

3

Philosophical Foundations of Inclusive, Restructuring Schools

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In the United States, the educational system is expected to contribute to the preparation of children for the demands of adult life. This value is deeply embedded and is considered an inalienable right. In excerpts from her junior decathlon speech, LaSheieka Little, a student at Santana High School in California, provided this view of how her school extended this right to all students, including those identified with significant disabilities, within general education classes:

Every day it brings me great enjoyment when I walk through the halls of Santana High School and see many different types of teens. But the reason I smile is because students with disabilities are treated no differently than any other student. At Santana, students with disabilities have the opportunity to be included in and actively participate in general education classes with the rest of the student body.

What is inclusion? Inclusion is when students with disabilities become part of our learning environment. They become involved in classwork, although sometimes their assignments are modified to [accommodate] their needs but [remain] focused on what the class is learning. It is when students with disabilities become members of the school.

In one of my classes, I met Jesse, who uses a wheelchair and is unable to communicate with words. I knew that she was learning because she began to smile and raise her head when you said something or did something that she liked. If Jesse had been confined to one room, she would not have been exposed to many different people and would have never raised her head. That was her way of responding.

The truth is that students with disabilities have been excluded for so long [that] we did not know what to expect. Because of inclusive education, we have learned that students with disabilities have the same rights and feelings [as other students]. We have also learned to get to know one another and therefore build better understandings and friendships.

People are often afraid of what's different. Inclusive education gave us a chance to realize that people are people and that no one should be excluded because of a disability. I know it will bring better friendships and good will because I now have friends I would have never had.

We as a people need to come together, no matter how different we are from one another. You as a parent would not want your son or daughter to miss out on his or her life because of a disability. At our school, students with disabilities have the chance to be involved in club activities, the yearbook, and sports. With inclusive education, we learn and grow as a people. The point I'm trying to make is that inclusion works! Not only for students with disabilities, but for us as a people.

As communities become increasingly diverse and society becomes more complex, schools must respond with innovative strategies and comprehensive initiatives, not only to prepare students to be economically productive but also to instill in them the respect for diversity that LaSheieka expressed.

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Although the essential components of an inclusive school have been documented for 10 years and there is a growing body of scholarly work that addresses school reform, few descriptions exist of schools that are attempting to address *both* of these initiatives simultaneously and in a coordinated way (Benjamin, 1989; Fullan & Steigelbauer, 1991; Glasser, 1990; Goodlad, 1984; Lipsky & Gartner, 1989; National Commission on Excellence in Education, 1983; Patterson, Purkey, & Parker, 1986; Sizer, 1992; Stainback, Stainback, & Forest, 1989; Villa, Thousand, Stainback, & Stainback, 1992). Furthermore, identifying successful practices that are applicable across geographic areas and socioeconomic differences is particularly difficult.

Since 1992, we have been working in high schools that are responding to the dual challenge of equity and excellence. These schools, representing urban and rural communities from several different states, have made the inclusion of students with disabilities a priority within their broader school restructuring efforts. After reading one another's work and attending each other's conference presentations, we were anxious to compare notes. As we shared our successes and frustrations, we noticed the similarities in our experiences. Realizing that our common experiences might help others engaged in similar work, we recorded our observations, focusing initially on just two school sites. One of the schools was in a rural, middle-class, Caucasian community in a small state. The other was in an urban, ethnically diverse community in a large state. Although our stories came from schools in opposite corners of the United States, common themes began to emerge. To ensure that the themes represented more than coincidence between two schools, we tested our ideas by talking with other colleagues. Based on these conversations and more fine-tuning of our original ideas, we agreed on eight principles and practices that are characteristic of inclusive, restructuring schools. These principles and practices are as follows:

- 1. Decisions about inclusive education and school reform must originate in administrative vision that is unwavering in the face of uncertainty and the difficulties of putting principles into practice.
- 2. Inclusion of students with disabilities must be solidly based within general education reform efforts.
- 3. Support for teachers and administrators during the change process must be provided through internal structures and through association with an outside "critical friend."
- 4. Social justice issues, including disability, must be infused throughout the curriculum.
- 5. Creative use of time through implementation of innovative school schedules is essential.

