

| [Table of Contents](#) | [Review Board](#) | [Resources](#) | [Archive](#) |



"The phrases the students are trying out on the floor are directly related to the movement of the three-dimensional figures dancing within the computer."

Getting There From Here — One Teacher's Dance with Technology

[Pru Cuper](#)

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Introduction

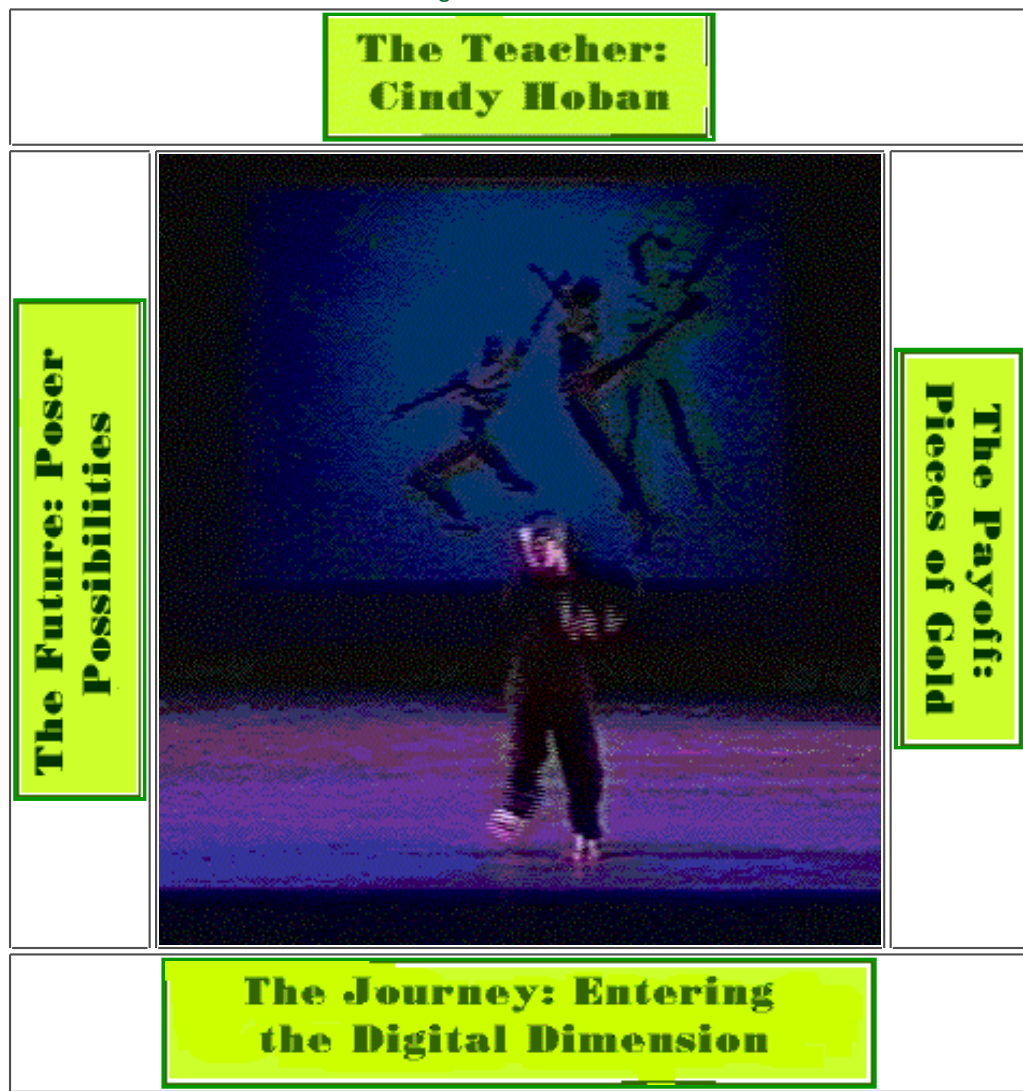
A visitor to the dance studio at Raleigh, North Carolina's Martin Middle School is likely to enter a room teeming with life and excitement. A group of young dancers may sit on the polished wooden floor, watching as another cluster of students begins work on the choreography for their next performance. The students' teacher is an energetic presence in the room, watching and listening and interjecting periodic comments.



"...the teacher, Cindy Hoban, encourages the experimentation that is taking place."

