

Captions

(M10A)

**Distance Learning Pilot: Physics and Mathematics
Part I; Part II To Continue At 11:00**

NTID/RSD Distance Learning Team

Distance Learning Pilot: Physics and Mathematics

Distance Learning Team

National Technical Institute for the Deaf

Rochester School for the Deaf

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M10A

DISTANCE LEARNING PILOT, PHYSICS AND MATHEMATICS

VINCE DANIELE, GARY LONG, PATTI SPIECKER, JOAN CARR,

RHONDA PARRISH, CAMILLE AIDALA, RHONDA PARRISH

>> VINCE DANIELE: WELCOME TO A DOUBLE

PRESENTATION. WE ARE GOING TO TALK A LITTLE BIT ABOUT A

DISTANCE LEARNING PROJECT, A PILOT PROJECT, THAT WAS
BETWEEN

N.T.I.D. AND THE ROCHESTER SCHOOL FOR THE DEAF, R.S.D..

I HAVE A GREEN EVALUATION FORM TO PASS OUT IF YOU WANT THEM.

BUT YOU MAY REMEMBER THAT THE CONFERENCE LEADERS ASKED THAT

MAYBE YOU COULD USE THE WORLD WIDE WEB TO EVALUATE THIS SESSION AND OTHER SESSIONS. AND THIS SESSION, BECAUSE IT IS DOUBLE, IS M -- THAT'S FOR MONDAY -- 10A AND 11A, 10 O'CLOCK AND 11 O'CLOCK ON MONDAY. THAT'S BUSINESS. WE HAVE A TEAM HERE TODAY THAT IS BOTH FROM N.T.I.D. AND R.S.D..

ON YOUR LEFT WE HAVE PATTI SPIECKER. SHE IS A MATHEMATICS TEACHER AT R.S.D.. NEXT WE HAVE JOAN CARR, A MATHEMATICS PERSON FROM N.T.I.D.. VICKI ROBINSON, WHO TEACHES PHYSICS HERE AT N.T.I.D.. RHONDA PARRISH, WHO IS A TECHNICAL PERSON FROM R.S.D., AND CAMILLE AIDALA, WHO IS A TECHNICAL AND RESEARCH PERSON HERE AT N.T.I.D.. AND THEY WILL COME UP AND TELL YOU ABOUT THEMSELVES.

I AM VINCE DANIEL, PHYSICS AND MATHEMATICS CHAIR HERE AT N.T.I.D.. WE HAVE ONE OTHER PERSON WHO IS WITH US TODAY, AND THAT IS DAVE CONYER, AND DAVE IS UPSTAIRS IN A TV TECHNICAL BOOTH. DAVE, ARE YOU UP THERE? HELLO, GOOD MORNING.

>> VINCE DANIELE: DAVE, LET'S ROLL IT RIGHT NOW.

(MUSIC)

>> VINCE DANIELE: WE SIMPLY WANTED TO INFORM YOU A

LITTLE BIT ABOUT WHAT YOU WOULD SEE IN THE NEXT HOUR AND A HALF, BECAUSE THIS IS A DOUBLE SESSION WE ARE NOT GOING TO BREAK. WE ARE JUST GOING TO CONTINUE STRAIGHT THROUGH.

ROUGHLY ONE YEAR AGO, IN THE SPRING OF 2000, SOME

OF THE ADMINISTRATORS FROM THE ROCHESTER SCHOOL FOR THE DEAF

CAME TO N.T.I.D. AND ASKED US ABOUT TEACHING SOMETHING, SCIENCE AND MATHEMATICS, IN A DISTANCE LEARNING APPROACH.

BUT WE HERE AT N.T.I.D. DID NOT HAVE HERE ANYTHING READY TO BE TAUGHT IN A DISTANCE LEARNING FORMAT. SO WE ANNOUNCED TO

THE N.T.I.D. FACULTY THAT OUR R.S.D. WAS INTERESTED, AND WE

FOUND TWO PEOPLE, JOAN AND VICKI, WHO EXPRESSED AN INTEREST

TO SEE WHAT COULD BE DONE WITH DISTANCE LEARNING.

ORIGINALLY, R.S.D. WAS INTERESTED IN HAVING SOME OF THEIR SENIOR STUDENTS EARNING COLLEGE CREDIT WHILE STILL IN HIGH SCHOOL, BUT WE FELT WE WERE NOT READY TO TEACH A FULL COURSE.