- 6. General and special education teachers with new job descriptions that reflect shared responsibility for all students must collaborate to design the curriculum, teach, and evaluate students.
- 7. Tracking has been eliminated, and most classes are heterogeneously grouped.
- 8. The curriculum must be thematic, performance-oriented, constructivist, and based on high achievement standards for every student.

This chapter elaborates on the first four principles that represent the underpinnings of a school's climate and its guiding philosophy. Chapter 4 describes the rationale for and interrelationships among innovative scheduling, changing teachers' roles, and heterogeneous grouping. Chapter 5 presents the elements of an inclusive curriculum design model that is thematic, performance oriented, and based on high standards. Finally, Chapter 6 showcases examples of units and lessons that were designed for inclusive high school classes.

Caitlyn's Story

In the spring of 1992, the father of a 14-year-old girl who has severe disabilities contacted a consultant from the Institute on Disability at the University of New Hampshire (UNH) to obtain assistance in moving his daughter from a segregated, regional educational program back to her home high school. Because inclusion of students with severe disabilities is practically non-existent in their state, this family had to rely on a consultant who lived more than 3 hours from their community to help plan their daughter's educational program.

Although the school staff were initially very reluctant to consider the family's wishes, they agreed to "give it a try" as long as Institute staff were available to provide training and technical assistance. Institute staff and high school personnel worked collaboratively to plan for Caitlyn's return, and, in September 1992, she proudly became a "regular" ninth grader at her large suburban high school. Caitlyn's transition was an example of everything that we thought we knew about making inclusion work well. Substitute teachers were provided so that teachers could be involved in the design of her educational program right from the start. A group of her future ninth-grade classmates were included in the planning, not as peer buddies or as a circle of friends, but as experts on what the typical high school experience is like from the perspective of students and to help brainstorm the supports that Caitlyn would need. A teacher was identified

to serve as the coordinator of Caitlyn's program, and she was both competent and personable. With support from the Institute staffperson, she worked hard during the spring and right before school opened to make sure that classroom teachers understood the rationale for Caitlyn's presence at the school and how they might include her as an active participant in their classes. Caitlyn tried out for cheerleading, and, although she did not make it, she did join the pep squad that performed sideline cheers at every game.

After a few months of school, the Institute consultant approached the principal and special education director about returning five other students with severe disabilities to the high school. A similar planning process was begun, and in the fall of 1993—just 1 year after Caitlyn came back—all students with severe disabilities who lived in that community were full-time members of general education classes in their home high school. Interviews with teachers and students in the school indicated that though some teachers had serious doubts about the wisdom of what was happening, the teachers and students who were directly involved were generally pleased. By midyear, the Institute consultant was no longer a regular visitor to the school and assumed that all was well.

Late in the school year, a number of changes occurred at the school. The special education director and the superintendent submitted their resignations. A new special education director was hired who had no experience with inclusive education, and he began discussions with staff about establishing a selfcontained classroom for Caitlyn and the five other students with severe disabilities. In a panic, parents of the students began calling the Institute consultant, and, despite her efforts to advocate for the students' continued inclusion, all six students were slated to go into the self-contained program in the fall of 1994. A local taxpayer's association worked hard for their favorite school board candidates, whose main platform issues were a back-tobasics curriculum and reduction in the special education budget by eliminating a number of teacher's aide positions. Because of these changes, the high school's inclusion facilitator also resigned in the spring of 1995. The six students, who should have graduated with their classmates in 1996, were still attending the school-based, self-contained program when this book went to press, and the school's out-of-district budget had actually risen since 1994 because more students had been placed in regional and residential programs.

The newly hired superintendent promised the school board and community that raising students' performance on the statewide assessment test was his primary goal, and, for the time being, the inclusion of students with disabilities was not on the agenda.

