

Play School

By Jennifer L. Rich

A games-centered after-school program in North Carolina gives needy kids a confidence boost.

It's a deliciously sunny September afternoon in the Appalachian town of Zionville, North Carolina, and the children are frantic to squeeze out the last drops of summer before frost begins to settle on the surrounding mountains. On the grassy playground of Mabel Elementary School, a few lanky boys hurl frisbees so forcefully, the momentum twirls them around and knocks them over. Girls fling hula hoops against their bodies and gyrate wildly, trying to keep the green and blue and yellow rings from sinking to the ground.

The kids chatter loudly, laughing and joking not only with each other but with a handful of college students from nearby Appalachian State University. They come to Mabel twice a week to help run an after-school program called Fifth Dimension, which mixes play and computer games to improve the education and social skills of mostly poor, disadvantaged kids. Everyone seems to be enjoying him- or herself—everyone, that is, except Brooke Matheson, a chubby 8-year-old with glasses who's barely said a word.

Amy Penhollow, the ASU student who has been assigned to mentor Brooke, sits quietly with the 3rd grader, legs dangling from a jungle gym, wondering how to get her to talk. The thin, blond 22-year-old Penhollow is timid herself, and connecting with the unresponsive child hasn't been easy. Eventually, Brooke wanders over to the chain-link fence that divides the neatly manicured school grounds from the musty-smelling pine and brush in a neighboring yard. The air is crisp with a hint of winter, which comes early to this 3,500-foot-high section of the Blue Ridge Mountains.

Before long, Brooke comes rushing back. Wearing a bulky brown leather jacket, she urgently tells Penhollow that she needs a pair of scissors. The college student hesitates, then finally asks, "Why?"

"Because I want to cut something off of a plant to bring to my class," is the answer.

Penhollow, who has already seen Brooke dissolve into a handful of tantrums in the three weeks she's known her, is reluctant to say no. Discipline has never been the education major's strong suit. So instead she says, "Why don't you ask one of the site coordinators, ask Kelly or Hunter if you can have a pair of scissors."

Brooke tears off and soon returns with Kelly Frye, a college student herself and a veteran Fifth Dimension site coordinator, in tow. "Show me what it is that you want to cut off," Frye says. Brooke points to a prickly, half-dollar-size seed pod dangling on the other side of the fence. "We're learning about plants in my class," she explains. "I want to bring it in to show to everybody."

"I think that thing is better left on the tree," Frye says. "Come on, it's time to go in anyway."

As Brooke runs inside, Penhollow follows. Three years of tutoring elementary school kids at the 4-H club in her hometown 30 miles away has left her inadequately prepared for the dynamics of Fifth Dimension, where the children are, by design, in control. Indeed, at the beginning of the semester, Penhollow and the rest of the ASU group, all education students, were told to leave their preconceptions about teaching at the door. Here, they're mentors, not instructors; they provide guidance only when it's asked for, and everything from playtime to computer games is 100 percent voluntary.

Inside Mabel Elementary, after the kids have had their drinks of water, they break into two groups. One heads to the art room, and the other, which includes Brooke and Penhollow, enters the computer room, which is equipped with 15 tidy black PCs. A sign on the wall reads "Keep the Area Clean and Neat!" Brooke picks a computer in a corner of the room and settles into a blue plastic chair with wheels.

Like many Fifth Dimension kids, Brooke joined the program soon after enrolling at Mabel; she'll probably stay as long as her working parents feel she needs after-school supervision. They could have kept her in the school's traditional after-school program, which consists largely of homework guidance in the cafeteria, but Brooke, like others, opted to participate in the twice-weekly Fifth Dimension sessions after hearing the chatter and laughter floating down the halls. Parents, in turn, like the technology focus; only about half of Mabel families have computers at home.