SO WHAT HAPPENED? WE SET UP A TEAM. THIS IS PART

OF THE TEAM THAT WAS TOGETHER BETWEEN N.T.I.D. AND R.S.D.,

BUT ALSO, WE HAD OTHER MEMBERS OF THE TEAM. WE HAD

ADMINISTRATORS FROM BOTH SCHOOLS. WE HAD TECHNICAL PEOPLE.

IT WAS A LARGE TEAM. THIS IS PART OF THE N.T.I.D./R.S.D.

DISTANCE LEARNING TEAM. WE MADE A DECISION TO TRY LIVE VIDEO

CONFERENCING. AND, AS A MATTER OF FACT, I DON'T KNOW IF

DENISE HAZELWOOD FROM THE TEXAS SCHOOL IS HERE, BUT I WENT TO

THE TEXAS SCHOOL FOR THE DEAF LAST YEAR IN THE SUMMER TO TRY

AN EXPERIMENT, AND WE USED SOME VIDEO CONFERENCING TECHNOLOGY

TO MAKE CONTACT FROM ME IN TEXAS AND SOME OF THE N.T.I.D.

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PEOPLE WHO WERE HERE, ONE DAY IN THE SUMMER LAST YEAR. YOU

WILL SEE WE ALSO USED OTHER TECHNOLOGY. AND THE TEACHERS,

THE TEAM, WILL EXPLAIN SOME OF THAT. BUT THE PRIMARY, MAIN

WAY WE USED TO CONTACT EACH OTHER WAS VIDEO CONFERENCING.

BECAUSE THIS WAS A PILOT, WE MADE A DECISION TO

HAVE FOUR PHYSICS LESSONS DURING EIGHT CLASS PERIODS, AND WE

HAD FIVE MATHEMATICS LESSONS. WE DID THE PHYSICS LAST YEAR

IN THE FALL, AND JUST THIS PAST WINTER WE TAUGHT THE

MATHEMATICS. SIX STUDENTS FROM R.S.D. PARTICIPATED IN THE

PHYSICS AND FIVE STUDENTS PARTICIPATED IN THE MATHEMATICS

LESSONS.

I AM HAPPY TO SAY WE HAD A POSITIVE EXPERIENCE AND

I THINK ALL OF US LEARNED A GREAT DEAL ABOUT THE POTENTIAL

FOR DISTANCE LEARNING WITH DEAF STUDENTS. SAME TIME, I THINK

WE SAW SOME CHALLENGES AND SOME REALITIES. WE DO NOT HAVE

100 PERCENT AGREEMENT ON ANYTHING. WE DO NOT HAVE 100

PERCENT AGREEMENT HERE ON ALL ASPECTS OF THE DISTANCE

LEARNING PROJECT. SO YOU MAY SEE HERE A LITTLE DIFFERENT

PERSPECTIVES, A LITTLE BIT DIFFERENCE IN OPINION. I THINK

RIGHT NOW WE ARE GOING TO TALK TO YOU ABOUT SOME OF THE

TECHNICAL ASPECTS, AND THEN WE'LL MOVE INTO A DISCUSSION OF

THE PHYSICS LESSONS AND DISCUSSION OF THE MATHEMATICS LESSONS

AND A LITTLE BIT OF THE SUMMARY. I BELIEVE CAMILLE WILL BE

FIRST.