Although this story is a worst-case scenario, the experience of many students who have disabilities and their parents is that inclusive education is dependent on the commitment and activism of a few individuals within a school, making these students vulnerable to changes in local and state politics and policies. Year after year, parents report that they have to start all over again, convincing each new crop of teachers that their child has a right to be included, educating yet another cadre of team members about their child's personality and learning needs, and feeling like several months of every school year are lost to start-up time. It has become clear that unless inclusion of students with disabilities is firmly embedded within a school's mission and philosophy, and unless inclusive practices are viewed as fitting in with teaching practices that are effective for a large percentage of the student body, it will inevitably fall by the wayside along with other innovations that had shortterm appeal but did not affect the hearts of teachers, administrators, and the community. This chapter provides examples of four essential principles or practices that promote inclusion within broader efforts to improve education for all students.

DECISIONS ABOUT INCLUSIVE EDUCATION AND SCHOOL REFORM MUST ORIGINATE IN ADMINISTRATIVE VISION THAT IS UNWAVERING IN THE FACE OF UNCERTAINTY AND THE DIFFICULTIES OF PUTTING PRINCIPLES INTO PRACTICE

Perhaps the single most important element related to the long-term success of both school reform and inclusive education is administrative vision and commitment. At Souhegan High School in Amherst, New Hampshire, that vision guides daily action as well as long-range planning. (A thumbnail sketch of Souhegan follows, and the Amherst and Souhegan School Districts Mission Statement and Philosophy is presented in Figure 1.)

A Thumbnail Sketch of Souhegan High School

Souhegan High School in Amherst, New Hampshire, is a member of the Coalition of Essential Schools. Opened in 1992, it is located in a quaint New England village 1 hour north of Boston and is a racially homogeneous Caucasian school. There are ap-

35

Philosophical Foundations

Amherst and Souhegan School Districts Mission Statement and Philosophy

The Amherst and Souhegan school districts aspire to be a community of learners born of respect, trust, and courage. We consciously commit ourselves:

- To support and engage an individual's unique gifts, passions, and intentions
- To develop and empower the mind, body, and heart
- To challenge and expand the comfortable limits of thought, tolerance, and performance
- To inspire and honor the active stewardship of family, nation, and globe

To this end, the Amherst and Souhegan school districts have determined that the skills and resources of special education will be accessible by all staff and students and available to assist any student with exceptional needs. To the maximum extent possible, all of our students are educated within the regular class. Special education support takes many forms: direct instruction to students, consultation to classroom teachers, direct instruction within the classroom to small groups or whole class, diagnostic teaching (or placement), assessment of learning and teaching styles. Although the majority of our special needs students meeting [identification] criteria are [identified] in these districts, it is not necessary to [be identified] to receive services. It is increasingly clear that special education services delivered in isolation are not effective. We strive to be an inclusive system: inclusive of all students and all teachers. In this way, we will develop students who are independent learners, who understand their educational needs, and who can advocate for themselves within the academic environment. Our goal is to become a community of learners in the truest sense of those words.

Figure 1. Amherst and Souhegan School Districts Mission Statement and Philosophy. (Reprinted by permission from Souhegan High School.)

proximately 800 students in Grades 9-12, and 17% are identified as having educational disabilities. Although there are a few students placed in out-of-district programs, almost all students who ought to attend Souhegan do. There are no separate programs or classrooms for students with disabilities. Except for sequential courses in mathematics and modern languages and the usual advanced placement classes, all others are heterogeneously grouped. At Grades 9 and 10, students and teachers are organized by teams governed by a flexible block schedule. Special education teachers are full-time members of the ninth- and tenthgrade teaching teams.

At Grades 11 and 12, the school day is more traditionally organized, although there is a double-period humanities block team-taught by English and social studies teachers. One special education teacher supports students and teachers at eleventh grade, and another works with twelfth-grade students and teachers.

Although Souhegan opened its doors as an untracked, heterogeneous, inclusive school in 1992, there have been many challenges to this philosophy from a few teachers at the school, from some students, and from community members. The school administration's response to these challenges illustrates the importance of vision in influencing practice.

