I can try to make the science good."

The First Semester

The first week of school was the honeymoon period. The students were docile and well behaved. Meg established a classroom routine, outlined the year, and got to know the students. Yes, indeed, there were 14 distinct personalities there, few of them weak. More than half of them were outspoken to the point of being disruptive, had a negative attitude towards school, and enjoyed trying to get the teacher's goat. One student, Clint, was described by the principal as very bright, but lazy and prone to throwing temper tantrums. Apparently, he regularly staged great outbursts. The principal said he would threaten the tantrums and then carry them out. Another student, Mark, was thought to have alcohol-related birth defects and was classified by the principal as

emotionally disturbed. Mark had difficulty concentrating. Another student, Joe, was a sixth grader who read at a second-grade level and was as large as a professional wrestler. Then there was Mike, who came from out of town and was picked on by the other students until he blew up. Several students took delight in making obscene remarks in Inupiaq as well as English. Throwing objects, spitting, and slugging each other were common practices. It truly was "The Class From Hell." The principal encouraged her to "run a tight ship." She tried to do that. She established strict behavioral guidelines with rewards and punishments.

In science, Meg tried to establish an atmosphere of questioning. She asked students about the local animals, plants, and weather. On weekends, she walked over the tundra, trying to get to know the area. She brought plants and small tundra critters into class to look at. She asked about the Inupiaq names of things. When students asked questions, she asked them how they could find out the answers. When she was able, she told them what she knew about the permafrost, the caribou, the willow, and the small water creatures.

Students started to bring things from their environment to class—lemmings, a wounded kittiwake. They began to show a strong interest in these things. Meg got an aquarium and planned a unit on fish and fisheries for later in the year.

Meg decided it was time to find out where these kids were in science. Had they done labs? No. She would try a lab that was straightforward, and would give her an idea of the skill levels of the kids: Could they devise ways of finding out? Did they know about controlling variables? Could they interpret data? Did they know the necessity of accurate measurements? Could they make these measurements?

The lab emphasized a fairly simple observation. Students were asked to make observations on a burning candle. All she wanted from it was to find out where the students were. She discussed observation. How does one observe? What are the senses? How does one use the senses? How do tools extend the senses? Students were asked to observe a candle mounted in clay before, during, and after it burned.

She discovered that students saw the less tightly controlled lab as a time to play, an opportunity to get out of their seats and have fun. They looked at the candles, described them as red or blue

striped, lit them, burned them until they were gone, and then launched into their favorite topic of late: farting.

"Eeeuuu! Mark farted!"

"I did not!"

"You did too!" (Gales of laughter)

"Well, at least I don't fart as much as Tina!" Mark snarled at his sister. (Gales of laughter)

Meg told them to settle down, that farting wasn't a topic for school. They did settle down, sort of. Meg tried to find out if they had made any observations at all. She discovered that the observations were very few and the measurements none. Meg was dismayed. Was this a result of assigning a lab that the students considered silly? Was it a result of poor directions? Or was it a result of the students' lack of experience with labs? She tried to probe to find out. The students said that they had never done any labs before. It never occurred to them to measure anything, even though she had talked with them about using tools to extend the senses.

Meg felt she would have to teach the basic process skills of scientific inquiry one at a time before they could design anything. They needed to learn how to observe, measure, classify, predict, infer, hypothesize, design experiments, and interpret data first.

She decided next time to try a controlled demonstration with the whole class. She would do a unit on air pressure and all the labs would be demonstrations, with one student at a time trying the experiments. This approach was not perfect. The experiments would not be as accessible to all students, but air pressure experiments could be straightforward with clear variables, results that were easy to see, and data that was easy to measure and interpret. She could model behavior, she hoped, that would foster inquiry and elicit questions that could be tested. The demonstrations went well, but the students were observers and not participants. When they sat in their rows, with their eyes front and no one talking, the lesson proceeded smoothly. But if they were allowed to do something themselves or work in groups, they went berserk.

Meg did acknowledge that some progress was being made in the students' abilities to work in mixed-gender groups. Meg chose

working groups on the basis of several criteria. The first was who would get along with whom without friction. She had discovered that the social relationships of the students were extremely important. At the beginning of the year, she could not mix boys and girls in groups. Some of the boys took over at the expense of the girls. The girls were always the recorders and never the leaders, even if she designated them to be leaders. Some of the students were socially so self-conscious that they simply opted out of participation when the groups were mixed. She had spoken to the kids about this and said that in the real world men and women had to work together, so she wanted them to learn how to do that and to practice it. The class had finally gotten to the point of being able to work in mixed-gender groups if she were very careful about which girls worked with which boys.

The second criterion had to do with the various strengths of the kids. Some were better leaders, some were better writers, some were sick of always being the better writers, and some had language difficulties and needed to be placed in roles that allowed them successful participation that contributed positively to the effort. Choice of groupings was an ongoing effort that changed every other week. Meg accepted it as a personal challenge to try to keep a finger on the collective pulse of the students and choose groups that worked. Sometimes she managed the task and other times she didn't.

She noticed, with a shred of hope, that more students asked questions. They asked "what if?" more often and they tried things at home. She also noticed that they became impatient with their peers if they were disruptive, but the disruptions didn't decrease.

By Christmas Meg was thoroughly dismayed. Never in her career had she felt so discouraged. She decided to take the break to sort it all out. She considered breaking her contract. She flew into town and found a place to housesit that was quiet, where she could think. Despite all evidence to the contrary, she still believed that she could provide a learning environment that would not only allow, but encourage kids to learn and think independently. But . . . (That was a loaded word!) The kids were out of control when given activities that allowed them to get out of their desks. They had been unable to have a class council, although she still wanted to try that. They were interested when she talked about or demonstrated scientific principles. She wanted to empower the kids, she wanted them to think for

themselves, but every time she undid the ball and chain, things fell apart.

Over the break, Meg made several decisions. She would back up and teach the basic process skills necessary to scientific inquiry. She would clearly and overtly state what she wanted students to learn during the rest of the year and relate that to the district curriculum. She would tell the students she wanted to have labs, but felt she couldn't because they got out of hand and the kids didn't learn anything. She would tell them that she wanted them to make decisions and think for themselves, but could not allow anyone to hurt anyone else or interfere with any other student's learning. She would tell them that she had to keep the classroom a place where ALL students could learn in comfort. She would ask them how they felt about that. She would offer them a choice: the existing system of extreme structure and control or a system where they could have more freedom, but they must respect the rights of others to learn.

When she returned, she discussed these matters with her students. Of course they wanted the freedom; of course they were willing to behave to get it.

One girl asked, "Last year, Frank used to give us gum and pop so we would be quiet and get our work done. Why don't you try that?"