On the desk beside this teacher there is likely to sit a laptop computer. Another group of dancers manipulate animated figures on the computer's screen. Slowly, the visitor sees what is taking place in this unique classroom. There is a new dimension being added to the choreography. The phrases the students are trying out on the floor are directly related to the movement of the three-dimensional figures dancing within the computer. These dance phrases develop simultaneously at some points, transactionally at others. And the teacher, Cindy Hoban, encourages the experimentation that is taking place. "Use variation. Manipulate what you have," she is likely to call to her students. "Challenge the possibilities."

Getting There from Here



[The Teacher: Cindy Hoban](#) | [The Journey: Entering the Digital Dimension](#)
[The Payoff: Pieces of Gold](#) | [The Future: Poser Possibilities](#)

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| [Table of Contents](#) | [Review Board](#) | [Resources](#) | [Archive](#) |

| [Table of Contents](#) | [Review Board](#) | [Resources](#) | [Archive](#) |

M E R I D I A N

One Teacher's Dance with Technology

"Martin, a gifted and talented magnet school with an emphasis on the arts, was a perfect match for Cindy's talents."

[Ms. Hoban's dance course offerings](#)

[Martin Middle School](#)

The Teacher: Cindy Hoban

There is a dedication that accompanies many of the fine arts — a dedication that may show its face in early childhood. Little Pablo picks up a paintbrush and takes a few tentative strokes to the canvas. Little Emily begins speaking, not in single syllables but in rhymes. Not so with little Cindy, later to become the beloved Ms. Hoban of [Martin Middle School](#). By her own admission, little Cindy was a clumsy child. The family hope was that dance lessons might somehow improve this situation, that the challenge might awaken something latent within the little girl.

And so Cindy began, at the age of seven, to take dance lessons. She pulled on satin slippers and danced ballet; and low and behold, one small step at a time, she grew less clumsy. She tied her small feet into shiny black tap shoes; and with each clack of her toes to each clack of her heels, she grew less clumsy still. She tried modern dance and jazz and combined all of what she had learned with a newfound confidence and grace.

And this Cindy-the-dancer, now fully grown and agile and brimming with confidence, went off to the State University of New York (SUNY) to study theater. She thrived for two years on the Oswego campus before the call to dance brought her to Ohio State University where she continued her studies in the area she loved the best, earning a bachelor's degree in fine arts.

Cindy soon opened her own dance studio with a loan co-signed by her proud parents. She danced professionally and taught dance lessons, and along the way she married and raised two children, a son who is now fifteen and a daughter who is thirteen. While combining being a wife and mother and dancer, Cindy also became a dance instructor at Martin Middle School where she has taught for the past nine years.

"It was this desire to take on that which was new and unknown to her that brought Cindy into the area of technology ..."

Martin, a gifted and talented magnet school with an emphasis on the arts, was a perfect match for Cindy's talents. As the years passed, [Ms. Hoban's dance course offerings](#) grew both in range and in popularity. Jazz, Modern Dance, Choreography & Improvisation and Dance Performance were all offered. But the ultimate goal for any Martin Middle School dancer was to become part of Ms. Hoban's distinguished 7th and 8th grade Dance Company.

For Cindy Hoban, the childhood challenge was met. But something else was awakened within the distinctive young woman who had emerged from Ohio State University, BFA degree in hand. Cindy had learned the joy of taking on the challenges life offers anyone willing to fully participate—anyone unwilling to accept the status quo. It was this desire to take on that which was new and unknown to her that brought Cindy into the area of technology, to see how she could integrate the use of technology with the performing arts.

| [Table of Contents](#) | [Review Board](#) | [Resources](#) | [Archive](#) |

M E R I D I A N

"The question was, how to combine computer technology with the study of dance."



[Superintendent Jim Surratt's Vision of Excellence](#)

[Technology Connections, Wake County's technology integration model](#)

[NC Department of Public Instruction \(DPI\)](#)

One Teacher's Dance with Technology

The Journey: Entering the Digital Dimension

Teaching is one of the most demanding of all professions. A controversial statement perhaps? For many, what comes to mind is a burned-out teacher who barely budges from his/her desk and doles out a series of worksheets and textbook readings. This is a demanding profession? Hardly. But this, also, is not what good teaching is all about. Good teaching is all about having your antenna up for what can energize your classroom—what can energize your students, and more importantly, what can energize you as the teacher so that you can then exude the spirit of excitement to the class and, possibly, to the entire school.