>> CAMILLE AIDALA: GOOD MORNING, I AM

INSTRUCTIONAL DEVELOPER HERE AT N.T.I.D.. MY ROLE IS TO

SUPPORT THE FACULTY AND STAFF WHO ARE INTERESTED IN USING A

VIDEO CONFERENCE TECHNOLOGY. I HATE TO START OUT, BECAUSE I

REALLY DON'T BELIEVE WE SHOULD START WITH THE TECHNOLOGY WHEN

WE TALK ABOUT INSTRUCTIONAL PROJECTS. BUT THAT'S EXAMINING

WHAT WE'RE GOING TO DO TODAY. I'M GOING TO EXPLAIN TO YOU

WHAT TYPES OF TECHNOLOGY ARE NEEDED IN ORDER TO MAKE VIDEO

CONFERENCING SUCCESSFUL, OR I WILL QUALIFY THAT BY SAYING,
MAKING IT SUCCESSFUL FOR THIS PARTICULAR PROJECT. I ALSO
WANT TO INTRODUCE TO YOU AT THE SAME TIME RHONDA PARRISH,
WHO
IS THE COORDINATOR FOR TECHNOLOGY AT THE ROCHESTER
SCHOOL FOR
THE DEAF. BECAUSE WE BOTH FUNCTIONED IN SIMILAR ROLES.
RHONDA WAS AT R.S.D. MAKING SURE EVERYTHING WAS
HAPPENING THERE AND I WAS HERE COORDINATING THE
INSTRUCTIONAL
SUPPORT TEAM. SO I WILL GIVE YOU IT FROM MY SPEAKER
PERSPECTIVE. I HAVE BEEN IN VIDEO CONFERENCING OVER THE
LAST
TEN YEARS, AND I AM PRETTY FAMILIAR WITH HOW TO DESIGN FOR
INSTRUCTION USING THIS TECHNOLOGY. OKAY. I'M GOING TO TALK
TO YOU TODAY ABOUT THE EQUIPMENT THAT WE HAVE AT N.T.I.D.
AND
HOW IT DIFFERS FROM THE EQUIPMENT AT R.S.D. AND WHY IT
DIFFERS.
THE ROOMS WE USED, WE USED TWO DIFFERENT ROOMS
BECAUSE WE NEEDED DIFFERENT ROOMS TO SUPPORT THE TYPE OF
INSTRUCTION AND THE WAY IT WAS BEING DELIVERED. WE HAD A
VERY COMPLEX TECHNICAL INSTRUCTIONAL SUPPORT TEAM. SOME
OF
YOU WILL MEET. SOME YOU WILL NOT.
WE WILL TALK ABOUT SCHEDULING. SCHEDULING IS A BIG

PART OF CONFERENCING. JUST BEING WITH TWO INSTITUTION, K-12 AND POST-SECONDARY, YOU MIGHT YOU BEGIN TO THINK WHY WE ARE

ON DIFFERENT SCHEDULES BECAUSE OF THE OBJECTIVE INSTRUCTIONS

WE HAVE TO ACCOMPLISH. ONE OF THE REASONS WE HAD USE OF DIFFERENT ROOMS AND EQUIPMENT HAD DO WITH THE FACT THAT

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N.T.I.D. WAS THE ORIGINATING SITE FOR THIS PROJECT. IN OTHER WORDS, OUR FACULTY HERE WERE PROVIDING THE INSTRUCTION FOR

THE STUDENTS, SO WE UTILIZED MORE EQUIPMENT AND TECHNOLOGY

THAN R.S.D..

WE UTILIZED WHAT WE NEEDED TO SUPPORT THE

INSTRUCTION. I WILL BRING UP A DIAGRAM OF SOME OF THE

COMPONENTS, SOME OF THE EQUIPMENT FOR VIDEO CONFERENCING THAT

WERE USED TO SUPPORT THIS PROJECT AND EXPLAIN A LITTLE BIT

HOW THEY WERE USED. LATER ON, SOME FACULTY OF R.S.D. WILL

COMMENT MORE ABOUT HOW IT IMPACTED THE TSTRUCTION. IN FACT,

YOU NEED TELEVISION MONITORS. THAT'S WHAT THIS REPRESENTS.

SO WE HAD N.T.I.D. ON ONE MONITOR AND WE HAD R.S.D. ON THE

OTHER MONITOR, SO THE STUDENTS COULD SEE WHAT WAS GOING ON,

AND WE COULD SEE WHAT WAS GOING ON THERE. IT WAS
BASICALLY A

POINT-TO-POINT COMMUNICATION. AND I WOULDN'T SUGGEST
HAVING

MORE THAN THAT IF YOU ARE INITIALLY EMBARKING ON VIDEO

CONFERENCING. YOU NEED CAMERAS. NOW, NOT ONLY DID WE HAVE

THE CAMERAS THAT WERE IN THE ROOMS. WE BROUGHT IN
ADDITIONAL

CAMERAS. AS YOU ARE GOING TO SEE, WE HAD MANY DIFFERENT

SIGNALS THAT HAD TO BE SWITCHED AMONG EQUIPMENT.

NOW, I WILL TELL YOU MORE ABOUT THAT. WE HAD A

MICROPHONE, WHICH ACTUALLY, WE DID USE AUDIO. WE HAD A VCR

BECAUSE WE TAPED BOTH SITES. THE REASON WE TAPED BOTH
SITES

IS IF FOR ANY REASON A STUDENT MISSED CLASS, THEY COULD
WATCH

THE VIDEOTAPE. WE HAD A DOCUMENT CAMERA, WHICH ALLOWS
YOU TO

VIEW 3-DIMENSIONAL OBJECTS. WE USED FOR SLIDES,

TRANSPARENCIES, OUR PARTICULAR SYSTEM, A V-TELE SYSTEM, OUR

SOP COMPUTER SYSTEM, A V-TELE SYSTEM, YOU CAN CONTROL
THROUGH

A TABLET THAT WE HAVE.