During the 1993–1994 school year, a group of parents of students who would have been in honors classes in a traditional high school lobbied to place a referendum on the annual town meeting ballot that would have required Souhegan to establish ability-grouped academic tracks. (In most smaller New Hampshire communities, the annual town meeting is the forum through which every citizen can participate in passing the community and school operating budgets. Important policy issues are often decided through special articles or referenda.) These parents argued that high-achieving students were being held back by heterogeneous classes. Vigorous debates ensued at school board meetings leading up to the annual town meeting. Parents presented research that they believed substantiated their views. Souhegan's administrative team and many faculty also presented their views about the pedagogical soundness of heterogeneous grouping and the harmful effects of tracking. A few students argued on behalf of ability grouping, but the majority spoke about how they believed that their motivation, self-esteem, and academic achievement had improved as a result of their inclusion in heterogeneous classes. After a final, heated, open debate attended by a record number of the town's citizens, the referendum vote was taken. When the ballots were counted, 83% were in favor of maintaining the current system, a strong affirmation of Souhegan's administrative commitment and the teachers' instructional practices.

Although the number of parents arguing against heterogeneous classes grows smaller each year, Souhegan administrators continue to gather standardized achievement test data. Souhegan High School has the highest rate of participation in the SAT program, and their students rank second among all high schools in the state on both the SAT and the New Hampshire Statewide Assessment Test. In addition, SAT scores have remained stable throughout all 4 years of Souhegan's operation. Principal Bob Mackin commented on his role in advocating for inclusion:

The principal is really a role model. I have to be solidly behind inclusion and keep people coming back to the table to figure out solutions even when the going gets tough. This year some of the math teachers came to me and wanted to remove a group of kids from our math program because they were having difficulty passing Math I. I asked them, "If we pull these kids out, will they acquire the skills to move on to Math II?" The teachers admitted that they probably wouldn't. While I understand that there will be some variability in the skills that our kids leave Souhegan with, I'm not willing to establish a totally different set of standards for students with

pg 37 # 9

disabilities. I think that we need to hold them to high standards and through the curriculum and the support we provide, push them to reach those standards.

Kathryn L. Skoglund has been the director of special instructional services in the Amherst School District since 1985 and was instrumental in the development of Souhegan's inclusive philosophy. Her comments reflect a view from the trenches about what it takes to keep inclusive education at the forefront of the school restructuring conversation.

It may seem easy to talk about what is necessary for effective inclusive education, particularly at a school like Souhegan High School, where we started from scratch and hired staff with the Souhegan High School Mission Statement engraved in our minds. However, there still exist hurdles for inclusive education, even here. It is difficult to maintain the inclusive momentum unless the focus is constant and overt. At Souhegan, faculty and staff have a lot on their plates, a kind of educational smorgasbord. It is easy for inclusion to become lost in the midst of all other activity unless the administration maintains it as a primary agenda item.

Without constant support and an atmosphere of trust, it is easy for teachers to return to what is known and familiar. It is imperative that those of us who are involved in successful inclusionary practices take the time to gather data, particularly from a longitudinal perspective, that show where the successes are and why they are occurring. We must report our findings in ways that are clear to our teachers, our community, and our school board members.

We must talk and talk and talk—about kids, about curricula, about schedules, about pedagogy, about shortcomings, about strengths, about planning, about problem solving, about miscommunications, and about disagreements.

INCLUSION OF STUDENTS WITH DISABILITIES MUST BE SOLIDLY BASED WITHIN GENERAL EDUCATION REFORM EFFORTS

Performance-based standards, portfolio assessments, senior exhibitions, student-centered learning, multiculturalism, service learning, and school-to-work programs—there is certainly no shortage of general education reform initiatives! The challenge for schools is to adopt those new practices that support the core values and long-range plans that reflect community needs and effective practices. Unfortunately, students with disabilities have not been included as an integral part of most school reform efforts. If they are included at all, it is often as an afterthought or in response to advocacy from special educators or parents.

How does a high school address the needs of a diverse student population while implementing an innovative reform effort? At San-

tana High School, just east of San Diego, the community responded to this challenge by establishing a number of expected schoolwide learning results or standards (Table 1) to address historically high dropout rates, segregated special education classes, low academic achievement, and graduates underprepared for their careers. (A thumbnail sketch of Santana High School follows.) The performance measures that align with the standards are interpreted in such a way that all students can achieve them, albeit with different kinds and levels of support.