Meg was appalled. She knew there was a school rule against gum and pop in the building. How could he give them gum and pop? Why would he set himself up like that? More importantly, why was he trying to buy learning?

She said she wouldn't do that, that she thought learning was important, that it was reward enough. The students argued with that, but only a little.

It was agreed that all would try. Meg was unsure about all of this, but she would try, too.

Then came the fish lab. The kids were out of control; they had learned nothing. It seemed all her Christmas plans were down the tubes.

Teddy looked at her, "It was only a joke, Ms. Eliot."

"Now what!" she thought.

Losing It and Gaining It

Meg looked at Teddy. He looked contrite. For reasons unknown to her, she began to laugh. It was so absurd! Now she was sure she had lost it completely.

"Teddy, it may have been only a joke," Meg said, "but what about learning? I'm here so you can learn. I already know this stuff. It's for you, not me. Yeah, I know, you've heard all that before and it sounds like a bunch of garbage to you. But it's true. If I'm not here for that, what am I here for?"

"The money. You're here for the money," someone shouted.

She'd heard that before. She looked right at the kid and said, "There is no amount of money that could pay me for this job. Your parents make more than I do and don't have nearly the grief. You know that. Wages here are very high. I would do better painting the community center."

There was a silence. She surveyed the class, all downcast eyes and what looked like remorse. She felt something very tender.

Sherry, one of the "good" kids, said, "We could try it again, Ms. Eliot. We'll get it this time. Promise."

"I don't know if I have enough fish. We'll see." She felt skeptical. Should she pounce on this moment of apparent contrition and risk another fiasco?

"Well, what the heck," she thought, "you never know."

She had enough fish, so the next day she tried the lab again. The cooperative learning book said to keep small groups together for a time before changing them. So she tried to create effective working groups. She put a natural leader in each group. She divided up the kids who had reading and writing problems into different groups. All groups were mixed gender except one. In that one, she put a boy who was overcome with bashfulness when he had to work with the girls. She asked one member of each group to keep track of how well everyone in the group listened; one member was in charge, one was the artist, and one was the researcher. She told them that they would remain in these groups for a while and that they would change jobs for each activity. She also reminded them that the purpose here was for them to get to know what the inside of a fish looked like and

what each part did, as well as to make some measurements of the fish.

Meg mentally crossed her fingers and handed out the fish. She wandered from group to group, talking to students. They were doing what she had asked them to do. They were even asking intelligent questions. Occasionally a student would look up something in the biology references or wash his hands so he could draw. There was a gentle murmur. At one point, one student picked up a skein of eggs and asked what it was and why all the fish didn't have it. A discussion ensued about male and female fish. One student shot a knowing glance at Marilyn and waved the eggs. Teddy told him to knock it off.

A question was asked: Are males bigger than females? Meg didn't know. The students had weighed the fish at the beginning. Meg made a chart that gave data on the fish—weight, sex, age, length. When the students were done, one asked if they could take the dismembered fish home. Meg gave them plastic bags and, with a knowing glare, told them not to take them out of the bags until they were off school grounds at the end of the day. She had learned from a previous event not to throw an enticing gross object into the school trash. It had a way of returning from the dead to be thrown about in the hallway.

The discussion of the chart of data went extremely well. All the students were attentive, asked intelligent questions, and offered ideas that showed thought. The discussion of size and gender couldn't be resolved due to the small sample of nine fish. She asked them how they could find out if females were smaller among herring of all ages. They understood sample size. They understood the need to control for both age and gender. They wondered if a different species would show gender differences. Then they discussed how they had listened to each other in their groups. They had worked well. They had enjoyed working well and learning something. They said it was interesting. All of the students participated in the discussion. ("This is too good to be true," Meg thought. "I wonder if we can actually get on to experimental design and controlling variables!")

Meg finished the day in a daze. She had told the students how pleasant it had been to work so well that day. They had agreed. She didn't want to get saccharine for fear of breaking the spell. But she felt like weeping; it was wonderful. They were wonderful.

In the days and weeks that followed, she did more group activities. Some Rubicon had been crossed and Meg didn't know what it was. The kids were great. Not perfect, but vastly improved.

Several physics labs and a few biology and chemistry labs went fairly well. Little by little she let up on the strict rules in the classroom. She let the students move their desks occasionally.

She let the students listen to their Walkmans when they were done with their work if they didn't disturb anyone. In turn, they were more inquisitive, more interested, more self-policing.

She asked each group member to change roles each time they started a new project: leaders would become artists/expediters, then reporters, then observers. That way everyone would practice each set of skills. At first, when she had shifted the jobs in the groups, there was some dissent. The students wanted the natural classroom leaders to be leaders. All these leaders were boys. Sometimes when the girls were leaders, they abdicated the job to a boy in the group. Meg made sure she expected the girls to be leader and report when it was their turn. She encouraged them to stand up and make reports. She required more oral presentations. She waited for the girls to talk when it was their turn. She waited past the uncomfortable point. She also made a point to praise them. Little by little the class changed. The girls began to insist on being leaders when it was their turn. Classroom talk was more often about classroom subjects. The subject of farting rarely came up anymore.

One day, in the middle of a social studies lesson about transportation, Teddy asked, "Which kind of parachute is better? A round one or those square ones?" Meg didn't have a clue.

She asked, "What do you mean by better?" Some discussion followed as to whether better meant faster, slower, more maneuverable, prettier, or cooler. A consensus was developed that better meant that the person using it fell to the ground slower. Someone mentioned that the difference in size might make a difference rather than the shape. Meg pulled out her by now well-worn question, "How could we find out?"

It was one of those magic days. The kids all were intensely involved in the discussion and what became the planning of the experiment to determine which shape was better. Meg hardly spoke at all. The kids just went on with their ideas. She could

almost stand back and watch. This is what she had wanted back in August and thought she would never see. These kids were defining a question, discussing the variables, setting up the experiment, discussing the design of the parachutes and the methods of recording data, making sure it was all fair and that everyone was involved in a positive way. They were even using the right vocabulary in an unselfconscious way:

"What is your hypothesis, Mike—that the shape isn't the difference, but only the area of the parachute?"

"We'll each have to take turns practicing timing the drop of the parachute so we will all do it the same way."

"But Tim is taller than Marcia, so we will have to measure the height of the drop so it will all be the same. Height can't be another variable; it won't be fair."

"We could go to the ledge of the gym and drop them from there, then we won't have to worry about wind messing up the fall."

"*I* get to drop the ledge. *You* can time."

Well, nothing is perfect. But they were working together as a group, fair and square, boys and girls, younger and older, enemies and friends, and they were planning a well-designed experiment.

Planning this experiment wasn't part of the curriculum. But that didn't matter to Meg. What was important to her was that the kids were working together to plan a well-designed experiment to solve a problem, and they were behaving like the best of adults.