The year was 1997. After teaching for seven years at Martin Middle School, Cindy Hoban's antenna was definitely up. She was ready to try something entirely new with her students. The call from the North Carolina Department of Public Instruction, repeated by educators' voices from across the country had a common refrain. "Bring technology into the mix. Use computers. Get to know what the digital world has to offer." The question was, how to combine computer technology with the study of dance. The connection seemed to be tenuous, but Cindy was willing to look into the possibilities.

The journey began with an examination of nearby resources. Jim Surratt, the Superintendent of Schools in Wake County, had posted his [Vision of Excellence](#) on the Web. Within this document, he explained the [Technology Connections](#) initiative, calling for schools across the county to integrate technology into the curriculum. Schools demonstrating the use of technology to enhance learning would be designated Technology Connections Sites and would be rewarded with workstations, laptop computers and other technological enhancements. This would be a good start for Martin Middle School, Cindy decided.



[NC DPI Educational Resources Evaluation Services](#)

[Poser software](#)

[Wake Education Partnership](#)

[Howard Gardner's "seven intelligences"](#)

The next resource Cindy explored was the [Department of Public Instruction \(DPI\)](#). Not knowing exactly what was available, Cindy talked with Jerry Solomon of DPI's [Educational Resources Evaluation Services](#). Did Jerry know of any software that might connect to dance instruction? The answer was a definitive yes. The product, from MetaCreations, was called [Poser](#). It offered "artists, illustrators, designers, and video producers the coolest way to add humanity to almost any kind of project." With this software, Cindy realized, her students could move figures about the computer screen in a realistic fashion, manipulating their bodies almost the way a choreographer would manipulate the movement of dancers on the stage. The idea was intriguing but the software was expensive. It seemed time to regroup and consider a means of raising the necessary funds.

At the same time that Cindy was discovering *Poser* and exploring funding for this possible new endeavor, she became acquainted with a stage designer named David Beavers. David was also experimenting with new ways to apply technology to the performing arts. His innovation was known as the Magic Stage, a portable platform connected to a high-powered lighting and computer projection system. This seemed to be an intriguing match for the emerging vision Cindy had for her students. Would it be possible to connect and project images created in the *Poser* software to the movements of her dancers while they were onstage?

Fortunately for all involved, the [Wake Education Partnership](#) was looking to fund precisely the kind of project Cindy wanted to initiate. The Partnership, a private, non-profit group including such members as the Wake County PTA Council, the Cary Chamber of Commerce, and the Greater Raleigh Chamber of Commerce, was known for its support of quality, innovative undertakings that would strengthen the county's public schools. Cindy applied for a grant entitled *Integrating Technology and the Performing Arts* and was promptly awarded five hundred dollars. It was enough money to cover the purchase of the original *Poser* software and to begin working with David Beavers on the Magic Stage.

The process was slow and painstaking at times for Cindy, who was something of a novice with technology. She spent many hours at home practicing working with the *Poser* figures and asking her son for some occasional advice. In the meanwhile, her students enthusiastically used the software at school to create programs and fliers for their latest performances. It wasn't until *Poser 2* with full animation, was introduced that Cindy and her students began to truly interact with the software and to see the extent of its possibilities in the classroom. Suddenly the technology connection became very exciting. By working with the *Poser* figures at the same time they tried new phrases on the dance

floor, Cindy saw "her students get a deeper sense of their own physicality. . .to see the definite association of their muscle movements. It was a highly kinesthetic learning experience."

Being part of a gifted and talented middle school dedicated to the arts, how extraordinary it was to connect technology to kinesthetic learning. Of all [Howard Gardner's seven intelligences](#), the kinesthetic was traditionally the most problematic to blend into the curriculum. This was particularly true for teachers using technology who heard the repeated complaint that computer-aided instruction was so sedentary.



"We have made a commitment to something groundbreaking, something that needed to happen. We're showing the world that the arts aren't left behind, that we're right in there with technology."