Today, like most days, Brooke is playing *Max on the Moon*, a computer game in which a trip across the galaxy reinforces reasoning skills. She's supposed to play a different game each week. Her fellow students, for example, are making use of CD-ROMs titled *MathBlasters*, *Word Munchers*, and the geography game *Where in the World is Carmen Sandiego?* But Brooke likes the rocket ships and space aliens, and she's determined to find all the space chickens she needs to bring the game to an end. Penhollow settles in beside her, even though Brooke hasn't asked for help.

Across the hallway in the art room, mentor Amanda Harris and her charge, another 8-year-old, Carrie Pennell, are sprawled on the floor, furiously playing a board game. The spinner is loose, so a hard flick sends it twirling across the tiles. "I'm going to win again," Carrie taunts as she takes a big lead on the board. Before joining Fifth Dimension, the skinny girl with chin-length blond hair and big brown eyes was mostly silent and avoided eye contact. Her opening up so early in the program has surprised everyone. "The game's not over," Harris teases.

Patricia Sperry, the after-school coordinator at Mabel, wanders into the room, walkie-talkie in hand, and scans the clusters of activity. Kids and their mentors are playing with board games and plastic blocks, checkers and colored pens. One little boy and his ASU counterpart have made a car from Erector set pieces, and they're zipping it back and forth across the floor.

"It's amazing what this program has done for these kids," Sperry says. "I work with these kids every day, and I've seen how it brings out their personalities. They don't give up as easily. They try something now even when they don't understand it. They are developing leadership skills."

The same can be said for Fifth Dimension participants in elementary and middle schools elsewhere. What started as an experiment in California in the early 1980s is now practiced around the world. But the success of any single Fifth Dimension program depends solely on those who run it locally. And no one knows that better than those mentors who aspire, in the long run, to be teachers.

Mabel Elementary sits in a fertile mountain valley, better known locally as a "holler," just a stone's throw from U.S. Highway 421, which connects the little towns that dot the northwestern corner of North Carolina with similar sleepy hamlets in the Appalachians of northeastern Tennessee. Pine-and grass- covered hills roll away in every direction. Down the winding roads of the surrounding neighborhood, simple wooden houses with wraparound porches sit beside small plots of tobacco, a crop that's still a significant source of government-subsidized income.

There are 232 kids in kindergarten through 8th grade at Mabel, plus 18 preschoolers. Fifty-two percent of the student body qualifies for the National School Lunch Program. Twenty-five percent have emotional or learning disabilities of some kind, including ADHD and autism. There are five black students and one Asian American at Mabel, and while there have been Hispanics in the past, there aren't any this year.

Although Fifth Dimension seems tailor-made for a poor, rural community, its roots are urban. Despite the appearance of homogeneity, this part of Appalachia is full of contradictions. Originally explored by Daniel Boone, it is largely populated by a group of tightly knit native families who still proudly divide the world between "on the mountain" and "off the mountain." But in recent years, Watauga County has drawn a huge influx of retirees and outdoor-sports fanatics, who come for the relatively cool summer weather and abundant wildlife. Twenty-five years ago, local leaders also devised a plan to bring in winter tourists to supplement the income from Christmas tree farms. Thanks to tons of man-made snow and cold winter nights, the area boasts some of the only ski slopes in the South, with a resulting boom in hotel and retail jobs.

But the difference between the haves and the have-nots in the region is stark. Though tourism and ASU jobs sent the unemployment rate to a low 1.6 percent in 2000, according to the federal government's Appalachian Regional Commission, the average per capita income in Watauga County is roughly \$19,000 a year. And while the county has one of the most expensive real estate markets in the state, 21 percent of residents live

below the poverty line, compared with 13 percent nationwide. Increasing land prices are driving poorer families over the border, to Tennessee.

Mabel Elementary is a small, ranch-style brick building that's shaped like an X. That means principal Brenda Reese, a meticulous dresser with tightly cropped blond hair and a pronounced North Carolina drawl, can stand at the center of the building and keep an eye on all four halls at once. After seven years at Mabel and a lengthy career in education, not much escapes her gaze. So when she was asked by ASU in 1997 to host one of several local Fifth Dimension sites, she was quick to see how a mentoring program could affect her kids. "For children who are in the lower socioeconomic range, the issue of relationship is absolutely critical," Reese says. "You have to get them to want to do something for them to work for you."