ONE OF THE THINGS I WILL MENTION RIGHT NOW IS THAT

INSTRUCTIONAL TELEVISION SERVICES, DAVE CONYER, HE
ACTUALLY

DIRECTED THE WHOLE TELEVISION PRODUCTION FROM ANOTHER REMOTE

LOCATION AT N.T.I.D.. SO WE HAD A DIRECTOR FOR THE TYPES OF INSTRUCTION VIA VIDEO CONFERENCING WE WERE USING. THIS IS PRETTY UNUSUAL. IN THE K-12 ENVIRONMENT I HAVE SEEN MORE OF THE FACULTY THEMSELVES WITH PERHAPS SOME TECHNICAL PEOPLE SWITCHING CAMERAS, ET CETERA. BUT HERE WE HAD DAVE DO IT FROM ANOTHER ROOM. HE IS GOING TO TALK TO YOU A LITTLE BIT ABOUT THAT LATER. ALL THESE THINGS, ALL THIS EQUIPMENT, ALL THIS TECHNOLOGY, IS CONNECTED TO AND THROUGH SOMETHING CALLED

A CODEC, WHICH STANDS FOR COMPRESSOR, DECOMPRESSOR. SO YOU

DON'T HAVE JERKY MOVEMENTS, YOU NEED TO COMPRESS THE IMAGES.

YOU NEED TO TRANSMIT AT DIFFERENT TRANSMISSION SPEEDS.

WE USED 384, WHICH SEEMS TO BE A STANDARD WHICH ALLOWS SIGNING TO BE SEEN FAIRLY CLEARLY. WE HAVE AN ISDN LINE, THAT IS A VERY HIGH SPEED -- YOU CAN CALL IT A TELEPHONE LINE. OURS GOES UP TO A FAIRLY HIGH SPEED. I CAN'T REMEMBER WHAT THE TOP SPEED IS, BUT WHEN YOU ARE CONNECTING TO ANOTHER INSTITUTION, YOU CAN ONLY GO TO THEIR

TOP SPEED. SO IF I AM CORRECT, RHONDA, IS YOUR TOP 384?

YES. SO WE CONNECTED AT 384. AND THE SIGNING, I THINK WE

ALL FELT WAS FAIRLY GOOD. NOW I'M GOING TO SHOW YOU THE ROOM

THAT THE PHYSICS CLASS WAS TAUGHT FROM. WE USED THE SMART CLASSROOM. HERE YOU ARE REALLY ONLY GETTING A PIECE. HOLD ORANGES I'M GOING TO SHOW THIS. THIS IS THE FRONT OF THE CLASSROOM. I CAN'T SEE THE LITTLE RED DOT. THERE IT IS.

OKAY. AS YOU CAN SEE, WE HAVE COMPUTERS. VICKI

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ROBINSON, WHEN SHE WAS TEACHING PHYSICS, USED THESE COMPUTERS, BECAUSE THERE WERE COMPUTER SIMULATIONS SHE USED

WITH THE STUDENTS. WE HAD A DOCUMENT CAMERA THAT VICKI ALSO

USED. I THINK IN THE VIDEO CLIP YOU SAW A SPRING THAT SHE WAS PULLING. SHE DID THAT WITH THE DOCUMENT CAMERA. THEY HAVE LOTS OF DIFFERENT NAMES. I JUST WANT TO POINT OUT DIFFERENT SLIDES FROM THE CLASSROOMS. YOU CAN'T SEE THE REST

OF THIS CLASSROOM. IT SEATS ABOUT 25 PEOPLE, HAS OTHER COMPUTERS IN IT. THERE IS ALSO A PROJECTION SCREEN THAT YOU CAN PULL DOWN FOR VIDEO CONFERENCING. WHEN VICKI TAUGHT PHYSICS SHE HAD MANY EXPERIMENTS. WE HAD TO PUT A SIX-FOOT TABLE INTO THIS ROOM. VICKI HAD TO BE ABLE TO SET UP THOSE EXPERIMENTS ON THIS TABLE. SO SHE NEEDED SPACE. THAT'S ONE

OF THE REASONS THAT PARTICULAR ROOM WAS CHOSEN, BECAUSE OF

THE SPACE SHE HAD TO MOVE AROUND. AND MOVE AROUND SHE DID!