The implementation of these new standards required a number of adjustments to the traditional operation of the school, including changes in the curriculum, instructional methods, perceived ability tracking, departmental structures, and the bell schedule. The staff discovered that changing any one of these elements affected all of the others. For example, as teachers changed how they delivered their curriculum, the traditional 54-minute period schedule was adjusted. The composition of teaching teams changed from a departmental focus to one that was interdisciplinary and theme based. Given the history of inclusive education at this school, special educators were expected to be part of the planning and implementation teams from the

Table 1. Santana High School expected schoolwide learning results

Students will become . . .

EFFECTIVE COMMUNICATORS WHO . . .

- Read, write, speak, and listen reflectively and critically for a variety of purposes and audiences
- Can perform in both collaborative and individual environments
- Are exposed to strategies for resolving conflicts

SELF-DIRECTED LEARNERS WHO . . .

- · Gather and utilize information and demonstrate strategies to solve problems
- Coordinate time management and organizational skills
- · Create intellectual, artistic, practical, and physical products

EFFECTIVE USERS OF TECHNOLOGY WHO . . .

Access, research, and organize information for personal, educational, and career purposes

INVOLVED CITIZENS WHO . . .

- · Examine and respond to social, health, and environmental issues
- · Can identify the positive aspects of diversity

KNOWLEDGEABLE, EFFECTIVE CANDIDATES FOR THE WORLD OF WORK

- Recognize the relationship between school and the workplace
- Set short- and long-term goals and work progressively toward their achievement
- Possess the requisite skills for the examination of a variety of career options

start. This ensured that students with disabilities were explicitly part of this school's reform agenda. One of the most controversial educational debates at Santana and elsewhere centers on tracking or grouping of students by their perceived ability (Oakes, 1985; Wheelock, 1992). A group of Santana science teachers who had positive experiences with heterogeneous classrooms that included students with disabilities decided to detrack their courses. The decision to detrack sciences led to the adoption of a new approach to science education. The discrete sciences of biology, chemistry, physics, and geology were coordinated into a 2-year thematic sequence. Thus, all ninth-grade students, regardless of their perceived ability, enrolled in "Science and Me," which included aspects of each of the discrete sciences as they relate to the individual.

A Thumbnail Sketch of Santana High School

Santana High School is located about 20 miles east of San Diego in southern California. Current enrollment is more than 1,800 students, representing the cultural and linguistic diversity of the community. Santana is a member of the Second to None school alliance, a high school reform initiative in California. Prior to 1992, the school had 28 students identified as having significant disabilities who received their instruction in special day classes and community-based environments. Presently, all students with significant disabilities attend general education classes for the entire school day. A block schedule whereby students attend three 90-minute classes daily for a 9-week quarter was instituted in 1994, and, as a result, teachers have initiated thematic instruction and cooperative learning strategies. This alternative schoolwide schedule provides a common planning period for teachers at the end of each school day. Over time, as the curriculum has become more integrated, related services, including speech and physical therapy, have been incorporated into daily schedules. Santana was recognized for its accomplishments by Exceptional Parent magazine with an education award in 1996.

SUPPORT FOR TEACHERS AND ADMINISTRATORS DURING THE CHANGE PROCESS MUST BE PROVIDED THROUGH INTERNAL STRUCTURES AND THROUGH ASSOCIATION WITH AN OUTSIDE "CRITICAL FRIEND"

Common to every single school that has sustained a major change in educational philosophy and practice is their commitment to support

teachers during the change process and their association with one or more outside-the-school "critical friends" (Olson, 1994). At Souhegan High School, that support has been provided through a number of different strategies and forums, including the following:

- 1. Traditional staff development and in-service training
- 2. Association with the UNH Restructuring and Inclusion Project
- 3. Membership in the Coalition of Essential Schools and the Annenberg Institute for School Reform
- 4. Provision of time and support for teachers to engage in reflective inquiry about their curriculum and their teaching practice

Two of these elements, reflective inquiry and association with a critical friend, have been particularly useful in ensuring the effective implementation of Souhegan's commitment to inclusion and heterogeneous grouping.