Selling Fifth Dimension to her staff was a different story. Most difficult was convincing the school's technology coordinator that the expensive computer equipment provided by the state wouldn't be damaged. After they settled on the idea of an orientation session for the incoming ASU students to go over school rules and computer care, though, it was smooth sailing.

Early on, the pluses of the program were evident. According to a 1997 research study, kids in ASU-sponsored Fifth Dimension sites scored 8 points higher than nonparticipating children on both the math and reading portions of the state proficiency exam after only one semester in the program. "Even with Fifth Dimension being a quote-unquote 'fun activity,' there is a lot of remediation and reinforcement of skills that goes on," Reese explains.

Candy Land, for example, reinforces counting. Connect Four strengthens reasoning. *Where in the World is Carmen Sandiego?* stimulates an interest in geography and gets kids thinking about faraway places. Most important, Reese says, mentors help improve the basic language skills of elementary schoolers, who often don't have much exposure to adult conversation at home. "Vocabulary development is the single biggest overall weakness that we see, and we have to fight it from the time they enroll until they graduate," she says.

Reese is so pleased with the program, she's considered offering Fifth Dimension as an elective during the school day—a move that's already taken place in California, Brazil, and more than a dozen sites in Europe.

Although Fifth Dimension seems tailor-made for a poor, rural community, its roots are urban. The after-school program was founded by a group of researchers in San Diego in 1981, largely as a way to improve the reading skills of the city's immigrant children, who'd fallen far behind their native counterparts. Founder Mike Cole, a professor of communication at the University of California, San Diego, remembers: "The Apple II was invented that year, and there was this enormous optimism about the potential of new

technology to provide opportunities for individual instruction. So we would divide the kids' time between small-group reading activities and computer stuff."

To provide structure, they hit on the idea of using a model wooden maze composed of 20 rooms to guide the children's play. To move through each "room" (which is done with a game piece), the kids were asked to pick from a handful of computer and non-computer games, each one corresponding to a basic, intermediate, or advanced goal. Just what the kids chose depended on their ambitions.

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The computer game *Space Adventure*, for example, provides this "basic" objective: "The alien council wants to know what Earthlings know about the moon. Find out when the first men landed on the moon and what they found there." After navigating the program to learn about the first moon landing, the child is asked to complete an "adventure task," such as this one: "Pretend you are walking on the moon. Draw what you see and then make a list of the things that you see or don't see." More difficult tasks require working with the Internet and equipment borrowed from the sponsor college's multimedia lab. For example: "Make a video telling everything you know about space. Use other resources if you need help with facts."

The idea, Cole says, is to provide participants with various ways to set and achieve their goals. It fits right in with the essential Fifth Dimension philosophy: Children learn better when their education is voluntary. In such an environment, hierarchy is abandoned; teachers become both co-conspirators and cheerleaders, working alongside children to negotiate and complete activities.

To reinforce this collaboration, the founders also created an imaginary figure who oversees group activities. Sometimes called the Wizard, the figure sends e-mails or notes to the children, praising good work and giving them hints on how to win games. The kids, in turn, write letters to the Wizard, reporting their progress and explaining what they've learned. After he or she has passed through all 20 rooms of the maze—an accomplishment that can take years—a child becomes a Wizard's Assistant. The assistant also serves as mentor, encouraging the younger kids to finish the maze.

Cole wanted to make sure the original Fifth Dimension had plenty of mentors, so he linked the program to students in his undergraduate courses at UCSD. He was hoping to create the type of "laboratory" experience he still feels is largely missing from social science degree programs like teacher education, child psychology, and communication. "We pour out people who are going to go work with kids in a variety of ways, but they only read about kids," Cole claims. "What they really need while they are being educated is to confront the theories with practice, and practice with the theories."