They built and tested their parachutes. They practiced their timing. They discussed the ramifications. Two days later, they were ready for the test. Meg found a time when the gym was empty. The droppers had to go up through the storage room to get to the ledge. All the other students were at the bottom, timing, observing, and recording. The students held several trials to perfect their technique, then several drops that were recorded. It was getting close to lunch time and the tables had to be set up in the gym. They returned to the classroom and made up a chart of data. Mike had taken a tennis ball from the storage room on his way down from the ledge. Meg sent him to return it. The principal found him in the halls and started to sternly return him to

class. Mike showed his pass, returned the ball, and returned to class. The kids decided they needed more trials because their results weren't clear enough. Then they went to lunch, and the rest of the day went according to schedule.

Meg was delighted. "It isn't such a big deal," she said to herself, "but, damn it, they did it. All by themselves, they did it and they knew what they were doing! These kids who couldn't weigh a pencil or measure a string at the beginning of the year, can design and implement a real experiment!" She felt giddy all day.

After the students had left for the day, the principal came in to speak to her. "What were you doing in the gym today?" She went on excitedly about the experiment and how well the kids behaved. She said that they were going to repeat it tomorrow. The principal said no. No repeats. Don't go into the gym and use it for those purposes. He had caught Mike with a tennis ball. Students shouldn't be in the storage room.

"But . . . it went so well." She was astonished. "How about if I go upstairs with them and . . ." His "no" was final. He turned on his heel and left the room.

Meg was deflated and angry. She wanted badly to encourage their efforts and praise their achievements, but now she couldn't. If she openly defied the principal, he would make her life miserable and her students would suffer. If she told the kids that they couldn't continue the experiment and gave some lame excuse, they would feel cheated and angry and she would be lying. It would compromise all the progress she had made. She decided to be truthful. There are many ways to be truthful. She needn't do it so as to anger the principal. Yet she felt she could not be the one who took away their project, because she had worked so hard to help them get there. She didn't want to betray them.

The next day, she told the kids they would not be able to continue the experiment. The principal had told her that students were not allowed in the storage room. He had been firm about it. She turned to the table of data and discussed what they had learned. She praised them for their experimental method. She asked them if they liked this type of project and would like to do this again. They discussed other projects they might do. They were not happy about it, but they accepted it. She knew they were angry at the principal, but so be it. When she was asked why the principal had done this, she shrugged and said he hadn't

told her more than what she had said. When they said it wasn't fair, she said sometimes things aren't fair and she understood their disappointment. She said they could do other things just as fun, then she moved on.

Epilogue

For the rest of the year, Meg's class went well. The kids devised several more projects (Meg related the projects more closely to the curriculum). They came up with a recycling project for the whole village. They collected pop cans from the houses, flattened them and found an air carrier to ship them to Anchorage for sale. They did acid snow studies and discovered some toxic substances had been spilled. Meg found her classroom an exciting place to be. Her kids were motivated, interested, and learning faster than ever. They liked school, and in fact attendance in her class was the best in the school. They published a literary journal. They finally got the class council off the ground and running.

Clint didn't have one temper tantrum that year and actually took a hand at class government. Gradually over the year, he lessened his harassment of Mike. Mike learned to take time-outs instead of exploding in anger. The students functioned more as a group and Mike wasn't picked on as much. He became part of the group. Meg worked with Joe on his reading, and he gradually gained confidence and skill. At the end of the year he was reading beginning sixth-grade books: still a year behind, but that was better than four years behind. Mark continued to have difficulty concentrating. He was easily distracted by any noise, but he became more interested in learning the material. Meg tried giving him awards for good days. He said that he put them on his wall at home and was proud to get them. He acted out much less. He really tried to get along and learn, particularly in math. The class had become a team.

But the principal continued to disapprove of the activities. Students were out of the classroom. They were not always working at their desks. He did have to change the P.E. and shop classes to grade level, mixed-gender classes because the smaller boys were getting hurt and refusing to participate. The shop teacher refused to teach the girls welding, despite the girls' interest. Relations between Meg and the principal became more and more tense. She left the following year.

Questions to Consider

1. Meg Eliot encountered problems common when teachers first try organizing students into cooperative groups. At the same time, Meg was trying to transform the curriculum from a textbook-centered to an experiential, inquiry approach. Furthermore, she was a new teacher and hadn't yet established rapport with the students.

   Many new teachers, fired up with new approaches to science teaching, want to make radical changes in the science curriculum. What problems arise from the change from a structured curriculum to an inquiry approach? What cultural and gender issues do you see?

2. This case is essentially a success story. By the end of the year, most students are able to work effectively in mixed-gender groups and in an inquiry-based curriculum. They have learned how to make measurements, develop hypotheses, and test their scientific hunches. How did this transformation come about? Meg used a number of highly effective techniques. What exactly are these strategies?

3. Note that Meg talks about "crossing a Rubicon," a transition when the students began to support her approach. Can you identify anything Meg did that created this change? Consider her personal relationships with the students, as well as her instructional techniques

4. An important theme of this case is the principal who insists on a tight ship and has unenlightened views about the education of young women. This case could be read as a story of how much a teacher can accomplish even with a difficult principal. Do you agree with this interpretation, or do you see Meg in the role of passive female bowing to male authority?

Angie, Her Mother, and Mathematics Anxiety

Abstract

Angie, a third-grade student in the gifted and talented program, freezes in fear when she must deal with mathematics. Her mother and Angie have nightly battles over mathematics homework, which typically end with Angie having a temper tantrum and being banished to her room. Angie's mother threatens to pull her mathematically talented daughter out of the gifted and talented program, since the subject is causing her and the family so much stress. The gifted and talented teacher must figure out how to deal not only with the mathematics phobia but also with the problems at home.

Issues include mathematics anxiety among young women, relationships between teachers and parents, and the line between appropriate and inappropriate counseling roles for classroom teachers.

Introduction

Angie's mother charged into my elementary gifted and talented room after school one day. She was furious.

"Our entire evening was ruined last night because of the homework assignment you gave Angie. It was too hard for her. She was hysterical and in tears for hours. If that's the way you're going to teach, we don't want our daughter in gifted and talented math."

Dealing with Angie's angry mother had become a weekly ritual for me for the past four years. Although Angie had high ability in all subject areas, she hated math. She knew how to push the buttons in her dysfunctional family so that negative attention, particularly her mother's, was directed at either the math assignments Angie had to do or at me. Angie deliberately exaggerated the problems she was having in class and twisted the truth in order to upset her mother. I could remember vividly one instance when Angie had frozen with panic when I had introduced a new math concept and as a result did not get her in-class work done and had to take the assignment home. Although the other students had finished the few practice problems early, Angie told her parents that the class was not given enough time to complete the assignment—the reason I had overloaded them with math homework. Her mother's angry reaction was to call me at home to tell me that I was "destroying her daughter's motivation to do math" through my terrible teaching methods. None of my explanations seemed to matter; her mother always took Angie's side on any issue. I heard from Angie's father, a teacher at a nearby junior-high school, that the situation had gotten so bad at home that the minute the math book came out, Angie's mother was tense and ready to explode. She was tired of the nightly temper tantrums that accompanied Angie's math assignments, and I didn't blame her.