Cindy recounted the original months of working with *Poser* as a trial and error period. Rotating each component of the animated forms and increasing from working with one figure on the computer screen to working with three at a time was arduous, but slowly a comfort level was attained. Cindy and her students started doing computer projections during their performances. The audience response was strong and it was in the summer of 1998 that Cindy decided on a performance entitled "Getting From Here To There." This performance would stretch the creativity of all involved. The dancers would interact with the computer figures projected on the tri-fold screen at the back of the stage. Sometimes they would dance together, sometimes their movements would be in contrast. It would be a matter of interpretation for both the dancers and the audience.

Filled with enthusiasm as work on "Getting from Here to There" progressed, Cindy placed two important phone calls. The first went to Elizabeth Grimes from the Wake County Central Office. Elizabeth was in charge of Arts Education and was familiar with the talents of Ms. Hoban of Martin Middle School. The discussion revolved around Cindy's desire to audition for the annual Pieces of Gold performance, a Wake County student showcase for the arts held at Memorial Auditorium in Raleigh. Elizabeth was taken with what Cindy proposed. Technology tied to a dance performance would be something no one had attempted before.

Cindy's second phone call went to Bill Brown, the technical director of Meredith College in Raleigh. He was a "theatre wizard" whom Cindy had worked with in the past. Did he feel it would be possible to put together what Cindy and her students would need in order to audition for Pieces of Gold? The answer, a whole-hearted yes, was accompanied by an agreement to help make it happen. Suddenly Cindy and twenty-one of her students were in the running for one of the coveted Pieces of Gold presentation openings. In past years, as many as seventy or eighty groups might audition but only twenty to twenty-five would be selected to perform.

The judges appeared slightly surprised when Ms. Hoban arrived for the audition with a laptop computer in tow. The rules called for no discussion between the judges and the auditioning groups; Cindy pointed out the purpose of the laptop as succinctly as possible. The students were nervous and Cindy calmed them as effectively as she could.

"It doesn't matter whether or not we are chosen," she reminded them. "It matters that we've done something important here. We have made a commitment to something groundbreaking, something that needed to happen. We're showing the world that the arts aren't left behind, that we're right in there with technology."

Buoyed by their teacher's words, the students performed beautifully, the technology didn't fail them, and "Getting from Here to There" was selected as one of the Pieces of Gold presentations.

| [Table of Contents](#) | [Review Board](#) | [Resources](#) | [Archive](#) |

M E R I D I A N

"Behind the dancers, sixteen female and five male, a tri-fold screen holds computer images of the human form."