Eventually, others in the education field concurred. In 1996, after the state's Proposition 209 was passed, forbidding the University of California system from using affirmative

action to admit students, Fifth Dimension was seen as a way to groom underprivileged children for eventual enrollment. With the university's backing—through a program called UCLinks, which provides logistical and limited monetary support—Fifth Dimension expanded rapidly throughout California.

There are now 35 Fifth Dimension sites in the state, using undergraduates from universities and state and community colleges to serve more than 4,000 kids in urban areas and on American Indian reservations. UCLinks alumni and disciples of Cole's have taken the program to schools and community centers in Florida, Delaware, and North Carolina, as well as to countries as far away as Brazil, Australia, and Russia. The European Commission has also embraced the program's principles, funding sites in Spain, Denmark, Sweden, and Belgium.

What's made the program successful in so many places, supporters say, is its flexibility. Each site is free to develop Fifth Dimension in its own way. In largely Hispanic northern San Diego, for example, sites have incorporated the bilingual and bicultural aspects of the community to create *La Clase Mágica*. In Riverside, California, the maze is made of stops on a historic trolley route that used to run through town, and kids communicate with Qwerty, the Riverside Trolley Conductor. Even at Mabel, where the maze and the Wizard are less frequently used because of cultural and organizational issues, the principles of Fifth Dimension remain the same.

As the number of sites grows, so does the pool of researchers studying the effects of the program. So far, it's been shown to improve basic reading and math scores on state proficiency tests in both North Carolina and California. One middle school in Berkeley, California, attributes a significant jump in its overall performance rating to the launch of Fifth Dimension. Kids have improved their technology skills. They are more attentive and confident in class. And after hours of hanging out with mentors, they want to go to college, too.

Ismael Castanon, a high school junior in Solana Beach, California, who's been a participant for more than 10 years and is now a Wizard's Assistant, recently wrote in the UCLinks newsletter, "At first I didn't think that the program would have such a big impact in my life, but boy was I wrong. Through this program I learned most of my English and math, and about computers in general." Castanon, who originally joined the program simply because his brothers had, is now applying to colleges to pursue a degree either in poetry or computers.

On a Wednesday morning in September, at quarter to eight, three dozen bleary-eyed college students with Styrofoam cups of coffee and cans of Mountain Dew wander into the college of education at Appalachian State University. They sit at small, round tables in the middle of a cinder block room whose perimeter is lined with boxy PCs and iMacs accented in teal blue. The walls are covered with printouts of digital photos and art

projects done by the kids who come here twice a week for an on-site version of Fifth Dimension.

Today, though, the undergraduates are here as students, not mentors. They're enrolled in CI/SPE 2800: Teachers, Schools, and Learners, a fundamentals course that promises to provide "a real-world look at the profession of teaching, the multifaceted nature of the learner, and the social and political issues that define classrooms and schools today." Mentoring at Fifth Dimension is required fieldwork for the class, though none of the students knew of the program before arriving earlier this year.

For those who expected a traditional tutoring or student-teaching experience, Fifth Dimension has been a culture shock. Most, like Penhollow, are from towns in North Carolina where alternative teaching techniques are infrequently used. When their own elementary school teachers spoke, pupils quietly obeyed.

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"There are too many rules and not enough rules at the same time," one student says of Fifth Dimension. "My kid has played the same game for two weeks in a row now," another says. "He's pretty bored with it, but he doesn't want to play anything else." Another complains: "When the kids are on the computers, you just sit there and watch them and make sure that they are doing something. It's like baby-sitting."

But Chris Bogardus, a 41-year-old career-changer from Kentucky who has a teenager of his own, dismisses the criticism as inexperience. "The Fifth Dimension has me remembering the things I used to do with my kid and his friends when they were 4- to 8-year-olds," the former construction worker says. "Most of the class is doing that for the first time. They're like, 'Why is this kid pulling my chain?' Because you don't know what you are doing yet."