This was the perfect opportunity for me to solve our common problem by agreeing with Angie's mother to take Angie out of gifted and talented math and put her into the regular math program. I would never again have to deal with this hysterical woman and her manipulative daughter. The stress of having my math curriculum and teaching methods criticized almost every week was wearing me down. My family was sick of hearing my complaints about Angie and her mother and tired of bearing the brunt of the emotional tension that I brought home from school. My other students were shortchanged whenever I took Angie

aside to give her the massive amounts of individual help she needed. A large part of my job had always been counseling, but this time I was more involved in Angie's life than I wanted to be. As I faced Angie's mother, it took all my restraint to keep my voice from rising and letting the resentment spill out. I wanted to tell Angie's mother about the hundreds of hours "stolen" over the years from other students and from my own family to devote to helping Angie. I wanted to tell her that she, the parent, was responsible for establishing a positive learning environment for Angie at home. How could I help Angie at school if her mother didn't recognize how she and Angie co-dependently created the chaos that prevented Angie from overcoming her fear of math?

I could see the anger on Angie's mother's face. I decided to try to explain Angie's problem one more time in the most calm and rational manner I could pull together.

"Math is not easy for Angie, but her attitude is her worst problem. If she quits now, she'll never get over her fear of math, and she'll see that temper tantrums get her what she wants. What prevents her from doing her math in class is frustration and a negative attitude." Her mother was not listening.

After her mother stormed out of the room, I realized that I might not see Angie in math class the next day. Initially, I felt immense relief. All the pressure of trying to help her overcome her math phobia would be gone. Then I began to think about the other side of Angie that I knew and cared about. On the rare occasions that Angie had been in a good mood, she had done very well in math. Lack of ability was not her problem. If she dropped the gifted and talented math program for the regular class, she would forever think that she was not capable of doing the more advanced work, and worse, she would continue to use her manipulative strategies to get out of work that was too challenging for her. If I kept this little girl in my program, I would have to commit myself to helping her with her math phobia as well as to helping her learn to work within her very difficult family situation. I decided to wait and see if Angie came back to class.

Background

I met Angie when her first-grade teacher referred her to me for gifted and talented testing. Angie was very tall, very shy, and

very intense even as a five-year-old. Everything was serious business to her. She had no idea how to laugh. Several times I tried to get her to relax with gentle teasing, but her only reaction was a set jaw and tears. Both her parents were bright and intense as well. Her father was a junior-high-school teacher; her mother was an accountant who did not work outside the home, in deference to her husband's values.

Angie qualified for the gifted and talented program on the basis of very high reading scores and above average math scores. As I worked with her, I saw that Angie was a perfectionist and an incredibly focused and creative child. In the second grade she researched, computer typed, and illustrated her own book on birds. The birds were beautifully drawn in blended color pencil, many having been redrawn five or six times until she felt they were perfect. She is the only second grader I have ever known who did an independent project of such dimensions.

From the beginning, Angie had great difficulty with any new concept in math, no matter how simple. On math lab days, when the other children would enthusiastically play with the manipulatives on the tables, I would see Angie freeze, paralyzed with fear. As her face and body tensed, her mind shut down. The simplest task—answering orally or completing an addition task with base ten blocks—would cause her to cry. I tried time and time again to get her to relax, but my efforts went nowhere.

In the third grade, the gifted and talented students began coming to me on a daily basis, so I became Angie's official math teacher. Although Angie's math anxiety was no better that year, she was able to get through the relatively easy third-grade curriculum. Angie began to stay after school and help me with some of my work. We became closer, and Angie began to tell me for the first time what her home life was like.

In fourth grade, Angie hit bottom. She had never been able to establish friendships, and now all of girls were forming little social groups and leaving her out. Angie was too tense, too insecure, and too serious to be a good friend to anyone. I used to see her wandering aimlessly around the playground, alone, during recesses. She would frequently ask if she could have lunch with me in my room instead of going to the cafeteria with the other children.

By now, Angie's stress was no longer limited to math, but included every other subject as well. The gifted and talented re-evaluation tests were coming up at the end of fourth grade, and Angie was already worrying about them. Although I saw the sweet, shy, and eager-to-please side of Angie whenever we worked together after class, she came across as aloof and critical when she was with other people. Her fourth-grade teacher told me that Angie was a negative spoiled brat and that her mother "needed psychiatric help" because she was such a destructive force in Angie's life.

Coming Back

Angie came back to my class the next day. As had happened before, nothing was said about the episode with Angie's mother. I decided to keep trying to help Angie overcome her math phobia, despite what I felt were overwhelming odds against me. I had never given up on a child before, and I didn't feel comfortable giving up on Angie. I would have to make time for her in my busy schedule and not take her problems home with me and make them my own. Maybe, as Angie got older and more self-critical, I could help her become aware of the ways that she was sabotaging her own potential.

I started calling Angie's mother more frequently and inviting her to my room after school to discuss Angie's work. I also occasionally met Angie's parents socially. As we got to know each other better, I came to see a different side of Angie's problems. Angie's mother, who suffered from chronic migraine headaches, did not handle stress any better than Angie. She blew the smallest problem out of proportion. On one occasion, when Angie was in third grade, her mother took on the principal and the school board over whether Angie and her sister could wear short shorts to school in violation of school policy. This trivial battle went on for months and had many people upset, but Angie's mother seemed to thrive on the negativity and the upheaval. Angie's math homework caused a similar over-reaction at home. Whenever Angie hit a tough spot in her math assignment, her mother would try to help her, then react emotionally to Angie's frustration. The screaming battles would invariably result in Angie getting sent to her room for the rest of the night without completing her homework. The next day Angie's mother would

descend on the school to vent her anger at me. Angie's father, who was much more patient with Angie, worked a second job at night and was hardly ever at home to deal with the problem.

By the time Angie was in fifth grade, my talks with her were beginning to pay off. She was beginning to understand that she could control, and choose to get out of, her destructive behaviors over math. I began to work with her consistently on learning to control and calm herself. We discussed the fact that she was the real loser when she shut down and got so upset that she could not cope. I taught her some quick relaxation strategies that she began to use whenever a new problem appeared. For the first time, she saw that she could do the math, IF she kept herself calm. Anytime there was a sign of frustration, I took a few minutes right then to talk to her.