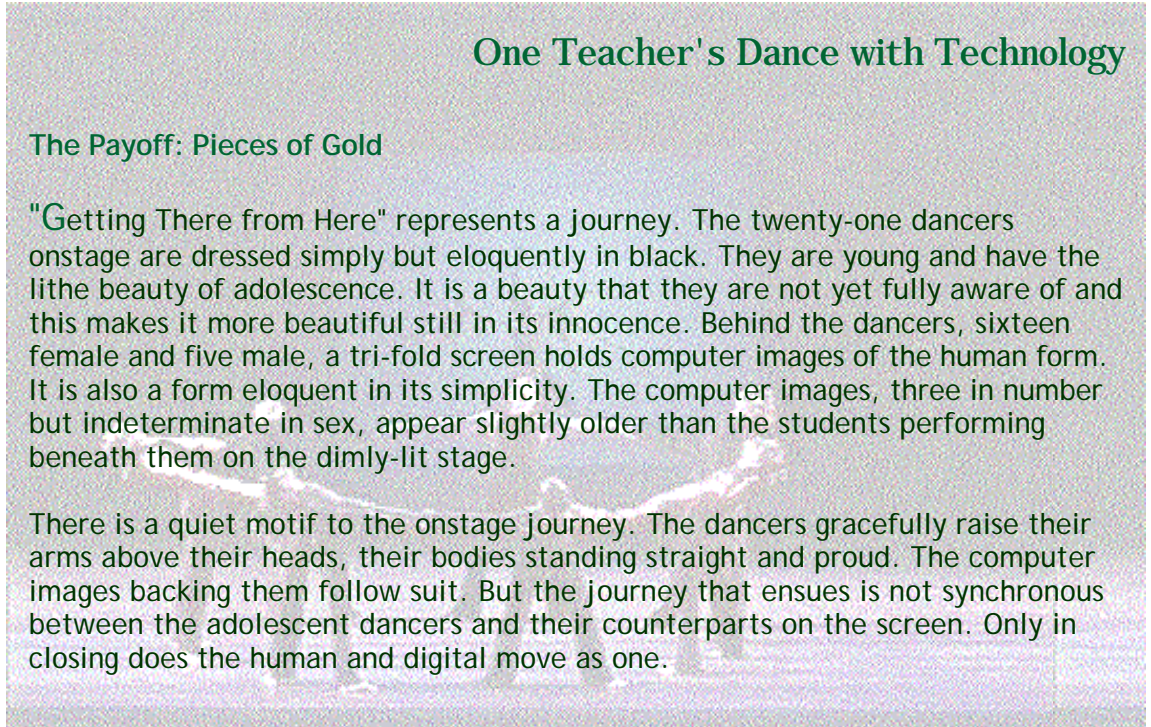


One Teacher's Dance with Technology

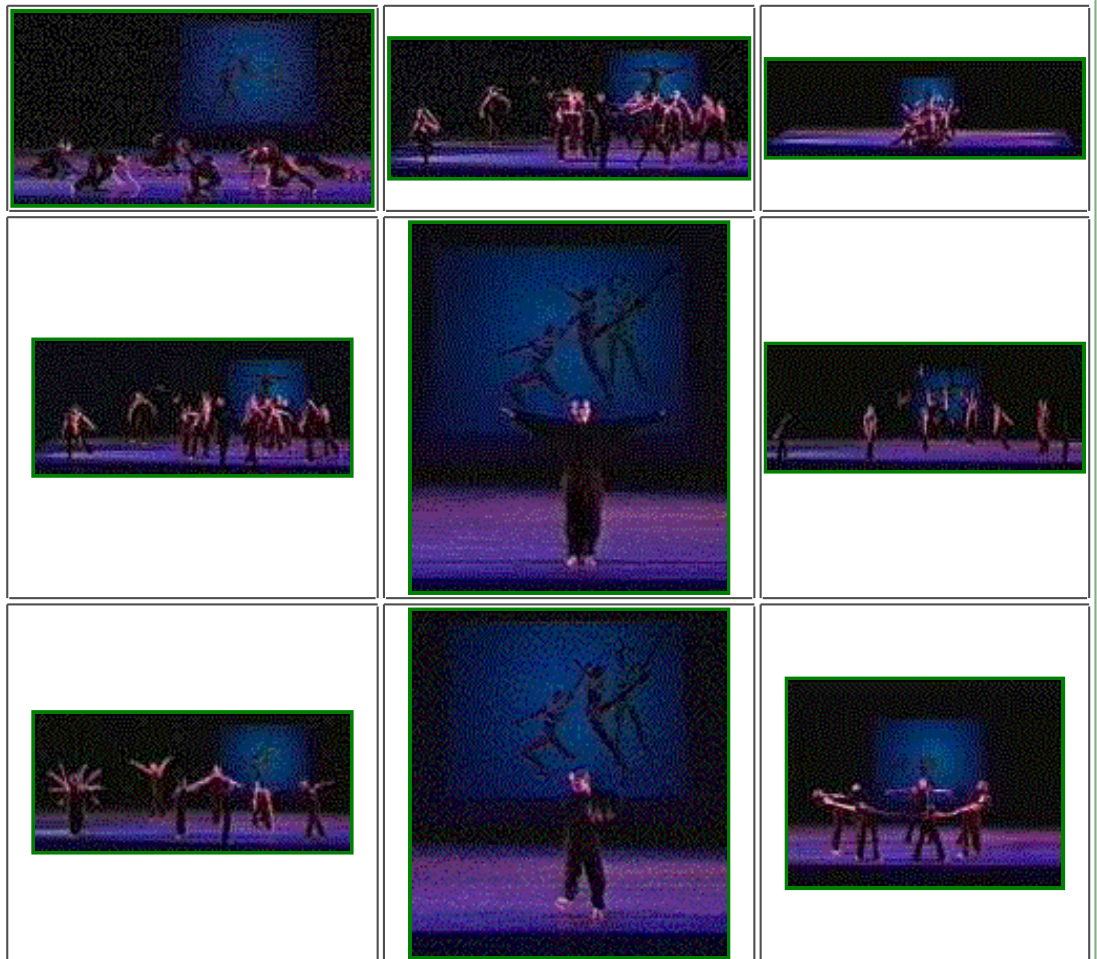
The Payoff: Pieces of Gold

"Getting There from Here" represents a journey. The twenty-one dancers onstage are dressed simply but eloquently in black. They are young and have the lithe beauty of adolescence. It is a beauty that they are not yet fully aware of and this makes it more beautiful still in its innocence. Behind the dancers, sixteen female and five male, a tri-fold screen holds computer images of the human form. It is also a form eloquent in its simplicity. The computer images, three in number but indeterminate in sex, appear slightly older than the students performing beneath them on the dimly-lit stage.