The trick to navigating the maze and, ultimately, succeeding at Fifth Dimension is figuring out how to engage a child's curiosity. How to turn individual goals into a team effort. And how to coax meaning out of a variety of situations. "Last week, I had a kid who was very shy and very introverted," one ASU student says. "I felt trying to engage him one-on-one was something that his teachers wouldn't be able to do in the classroom setting, allowing him to hear his own voice and talk about his likes and dislikes. I think that bringing him out of his shell is a worthwhile experience in and of itself."

For Walter Oldendorf, a soft-spoken professor with a fringe of white hair and a perpetually mischievous glint in his eye, this period of discomfort and discovery is just about right for the beginning of the semester. "Early on, our mentors say, 'I'm not prepared to manage this child' because it is assumed that the teacher has the knowledge

and it is the role of the student to store it and spew it back," he says. "We're trying to show that the teacher is not necessarily a dominant force."

Oldendorf, the coordinator of the ASU Fifth Dimension program, and other professors track their students' progress through field notes they're required to submit each week. In the notes, they describe their interactions with the children and the kids' interactions with each other, and they reflect on the day's events. Oldendorf says the exercise fosters what are, for education students, startling insights, like this one in 21-year-old Stephanie Zahare's notes: "I know that we as students are supposed to be the mentors, but in a way I feel like the children are my mentors because they are my teachers. I am learning from them."

Zahare, like others, is learning how kids think and acquire knowledge and how they're motivated. "It is a great revelation for these kids that they can learn from the children," says Candis Walker, the assistant coordinator. "They learn to take the expertise where they can get it."

Despite the problems she's having now with 8-year-old Brooke, later this semester Penhollow will agree. "I've never had to tell a child, 'Look, this is how it is going to be,' like I've had to with Brooke," she'll say. "She taught me that I would be able to handle a situation like that without losing my mind. I'm grateful that I was able to learn that, because if I didn't, I couldn't be a teacher."

According to Oldendorf, most of the ASU students have had similar revelations. And like Penhollow, they often use the experience to determine whether they'll pursue a career in teaching. "What I at least hope happens," he says, "is that our students will complete the class with a changing outlook about what kinds of organizational cultures promote learning—that it gives them an opportunity to explore other cultures and ways of teaching and how to develop those programs from within an existing structure. Even though these students are not likely to be in schools where kids learn like in the Fifth Dimension, maybe they will bring back that learning to their classroom."

Oldendorf is as passionate a proponent of the program as they come. A former dean at the University of Minnesota, he moved to North Carolina in 2001 because his wife, Sandra, who is also an education professor, had joined the ASU faculty. When Charles Duke, dean of the college of education, approached him about taking over leadership of Fifth Dimension, Oldendorf gave up retirement for the opportunity, saying, "It's the job I've been waiting for for 40 years."

But the program, which had been in operation since 1997, was in trouble. Those who'd been running it from ASU often went into the elementary and middle schools as if they owned them, without listening to the concerns of administrators or after-school staff, according to Alice Naylor, head of ASU's doctoral program in educational leadership, who did a sustainability study of Fifth Dimension during the 2001-02 school year. At many of the sites, she adds, the principles and methods of the program hadn't been adequately explained to school employees.

The problem got worse after one school system won a federal grant to develop extensive after-school programs, including Fifth Dimension. According to Naylor, the move was a mistake: Fifth Dimension staffers bristled at the idea of being a cog in a larger program, while the grant administrator, who was paying many of the bills, objected to their objections.

Oldendorf spent the first months of his tenure rebuilding many of the relationships that had become strained over the years. He also scaled back the program from eight schools to five and urged mentors and site coordinators to collaborate openly with him. "I want the kids to be honest with me, because they are the ones running the program," Oldendorf explains. "I count on them to make it successful."