Although her attitude in class was improving, Angie was still a mess emotionally from the nightly battles at home. But she was blooming into a marvelous and mature young lady who was facing her anxieties and trying to overcome the manipulative habits she had developed over the years. As she practiced her breathing and relaxation techniques in class, it took less and less intervention on my part to remind her to relax. I would watch as she stopped herself, took a deep breath, and got back to work. For the first time, as she worked through difficult problems without becoming frustrated, Angie was able to see her own potential. But at home, Angie's parents expected her to lose control. They reinforced Angie's negative behaviors by overreacting to her least sign of frustration. They did not know how to change their behavior with Angie, and I didn't have the time, nor did I feel qualified, to intervene in their family dynamics.

Instead, my focus and energies went into Angie to try to get her to change her situation at home. Every time she had a battle at home I took time to talk with her. What had happened? Did she like spending the evening in her room? Was it worth the negative consequences to behave as she did? What could I do to help her? What could she do to help herself? She gradually realized that she was the loser in these nightly battles, and that she could change the way these situations played out. She began to try the same relaxation strategies to calm herself at home that she used in class. She stopped asking her mother for help on her homework, preferring to wait until her father got home or ask me the next morning. She would call me at home if she hit an especially

difficult problem. Angie's mother came to realize that she was part of the problem and agreed to let Angie put the difficult problems aside until her husband returned home. It took a long time to see the result of Angie's new strategies at home, but eventually her hard work began to show.

Epilogue

I purchased a delightful book written in cartoon form for upper-elementary students on test-taking and reducing stress. It outlined five or six simple strategies that students could use, such as controlling breathing patterns and using positive thoughts. Angie and I read the book many times during the month prior to her gifted and talented reevaluation tests, and Angie practiced the strategies daily. She was now aware of the power she had whenever she stayed in a positive frame of mind. Angie passed the test with very high scores, even in math. It was another boost to her growing self-confidence.

As Angie relaxed, she began to make friends and take risks. In the fifth grade she ran for school treasurer and won. In the sixth grade, she joined the girl's basketball team and became one of the star players. She remained a straight *A* student, even in algebra. She voluntarily took the PSAT for a national talent search program that identified gifted seventh-grade students for college-level summer courses and was accepted. She developed into a self-assured leader whose compassion and perceptiveness for the problems of other people have arisen from her own experience.

I think about how easily I could have given up on Angie when her problems seemed so overwhelming, both for her and for me, considering Angie's impact on my life. Once I decided I couldn't help Angie's family, but could help Angie help herself, the problem became more manageable. It took many years for her to work through her math fears.

Questions to Consider

1. Angie's gifted and talented teacher said, "it took many years for Angie to work through her math fears."

   Most teachers have children in their classrooms for only one year. With that time limitation, what could a regular classroom teacher have done to help Angie overcome math anxiety?

2. Could Angie's math anxiety have been "turned around" by some kind of intervention earlier in the first grade? Why was Angie's problem allowed to continue unaddressed for so long?

3. Bright girls can be perfectionists, and may be reluctant to take risks that would bring them lower grades or expose them to ridicule from other students. How can curriculum or teaching methods be shaped so that students like Angie feel more secure with new or challenging material?

She Just Can't Make It

Abstract

When Ann transfers to a school with much higher expectations for science work, she finds herself failing seventh-grade science. Her teacher, Katherine James, encounters this problem with other students and brings up the issue of implementing a special "Satisfactory/Unsatisfactory" grading policy for transfer students who lack the expected background. When the faculty greet this suggestion with disinterest, Katherine tries a series of interventions designed to assist Ann. The case explores the variety of approaches a teacher can use to provide help to academically unprepared students.

Issues include grading policies and ways of helping low-performing students while maintaining high levels of expectation for science achievement.

Introduction

Katherine James looked at Ann's first science test score (46%) and wondered what to do. Was she going to have to fail Ann in seventh-grade science?

The test asked Ann to list at least four characteristics common to all vertebrates. Ann answered:

all have scales

all live in water

all have systems

all eat insects

Another student, about average for the class, responded:

all have backbones

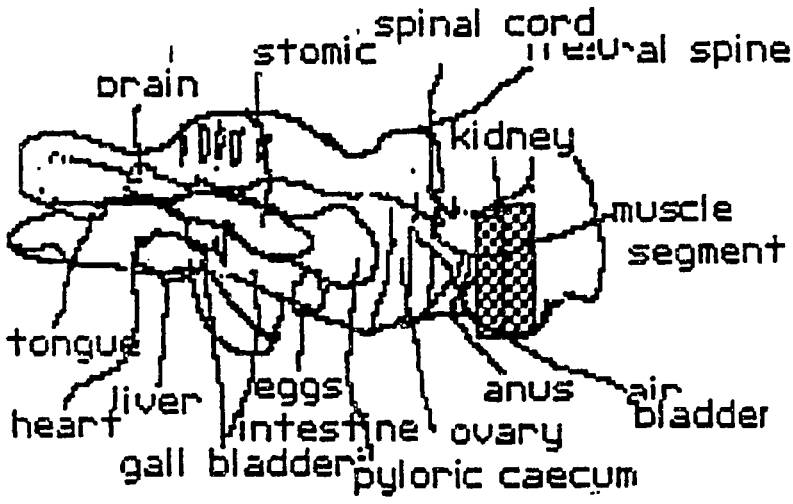
all have hearts

all have endoskeletons

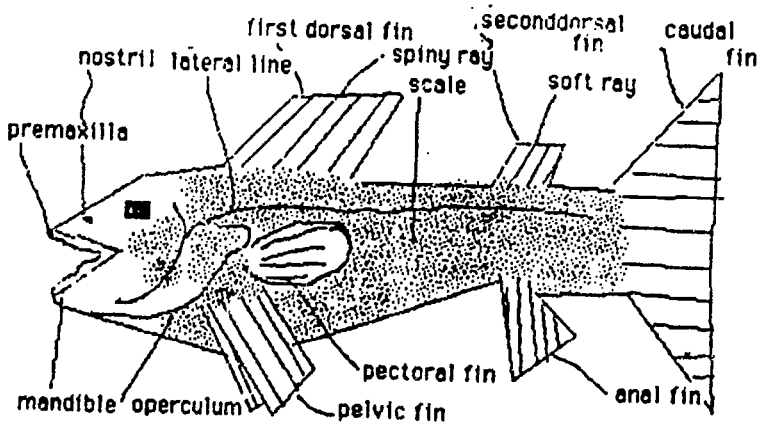
all have complex systems

It wasn't just science tests that gave Ann trouble. Katherine thought back to the diagram assignment—sketching a bony fish by following a diagram and then labeling its external parts. Ann's work did not come near the average level in the class (see diagram).