There is a quiet motif to the onstage journey. The dancers gracefully raise their arms above their heads, their bodies standing straight and proud. The computer images backing them follow suit. But the journey that ensues is not synchronous between the adolescent dancers and their counterparts on the screen. Only in closing does the human and digital move as one.



"The dancers gracefully raise their arms above their heads, their bodies standing straight and proud. The computer images backing them follow suit."



Click on an image to see a larger version. [Click here to see all the large images](#) (may take some time to download)

QuickTime movie clip from the performance may be downloaded (takes approx. 10 sec on a T1 line).

[Opening sequence \(2MB\)](#)

[Students and screen figures \(1MB\)](#)

[Shutdown sequence \(4MB\)](#)

The computer images drop mechanically to the bottom of the screen. They "shut down" as they must. In a display of respect to these dancers who have accompanied them onstage and enhanced their performance, the students, like human marionettes, lower themselves gracefully to the stage floor at the close of their onstage journey.



A round of applause follows this thought-provoking interaction between art and technology, between humanity and the human potential to define art in an unexpected arena.

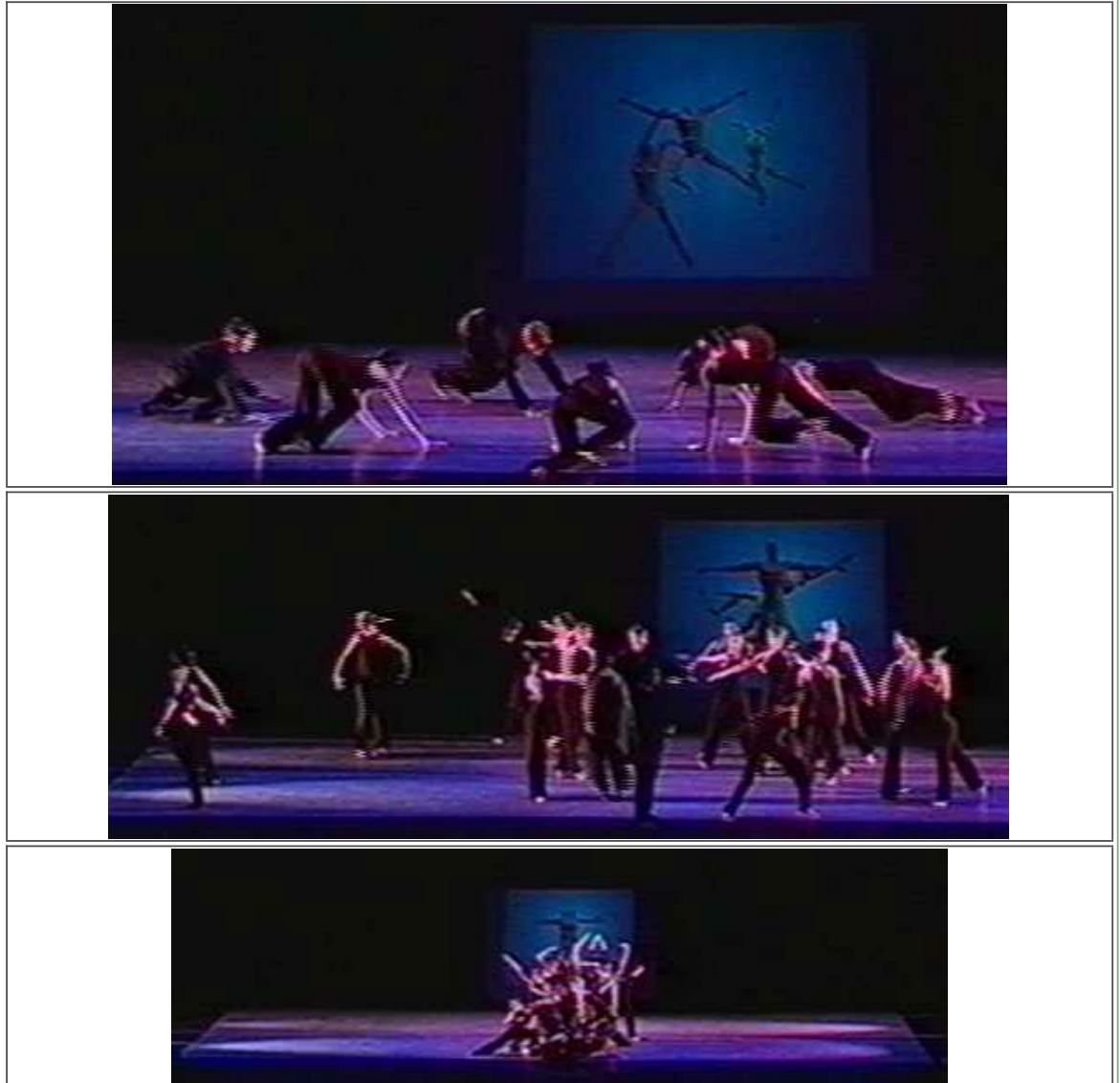
| [Table of Contents](#) | [Review Board](#) | [Resources](#) | [Archive](#) |