Back in the art room at Mabel Elementary, April Hill, the technology coordinator for Fifth Dimension, has set up an Apple laptop computer and a small printer on a table under a bulletin board covered in bright yellow construction paper that reads "Welcome to Drama." Hill, a former Fifth Dimension mentor, is busy acquainting one of the ASU students with QuickTime, a program that can be used to turn a series of digital photos or a video into a presentation accompanied by music.

During Fifth Dimension's summer session at the ASU lab, Hill had kids using Microsoft Paint to create stories about a dog named Spike. She also handed out digital cameras and told the mentors and their charges to photograph each other using their bodies to spell their names. And she asked them to create silly stories inspired by other shots. Aside from fostering creativity, the activities allowed everyone to learn a handful of new technology skills.

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Hill's goal is to start introducing similar projects to the program at Mabel later this semester. "The hardest part is trying to get the mentors not to be afraid of the technology," she insists. "They still have the problem of wanting to learn how to do it first before they show the kids."

Penhollow is a case in point. Not until October, when the leaves along the Blue Ridge Mountains glow in brilliant shades of yellow and red, will she borrow a digital camera from the ASU lab. She's never seen one, much less used one, but with the semester ticking away, she and Brooke need to complete a portfolio that Penhollow can present in Oldendorf's class.

When the project is done, Penhollow will recount what happened, saying that Brooke loved the idea of taking pictures, especially since she could see, instantly, the results of her work. Before long, the painfully shy girl was snapping candid photos of everyone in the

group—that is, of everything but their heads. "Every time I take a picture, the head keeps coming off," she told Penhollow. "You need to look at the view in the window," her mentor responded. It was one of the first times that Brooke had come to her for help, Penhollow says, and the ASU student was struck by how good it felt.

At one point, however, the camera stopped working entirely. The setback stumped them both, until they figured out that the resolution was set too high. On that first disk, they'd managed to fit only four photos. By disk two, they'd figured out how to get 15. And by the third and fourth disks, they'd fit 32 photos of children, mentors, coordinators, and staff.

And then the disks ran out, a tense moment for Penhollow. "I told her before we started that once she got through the four disks, she would have to stop," she recalls. "As much as she didn't like that at first, she was OK with it."

In fact, it was the first time Brooke didn't throw a tantrum after not getting her way. "I think that part of why she enjoyed it was because she used it as a way to interact with the group," Penhollow explains. "Now she wants to be in the group, and she doesn't need the camera anymore."

Penhollow considers the interaction an "inspiration," one that's led her to rethink her role as a teacher. "She has shown me that children like to play together a whole lot more than they do apart," Penhollow says. "Because of her, I'll probably do a whole lot more group stuff in my classroom."

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The [Fifth Dimension Clearinghouse](#) offers [information](#) and [resources](#) for local program sites.

The Fifth Dimension's [European base](#) provides [research](#) on the effectiveness of its program, such as the paper "[Intergenerational and Interinstitutional Learning in the Fifth Dimension: Means and Ends in Change and Development of School Practice.](#)" (Requires [Adobe's Acrobat Reader.](#))

PHOTOS: Appalachian State University student Katy Van Vynckt plays Mousetrap with Amanda Eagle-Farrar, the Mabel Elementary student she mentors as part of the after-school program. A school official says of Fifth Dimension: "It's amazing what this program has done for these kids. ... I've seen how it brings out their personalities." Computers play a crucial role in Fifth Dimension, which was founded in San Diego in 1981. "The Apple II was invented that year," says Mike Cole, a communication professor

at UCSD," and there was this enormous optimism about the potential of new technology to provide opportunities for individual instruction.

"Each Fifth Dimension program is sponsored by a college—in this case, ASU, set in the scenic Blue Ridge Mountains. The program's mentors are undergraduate students hoping, one day, to be teachers.

Walter Oldendorf, coordinator of the ASU program, says that Fifth Dimension is a wake-up call of sorts for college students who assume there's only one way to educate kids. The program, he adds, "gives them an opportunity to explore other cultures and ways of teaching."

—Photographs by Tom Raymond