Curriculum Tuning, a Reflective Inquiry Process, Evaluates Curriculum Design

Curriculum tuning provides teachers with a structure for getting constructive feedback on curriculum as it is in the process of being designed and on the effectiveness of teaching by evaluation of students' end-of-unit exhibitions or demonstrations (Allen, 1995). The basic structure of tuning is relatively simple and consists of the following format. A teacher or teaching team asks a group of colleagues for feedback on a curriculum idea or on end-of-unit student work. He or she (or they) is the "tunee" and two to four colleagues invited by the tunee are the "tuners." Prior to the tuning meeting, the tunee disseminates a one-page description of the unit or the student work that will be tuned. The tuners are responsible for familiarizing themselves with this material prior to the tuning session. A facilitator not participating as a tuner keeps the group focused and structured according to the protocol, and someone not participating directly in the tuning functions as a debriefer at the conclusion of the session. At the appointed time for the tuning, all of the participants gather in a classroom or conference room and promise to devote a minimum of 40 minutes to the discussion. The tuning protocol is presented in Table 2.

The notes from an actual tuning session illustrate how the process works with real teachers and a real curriculum. Souhegan ninth-grade science teacher Chris Balch had an idea for teaching students about the environmental impact of careless disposal of toxic products com-

Philosophical Foundations

Table 2. Tuning protocol

- Introduction by the facilitator (10 minutes): The facilitator explains the protocol, and participants introduce themselves.
- Tunee presentation (5-10 minutes): The teacher asking for feedback presents a brief description of the unit or examples of student work. He or she may bring books, articles, equipment, or other learning resources if they will enhance the tuners' understanding of the lesson. During this presentation, the tuners take notes as necessary.
- Clarifying questions (5 minutes): The tuners then have the opportunity to ask one to three concise clarifying questions to enable them to get a clear understanding of the unit or student work being presented. These questions should not be thinly disguised feedback or judgments and should need only a brief answer by the tunee.
- 4. Tuners record warm and cool comments (5-10 minutes): The tuners then record warm (i.e., complimentary) and cool (i.e., questioning or challenging) comments or questions. The tunee can express a preference for the cool comments to be phrased as questions or as direct statements and recommendations.
- 5. Tuners share cool and warm comments with tunee (10 minutes): There are two choices for how the tuners' comments can be communicated with the tunee. The first choice is for the tuners to share their warm and cool comments directly with the tunee in a round-robin fashion. The second format allows the tuners to have a conversation aloud among themselves in which they discuss the unit or work being presented, focusing on both warm and cool comments, additional ideas for the unit, or other feedback. During this portion of the tuning, the tunee takes notes and does not interact with the tuners.
- Reflection/response (10 minutes): At the conclusion of the feedback period by the tuners, the tunee then has a "conversation with him- or herself" aloud or with his teaching partner about selected warm and cool comments. A critical point is that the tunee can respond to any or all of the comments but does not have to justify why particular comments were ignored. This protocol gives tunees the power and prerogative of choosing just those comments that seem most useful at the present time.
- 7. Debrief (10 minutes): At the conclusion of the formal tuning, the debriefer asks the participants to reflect on their contributions and the usefulness of the process. He or she gives participants feedback on their communication skills and whether they were appropriately self-critical.

monly found around the home, garage, and garden. He asked for some specific feedback on the sequencing and timing of activities and suggestions for activities that would illuminate this issue. He also wondered which types of organisms would be appropriate to survey and the measurement tools that would identify those organisms.

The Tunees: Chris Balch, ninth-grade science teacher, and Fran Harrow, school nurse (his teaching partner for some units during the semester)

The Tuners: Diane Glidden, Bruce Shotland, and Paul Schlotman, science teachers

The Facilitator: Allison Rowe

The Debriefer: Jennifer Mueller

The Unit: "The Danger Zone at Home," describing how toxic waste pollution occurs in your home and its effect on living systems

Description of Lesson

Chris: I don't have it all worked out yet, but here's how I think the unit would go. Students would brainstorm a list of the toxic substances present in their homes. They would design and conduct a home survey of which substances are actually present. After sharing the survey results in class, they would talk about how those substances are commonly disposed of. I would facilitate a discussion of the environmental impact of disposal methods. Students would then do a pond survey to see what living systems exist there. They would research the concentrations of toxins that might actually be dumped into a pond. They then might do a sequential dilution of the toxic substance and test the impact on pond life that has been brought into the classroom laboratory.