MERIDIAN

One Teacher's Dance with Technology

"Behind the dancers, sixteen female and five male, a tri-fold screen holds computer images of the human form."

The Payoff: Pieces of Gold
a photo gallery







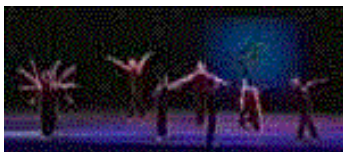
"The dancers gracefully raise their arms above their heads, their bodies standing straight and proud. The computer images backing them follow suit."



| [Table of Contents](#) | [Review Board](#) | [Resources](#) | [Archive](#) |

M E R I D I A N

"One success leads to another and another, and if a failure slips in now and then, it is only considered part of the endless learning process."



"She envisions simultaneous choreography occurring between her students on the dance floor and her students using the laptop. "

One Teacher's Dance with Technology

The Future: *Poser* Possibilities

A consistent quality amongst teachers willing to experiment with new ways to bring meaning to the classroom is the fact these are people who are rarely satisfied. One success leads to another and another, and if a failure slips in now and then, it is only considered part of the endless learning process. Martin Middle School chose Cindy Hoban as Teacher of the Year for 1999. Martin Middle School is now one of the Technology Connections sites described in Jim Surratt's Vision of Excellence with Cindy Hoban chosen to represent all of the arts in Wake County. Cindy Hoban recently completed her master's degree in administration from North Carolina State University and has the option to move into administration whenever she tires of being a dance instructor. The possibilities seem endless and wide open to her.

But Cindy speaks simply of what will come next. She plans to take the computers she was given through the Technology Connections program and expand the amount of interaction between her students and the *Poser* (now in its third release) software.

She envisions simultaneous choreography occurring between her students on the dance floor and her students using the laptop. She plans to make what's happening "truly interactive" and she would like to work with other members of the Martin School arts team to expand what she has done with her classes. She refers to these co-workers as "my family."

One of the greatest satisfactions Cindy recounts, when speaking of her original venture into technology, was knowing that much of the money raised from the Pieces of Gold performance went back to the Wake Education Partnership to give opportunities to other teachers who want to challenge the possibilities. This is the kind of attitude that is infectious. It is what can bring the excitement of exploring intercommunication between art and technology to other classrooms throughout the country.

| [Table of Contents](#) | [Review Board](#) | [Resources](#) | [Archive](#) |



Getting There From Here — One Teacher's Dance with Technology

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Prudence Cuper is a second-year Master's student in Curriculum and Instruction, at NC State, specializing in literacy instruction and middle schools, and has a BS in Elementary Education from Centenary College (New Jersey). Her research interests involve reader response theory as applied to middle school literacy instruction, and she is co-teacher of a fall 1999 Literacy, Media and Technology course with Dr. Hiller Spires. Pru previously taught middle school reading/language arts classes for ten years, during which she received the New Jersey Partners in Education Outstanding Teacher Award, 1994-96, was nominated for the New Jersey Governor's Top Teacher Award for 1998, and was Chairperson of a committee implementing a new Gifted and Talented Program.

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