Ann's computer diagram of a fish:



Another student's diagram of a fish:



Ann had transfered into Katherine's 7th-grade science class from a small junior-high school in a nearby town. According to her Iowa Test of Basic Skills (ITBS) scores, she had below-average skills in reading, writing, mathematics, and science. She also arrived with a poor background in science. A shy but polite student, Ann rarely volunteered to answer questions but always volunteered to pass out papers or distribute science equipment to her classmates.

Her science assignments and projects were almost always late, and she required constant supervision. Actually, Ann typically handed in her class work before any of the other students, but the work had to be done again. When she turned in her work, she would ask Katherine what to do next. Katherine would point to the board where the procedures had been explained at the start of the class and listed in sequence. Ann would then have to retrieve her paper.

"Oh, I didn't know I was supposed to follow that," was her refrain.

After Ann had scored 20% on another chapter test, Katherine asked Ann to come in to see her during a 20-minute free period each day so she could give Ann extra help. But Ann only showed up when Katherine went to find her, and her body language, mood, and responses showed that she did not want to come. Since the extra help seemed to be having no positive effects,

Katherine told Ann to come back when she wanted help. Ann never came.

Katherine considered what to do. The end of the quarter would come soon. Should she just fail Ann? But Ann had transferred to the school without the science background she needed to succeed. Ann was not the only transfer student with this problem. Was it fair to fail such students?

Katherine decided to ask the principal about altering the school's grading policy to take into account the problems of academically unprepared transfer students who needed time to catch up. The principal scheduled the matter for a faculty discussion.

Katherine proposed that a special "satisfactory/unsatisfactory" grading policy be used in circumstances like Ann's.

The faculty brought up these concerns:

1. Parents would need to be informed of this separate grading policy. Does it require their consent? What if they don't want it?
2. What procedures would be used to determine if a student qualified for special grading?
3. We're talking about justice: someone working hard and only coming up with an *F*?
4. If we used this policy, students might become less responsible and not try as hard. This faculty member gave an example of a transfer student who ended up with a *D* average in the seventh grade but who is working very hard as an eighth grader and showing average achievement. Would she have shown this progress if she had the S/U grade to fall back on?
5. What constitutes an *S* and a *U*?
6. What would a high school think of this idea? Would this policy affect entering students?

The idea of a special grading policy didn't have much inital support, Katherine concluded. She would have to handle Ann's situation in her own classroom.

There and Back Again

Katherine telephoned Ann's parents and asked them to come in for a conference. Ann's mid-quarter progress report had just come out, showing a grade average of 52%.

After Katherine had explained Ann's present problems, her father and stepmother said that Ann had always struggled with her schoolwork, but her test scores showed that math and science were her stronger areas.

When Katherine checked the records, she saw that Ann's parents were not entirely accurate. Ann's report card grades indicated a *C*- to *C* performance in all subjects. Her ITBS scores gave her a percentile rank of 23 in science, 10 in mathematics, and 7 in reading.

Ann's parents asked for a weekly checkup on her science performance, including any grades and comments on the quality of homework. Katherine approved of this plan and suggested that Ann might need a tutor. Ann's parents, however, said that they could not manage the transportation if Ann stayed after school.

Katherine then suggested that a parent aide work with Ann each afternoon for 40 minutes during Ann's daily study period. Ann's parents accepted this idea.

During the remainder of the first quarter, Ann's science work improved and her attitude was more positive. She managed to get a passing grade for the first quarter.

But Ann started to slip again during the second quarter, even though she was still being tutored. In her cooperative science groups, she sometimes worked with the two other girls in the group, but often she just sat back and observed, letting the other girls work around her. Whenever her parents requested a written check-up on their daughter, Ann's performance would improve.

But even with the goad of the written check, Ann was turning in lab assignments like this one:

> One day in Science class Mrs. James said "Tomorrow we will disect an owl pellet. Now an owl pellet is the fur and bones of a small animal that the owl had eaten. In some owl pellets you will find more then one skull and barly any bones but in others you might just find bones and no skull and in others you don't know what to expect. In my group we found a house mouse in our owl pellet. Renee and I had fun and Wendy, well she didn't even touch it. After we got all the bones out of the pellet we throw away the fur and

soaked the bones in a cup for 1 hour. Then on Monday we glued them on a black piece of paper.

Katherine wondered where to begin. In addition to the spelling and grammar errors, Ann had little idea of what to include in a lab report. Ann's background was so poor it didn't seem fair to fail her.

Epilogue

The idea of a special grading policy received no faculty support. No one brought up the matter again.

When Katherine did a sociogram of the class, Ann still wanted to work with Renee and Wendy, but they did not want to work with her. Indeed, no class member selected Ann as someone to work with.

Since a revised grading policy had gone nowhere, Katherine decided to try a student portfolio plan for the remainder of the school year. Ann needed something concrete to discuss her science progress with her parents, Katherine reasoned, not just grades and notes from the teacher.

Every student did a portfolio containing creative assignments, lab write-ups, bar graphs of quiz and test scores, computer activities, project summaries, a skills checklist, and a personal analysis of progress in science. The portfolio could serve as a catalyst for parent-teacher conferences in the third quarter and as a personal growth chart for the student.

Ann kept up with the portfolio requirements, a success in itself. In the comments section of the portfolio, her parents wrote that they thought the portfolio was a good idea. It made them take time out to discuss Ann's work with her, rather than just monitor completion of assignments.

At the end of the year, Ann's grade in science was an *F*.

As an eighth grader, Ann is failing all her courses. Ann's parents are divorcing. Ann's natural mother does not want her. She lives with her father in an isolated spot 30 miles from the school in a house with no neighbors. Her stepmother was Ann's primary source of emotional support and when her stepmother moved out, Ann fell apart.

Questions to Consider

1. Katherine James faces a classic educational problem. Ann does not have the academic background needed to succeed. Ann is unprepared, not only in science, but also in basic reading and writing skills. Katherine hardly knows where to begin.

   What is the "fair" approach in this situation? Do you think the faculty was correct in rejecting the notion of a special grading policy for academically unprepared transfer students?

   If you approve of a special grading policy, what would you propose? How would you address the concerns the faculty raised with Katherine's idea of the satisfactory/unsatisfactory grade?

2. Consider the types of strategies Katherine used to help Ann do better in science. Do you think that these strategies were the right ones, or was Katherine ignoring the fundamental problems? What else could she have done?

Burn Schools To The Ground

Abstract

April, a young woman gifted in music and writing, comes to Ms. Joan Adams, who has been her gifted and talented teacher at the middle school, and announces her intentions to drop out of high school. She has refused to attend high school classes, is spending her time with an emotionally disturbed friend, has begun to get into trouble, and wants to leave high school and finish up through correspondence courses. Joan considers what, if anything, she can do to prevent an exceptionally talented young woman from leaving school and reflects as well on what is causing April's difficulties.