Clarifying Questions

Bruce: How long will this unit take?

Chris: 3-4 days.

Paul: What do you want them to get out of this? What are your

learning outcomes?

Chris: Well, I haven't gotten to the point where I have written down all of the skills that I want them to have. I wanted to get your

feedback first. But generally, I want them to refine their field

research skills within a real-life application.

Discussion Among Tuners

In this instance, the tuners had a free-flowing discussion while Chris and Fran took notes.

Would probably take longer than 3–4 days to do justice to it. After you do the house survey, you could have them do an LD 50 using brine shrimp. You could graph concentration versus kill ratio. What are the ethical considerations of killing the brine shrimp for the sake of this experiment? This seems to be a great unit for students with diverse learning styles. It has hands-on activities, real-life implications, and lots of opportunity for some critical analysis, and consideration of multiple points of view and competing priorities. Don't forget about "casual chemicals": substances that don't necessarily have warning signs. This project is great. Ties into Project 2061. Could be a full-year project in which you poison brine shrimp and then feed them to guppies to see the impact on the food chain. Good opportunity to teach them about the entire watershed system and how dumping affects all parts of it. It would be more authentic to study a real pond that has

toxic substances and watch it throughout a year to see the impact on the actual pond life. If you are going to put the effort into this activity, it should really be beefed up and part of a more comprehensive unit so that kids don't just think it's an isolated activity.

Allison (as facilitator): I think Chris and Fran are still asking about the timing issue. Could it be a small unit and still retain its usefulness and authenticity?

The tuners each responded "no"—they did not think that the unit would be authentic in an abbreviated form.

Tunees Reflect on Feedback

Chris's and Fran's reflections:

I guess it would definitely take longer than 2 or 3 days. If we don't include the pond water survey and do only the home toxins testing, then that will be about 4 days by itself. We could still fit in the LD 50 test. I think using the real pond would make it authentic and meaningful to the kids. I like the hard data collection LD 50 test. Graphing concentrations versus percentage of survival and kills. The ethics question is interesting. We could have someone from a testing laboratory that does not use animals talk to the students about the limitations and advantages of using computer models or nonanimal systems. Finding a real toxic pond would be

Whole-Group Discussion of Process

Jennifer, the debriefer, then asked the participants to reflect on their participation and the usefulness of the process. Their comments included the following:

You can get a lot of curriculum ideas early on even without a lot of prior preparation. Using tuning during the design process makes it more of a collaborative activity than a critical one. Using a protocol helps people stay focused on curriculum. It's a way to share information about what your colleagues have done. Interdisciplinary curriculum develops naturally when people share.

Issues relating to heterogeneous grouping or inclusion can be brought out during a tuning or can be the focus question that brings people together. At Souhegan, a special education teacher asked a group of

colleagues to "tune" her role on a teaching team and provide suggestions for how she might increase her effectiveness as a teaching partner.

Association with a Critical Friend

The second strategy for advancing a systematic change process, and one that was critical to Souhegan's inclusive education commitment, was their association with the UNH Institute on Disability through a federal research grant. The notion of a critical friend, or someone who is an "outsider on the inside," is a foundation of the Coalition of Essential Schools' work with their member institutions (Olson, 1994). A critical friend, though not a part of the day-to-day activities of the school, is known and respected by the faculty and administration. He or she spends time at the school, not just in meetings, but in classrooms, watching and talking to teachers and students to get an understanding of the explicit culture of the school as it is reflected in curriculum, teaching, and policies, as well as the implicit culture and climate of the school that can be sensed after a period of time on site. A critical friend is a part of important conversations at the school. He or she listens carefully, clarifies people's comments, and provides context to the discussion by supplying information about other schools' experiences and what is being discussed in the research literature. After trust is established and the critical friend's expertise acknowledged, gentle questions can guide teachers and administrators to deeper levels of reflection and toward new ways of solving dilemmas.