Issues include emotional disturbance, counseling techniques, appropriate school programming for gifted children, and explanations and interventions for the downward spiral that can occur at adolescence in what appear to be stable and academically successful young women.

Introduction

"Your mom tells me you are thinking about dropping out of high school."

Joan Adams looked at the 15-year-old high-school sophomore slumped into a chair in the gifted and talented room. She recalled the exuberant April of two years ago when April was a superstar in her middle-school gifted and talented program. She could picture April hunched over the page layout for *Writers' Cramp*, the literary magazine she and her friends published.

"It's the people, they're just so immature. They don't like anyone who is different," April replied.

"Is it the teachers?" Joan probed.

"They're OK. They're not that bad," April shrugged.

"Is it the curriculum?"

"That's OK. But it's just so boring. Why do we have to learn all that stuff? It doesn't make any sense."

I'm not getting straight answers, Joan thought.

April wasn't the first girl she had known who had done brilliantly in school only to fall apart when she hit adolescence. April was genuinely talented. She had won literary prizes for her creative writing. She was passionate about music, played the saxophone and the piano, and composed and arranged her own songs. Was she going to be another girl who dropped out of school, got pregnant, and threw away her chances? Joan had seen the pattern before.

Joan and April

Joan's gifted and talented room was filled with half-completed student projects and videotape equipment for the media projects she encouraged. An experienced teacher who had earned her educational specialist degree in gifted and talented education, Joan favored an individualized approach where students wrote contracts to do creative, independent projects.

In both the seventh and eighth grades, April had been in Joan's room for two courses—Advanced Reading and Gifted and Talented (a course elective). Joan and April's mother also co-sponsored the literary magazine. The student staff met after

school and on some Saturdays. April had never missed a meeting. April's mother came as well, but April hadn't seemed to resent her mother's presence.

When April entered high school, Joan no longer saw her. But she had run into the wife of a fellow teacher in the grocery store who told her April was in trouble. Later, April's mother called and asked if she could bring April in to see her. Her daughter had run away with a friend, she said, but explained she was just trying to help out the other girl who had been sexually abused. April's mother had paid the $70 cab fare and had driven to a neighboring town to get the girls.

April was not going to her high-school classes. Her mother would drop her off at the front door and she would leave through the back. April wouldn't even work in her favorite literature course. She had failed Introduction to Literature three times because she refused to read the *Iliad*. She wanted to drop out and take correspondence courses.

April's School Career

April's teachers had oddly different perceptions of her. Most of her elementary school teachers saw her as a child exceptionally talented in creative writing and music but not especially gifted intellectually. April was an overachiever, they said, whose mother pushed her very hard to succeed. April's sixth-grade teacher said her mother questioned any poor grade her daughter received and the teacher had to justify the grade by showing her mother each entry in her grade book.

April's middle grade teachers took the opposite view. They saw her as an underachiever—a gifted student who did not use her capabilities. Due to her high language abilities, April had been placed with the gifted and talented teacher for English to work on special projects.

April did very well in social studies, Joan found, if she could personalize the projects. For example, April wrote a first person journal about what it was like to be a member of the first explorations in the Americas. She wrote a play on the Holocaust. But April did not do well on objective tests or even essay tests. Even

though she wrote well, she did not have good general background knowledge, and she was weak on specific information.

April's test scores had started out high but had declined at adolescence, especially in mathematics. At age 5, she had scored in the superior range (IQ = 125) on the Slossen Intelligence test and she had received a similar score (IQ = 127) when tested again at age 7. But her achievement tests showed a pattern of decline from her highly gifted performance, starting at adolescence.

Grade Level	Grade Equivalent Reading	Grade Equivalent Mathematics
Kindergarten	4.2	3.2
Fifth Grade	12.9	11.1
Eighth Grade	12.8	9.0

When April entered high school, a comprehensive secondary school of about 2,000 students, she had to leave the personalized gifted and talented program offered at the middle-school level. Other than honors courses, the high school had no special programming for gifted students.

Of the 46 days of school during the fall of her sophomore year, April had only attended 28 days. She told the counseling office she was sick and she didn't like what was happening in school.

Joan called the high-school counselor to talk about April and also tried to reach her high-school teachers.

April had been absent so much that none of her teachers remembered her very well. Even her high-school counselor was vague about April. He did not know how old she was and seemed to think she was a junior or senior.

The reason April was doing badly, the counselor said, was that she had poor attendance and wouldn't do what was required of her. With the exception of a *D-* in Elementary Algebra, she was failing all her high-school classes.

"April is living in the sixties," the high school counselor remarked. "She is just rebelling because it is the thing to do. When you get to high school, students really don't have a lot of

choices. There are required courses they have to take, and many students don't understand that."

April in Her Family

April was nine weeks old when she was adopted by her present family. She was the second adopted child. Her brother Robert, three years older than April, was also in the gifted and talented program but got into the drug scene and then drifted out of school. April never got along well with Robert and has cut off communication with him.

April's mother adopted two other children, both from a mixed racial background and with disabilities. The first child arrived when April was three years old, and the second came when April was a fifth grader.

April resented the adoption of these children. She asked her mother why they had to take in misfits and why they had to adopt all these kids. According to her mother, April sees herself as a premium baby because she is Caucasian, and she doesn't like the fact that she has to wait for things and make the money stretch.

April's father, an electronics technician who works out of town every other week, doesn't have what he calls a "one-on-one relationship" with his daughter. April's problems with school, he said, come from her being unable to handle the pressure to conform. At times, he felt, the pressure to conform was so hard on her she would explode.

April's mother calls herself a professional volunteer—active in all her children's school activities, Boy Scouts, Girl Scouts, and community organizations. She adopted all the kids, she said, because all she wanted to do was to be a nurturer and raise a family.

In her mother's view, she and April had a good relationship until the eighth grade. But April is pushing the limits.

April's mother had to go down to the police station when she and two soldiers were picked up in a parking lot at 1 a.m. The soldiers had helped April crawl out of her bedroom window.

April insisted she had done nothing wrong. "All we were doing was talking."

April's closest friend, said her mother, was a disturbed child. But the friend shared April's passion for music and poetry. In elementary and middle school, April had friends from stable families, children involved in scouting activities. Now she was forming what her mother termed "addictive relationships" with one friend at a time. She and her friend had been picked up for shoplifting, and April was seeing a probation officer.

Her mother feared April would just disappear some day. When she finally does get to leave, April said, she would never come back.

Joan and April in the Gifted and Talented Room

As she looked at April's stubborn face, Joan searched for what to say. It would be such a waste—a disaster—if April dropped out of high school.

At least it wasn't drugs. Her mother said she had taken the girl to a drug and alcohol assessment center and they reported that April was not using drugs.