The association of one of this chapter's coauthors (Cheryl M. Jorgensen) with Souhegan High School exemplified this critical friend role. During the first few months of the federally funded research project that was housed at Souhegan, Cheryl spent 2 or 3 days per week on site, just roaming the halls, eating lunch with teachers and students, attending general faculty meetings, and, when invited, visiting classrooms. Gradually, teachers extended her an invitation to attend team meetings. Again, at first, she just listened and facilitated discussions that were stuck. Soon, teachers began to ask her opinion about issues specifically related to students with disabilities. She provided brief answers to their queries initially but gradually became a more vocal participant in discussion of overall curriculum design and personalization for all students.

Teachers' and administrators' comments about Cheryl's role illustrate the power of the critical friend in introducing an innovation (i.e., inclusion), solving problems relating to its implementation, and institutionalizing its principles and values into the culture and daily operation of the school.

45

Philosophical Foundations

A modern language teacher: Cheryl didn't

Cheryl didn't so much tell us what we should do, she just kept asking questions and guiding us toward finding the answers that would work for us.

The principal:

Cheryl served as our "roving conscience" relative to inclusion. Because she was present so much in our school, we began to think about how everything we did was going to affect students with disabilities.

A science teacher:

When I found out that I was going to have students with significant disabilities in my class, I really panicked. It wasn't that I didn't want them there, but I just didn't have any idea about what I could offer them . . . what they were supposed to get out of being in my science class. After having Cheryl work with our team last year, I now think automatically about how I'm going to design a unit that addresses all of the kids in my class.

SOCIAL JUSTICE ISSUES, INCLUDING DISABILITY, MUST BE INFUSED THROUGHOUT THE CURRICULUM

Out of frustration with the increasing racial tension at Santana High School, a tenth-grade English teacher proposed a new unit on social justice. Her colleagues were interested in the concept but understood that adopting this 9-week unit for the entire tenth grade required a revision in the core literature selection. While discussing the choices for reading material, the teachers and several inclusion project consultants—this school's critical friends—realized that, if the purpose of the unit was to focus on human rights and how a just society treats its citizens, then they needed to include information on all citizens. As a result, the focus of the unit expanded to include issues of disability, gender, sexual orientation, and socioeconomic status.

The Social Justice Project was introduced to the first group of students, who were required to choose and research a social problem in their community, such as domestic violence, homelessness, voting rights, or immigration. Students were required to conduct two interviews. The first interview was designed to find out how one of their own family members felt about this subject. The second interview, with a key person from a social services agency, focused on possible

pg 46 # 18

solutions to the social justice issue. In addition to an oral presentation on their findings, students wrote reports and helped design their own plan for how a "just" city should be organized.

After participating in the unit, students generalized the lessons they learned to additional subject areas. Some asked their teachers to relate some of these social justice issues to other problems and areas of study. For example, one senior in his twelfth-grade Shakespeare class asked about people with disabilities playing the role of court jesters. He had difficulty reconciling such treatment of people in an era of perceived cultural enlightenment. Over time, additional examples of infusing social justice issues into the curriculum included a core reading requirement of Steinbeck's (1937) Of Mice and Men, a "film as literature" class that examined the role of individuals with disabilities and women in media, a science class project in which students modified a laboratory chair for a student with multiple disabilities, a child development class that included an open discussion and paper on the birth of a child with a disability, and a psychology class that focused on conflict resolution and race and human relations.

The cumulative effect of these and similar experiences is an acceptance of all students, including those with disabilities, as members of the school community. In an inclusive, restructuring school, students are continually encouraged to examine their values, beliefs, and behaviors. We were convinced that this practice—a focus on social justice issues-was essential when LaSheieka shared her decathlon speech. When she becomes the physician she wants to be, LaSheieka's high school experience will remain with her and she will be well prepared for the multicultural world in which she will practice.

In Chapter 4, three nuts-and-bolts issues related to school restructuring and inclusive education are discussed: creative use of time, roles of general and special education teachers, and heterogeneous grouping. Implementation suggestions for teachers and administrators related to Chapters 3 and 4 are found at the end of Chapter 4.

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