Could April have been sexually abused? Dramatic behavior change was one of the signs. The music teacher at her high school had been convicted of sexually abusing students. But April's name had not come up, and April refused to talk about the subject.

Joan remembered a disturbing story April had written for her two years ago, when she was an eighth grader (see facing page). While a work of fiction, it described the suicide of a young girl who seemed a duplicate of April.

April's favorite remark, said her mother, was, "Who cares? We're all going to die anyway." But her mother also told the story of April at ten years old, when she had been pushed off the monkey bars and had broken her hand. She had convinced the doctor not to put a full cast on her hand so she could play her saxophone for the Christmas pageant. She had learned to write with her left hand so she could do all her homework even though most of the homework was excused.

April's Story

"But Jessie, I'm so confused. I don't know what to do. Everything keeps getting worse and worse. I've finally realized that I do love my brother, but it's too late. He hates me. And my mom, my mom is constantly hovering over me, checking up on me. I'm trying real hard to get my grades up, but it's so hard with all this pressure. She just isn't being fair. And then there's my music. It isn't going anywhere. I've got a strong feeling that music isn't going to play any part in my future. It's just not fair! And to top it all off, the guy I really care for, the guy I know I could never live without, the guy I would die to be a part of, only likes me as a friend! I just can't take the pressure anymore, Jessie! I feel like screaming my head off, or better yet, blowing my head off. Yes! That's it! I'll kill myself! Oh, Jessie, it's so easy! Don't you see how easy it is? I'll never have to worry about any of my problems ever again! And it won't hurt many people at all. You know, I can't think of more than a handful of people that would shed a tear at my funeral . . . And look at how much hurt their unfairness has bestowed on me! Jessie, please don't be mad at me. This is the only way out. I'm tired of caring, worrying, or trying to solve my problems. Can't you understand, this is the only way? You know I'll always love you, so do me one favor. Don't cry for me. I'll finally have conquered my problems forever, if forever is for real. I know this is for the better. Goodbye."

Love,
Alex

That letter to Jessie was the first many people had heard of Alex's problems, and, unfortunately, the last they heard from *her*. Alex did kill herself, like many teens do, and she was right; it did solve her problems. She didn't have to put up with anything anymore. No more naggy, concerned parents, no more sibling rivalry, no more problems in school, no more worrying about her music, no more talking to her friends, no more wild Friday nights with the guys, no more tomorrows to wonder about, no more changes to hope for, and no more love to long after. Alex had, without realizing it, thrown away a lifetime full of tomorrows, hopes, and satisfactions. For what? What did she get in return? Nothing.

That is not fair.

"If it were up to me," April said to Joan, "there wouldn't be school. I'd do everything on my own. We should burn schools, burn them to the ground!"

Finding the Right Road

"April," Joan said, looking at the girl slumped before her, eyes fastened on the table. "Have you checked out your options?"

Joan asked April if she had talked to her high school teachers about modifying the curriculum. She asked if April had looked into the alternative high school. Had she thought about transferring to another high school? What about university classes? April said no, she hadn't done anything; she hadn't checked out anything.

Drawing on the contracts April had done for her years before in the gifted and talented classroom, Joan asked her to do a standard contract now. The contract lists goals, steps, resources, roadblocks, and rewards.

April came back with the contract filled out:

I. Goals

To be able to attend a school in which I can:

A. work somewhat at my own pace
B. use my creativity for credit
C. use my music for credit
D. get along with the teachers and students
E. take the courses I'll really need in my career
F. improve my attitude (towards every aspect of school)
G. graduate
H. (maybe) get a scholarship

II. Steps

I'm planning to:

A. withdraw from high school
B. enroll somewhere else
C. become more self-motivated and self-confident
D. live up to everyone's, including my own, expectations of me

III. Resources

To reach my goal, I'll need:

A. my teachers' support
B. a good attitude
C. my family's support
D. some quiet time at home
E. my friends' support
F. a flat out miracle

IV. Roadblocks

Things that might get in my way are:

A. my laziness
B. my self-doubt/self-criticism
C. not enough praise and support for my work
D. I might not get along with the teachers and/or students wherever I end up either

V. Rewards

If I reach my goal, I expect:

A. a better attitude towards school and learning
B. a diploma
C. possibly a scholarship
D. to be prepared for a musical career
E. a few new friends
F. at least one teacher recommendation letter for college

April promised she would check out the options before she made her decision.

Joan swung into action. She called over to the high school, but none of April's teachers remembered much about her or wanted to meet with Joan. The guidance counselor was no help either. She then spent three days on the telephone trying to find out what April's options really were.

She took a day of personal leave, picked April up, and they set off to check out the possibilities. April wouldn't consider staying at her present high school, no matter what. She didn't even want to walk inside the building.

They went to a different high school. The counselor was negative about the idea of arranging a flexible curriculum for April.

They drove to the university. The head of the music department said April could take music courses while still in high school.

They swung back to the school district central office and reviewed the correspondence courses. The material was not challenging.

After taking April out for lunch, Joan ended with a visit to the Alternative High School, which she had spotted all along as the best choice. The students worked on individual projects and had a lot of freedom to combine school with work and other activities. April commented that the students looked tough, like they were involved with drugs, or might be. But she seemed to like the approach at Alternative.

Joan dropped April off at home and told her mother what she needed to do to get April into the Alternative High School.

Two months later she ran into April's mother at the grocery. "What happened with April?" she asked.

Epilogue

April refused to enroll at the Alternative High School, saying that "most of the kids were druggies and really weird." She was speeding through correspondence courses. Her mother had tried to enroll her in music courses at the university, but April was skipping out of them.

At 16, April met a soldier and had a baby. Her parents encouraged her not to get married. She now is living at home with the baby. April recently enrolled in a vocational program where young mothers can bring their babies and leave them in a day care program at the school.

"I was so frustrated," Joan concluded. "I was frustrated because I couldn't fix it. In retrospect, I should have followed up with the Alternative High School."

Joan is looking into correspondence schools of the performing arts for April.

Questions to Consider

1. This case does not give you enough information to diagnose April's difficulties, but teachers rarely have enough information. Indeed, Joan knew an unusual amount about April because she knew April's mother and because she took it upon herself to call April's high school teachers to find out what had been going on.

   A common explanation for drop-out among young women is pregnancy. But April's problems, this case shows, started long before. She shows the depression and loss of confidence often found among young women at adolescence.

   What do you see as the fundamental sources of April's difficulties? What possibilities does the case—and your own experience—suggest?

2. Joan tried to find the right type of high-school program for April. Do you think that she was on the right track, given what you see as the possible sources of April's problems? What other help could she have given April?

3. What type of high-school program might be effective for someone like April? What program would you design for April and young women like her?

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