THIS IS ANOTHER VIEW OF THE SMART CLASSROOM, AND YOU CAN SEE

IN THE BACK THE COMPUTERS. I JUST WANTED TO GIVE YOU A SENSE

OF WHAT THAT ROOM LOOKED LIKE. AND THERE'S THE PROJECTION SCREEN. THANK YOU.

IN THE NLC, YOU CAN SEE THE SMART CLASSROOM. IN

FACT, IT HAS BEEN SET UP FOR YOU TO INPUT YOUR EVALUATION AND

FOR OTHER INFORMATION. SO IT WOULD BE NICE FOR YOU TO CHECK

IT OUT. IT WILL LOOK A LITTLE DIFFERENT FROM WHEN WE USED IT, AS I SAY BECAUSE WE SET UP TABLES, ET CETERA, AND WE HAD CAMERA PEOPLE IN THERE AND THERE WAS A LOT GOING ON, BUT IT IS REALLY AN EXCELLENT ROOM. NOW, THIS IS A VERY DIFFERENT ROOM. THIS ROOM HOLDS, TOPS, THREE PEOPLE. AND JOAN CARR, WHO TAUGHT THE MATH, HAD SAID, YOU KNOW, I THINK I WOULD BE

MORE COMFORTABLE -- AT LEAST I THINK I REMEMBER YOU SAYING THAT -- IF THERE WEREN'T SO MANY PEOPLE AROUND WHEN I WAS ACTUALLY DOING THE TEACHING. AND THAT MADE A LOT OF SENSE.

ALSO, JOAN DIDN'T HAVE THE SAME SPACE REQUIREMENTS AS VICKI,

WITH THE PHYSICS. SHE WAS TEACHING ABOUT USING THE T.I. CALCULATOR. SHE WAS LINKED DIRECTLY TO OUR SYSTEM AND THAT IS ONE OF THE SYSTEMS SHE WOULD CHOOSE WHEN USING, INSTRUCTING ON THE CALCULATOR. BACK TO THE ROOM. JOAN WOULD ALWAYS STAND BETWEEN THIS TABLE AND THE WHITE BOARD. THE WHITE BOARD, BY THE WAY, WHICH WAS VERY WHITE, AND THERE WAS A LOT OF PROBLEM WITH REFLECTION. OKAY? SO THAT IS JUST SOMETHING WE ARE LEARNING. WE HAD THAT INSTALLED TO SUPPORT THIS PROJECT, AND YOU CAN SEE ACTUALLY SOME OF THE REFLECTION HERE. BUT JOAN USUALLY STOOD HERE, AND SHE USED OCCASIONALLY THE DOCUMENT CAMERA, BUT NOT VERY MUCH. USUALLY SHE USED HER T.I. PRESENTER. YOU WILL SEE A PICTURE OF THAT LATER. HERE, WE HAD SOMEONE CONTROLLING THE CAMERAS FOR HER. SO WHEN SHE WANTED SOMEONE TO SWITCH, SHE WOULD SAY TO THE DIRECTOR, OKAY, I WOULD LIKE TO SWITCH TO THAT. AND THE DIRECTOR WOULD SWITCH IT FOR HER. I NORMALLY SAT IN THE ROOM, AND I OBSERVED THE INSTRUCTION, AND THERE WERE TWO MONITORS, AS I MENTIONED BEFORE. THE N.T.I.D. AND THE R.S.D.. HERE YOU CAN SEE ONE OF THE CAMERAS. WHAT IS REALLY NICE AT N.T.I.D. IS THIS ROOM IS A DEDICATED ROOM. IT

IS ALWAYS AVAILABLE FOR SMALL GROUPS OF TWO OR THREE PEOPLE

TO DO VIDEO CONFERENCING. IF YOU HAVE A SMART ROOM THAT IS NOT A DEDICATED SPACE, YOU HAVE TO SCHEDULE IT AND SET IT UP

SOMETIMES WITH ADDITIONAL CAMERAS.

JUST TO LET YOU KNOW, WE HAVE DIFFERENT ROOMS WHERE

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YOU CAN DO VIDEO CONFERENCING. ANOTHER ROOM WE HAVE IS 2590,

AND THAT IS ON THE SECOND FLOOR. I AM SURE YOU WILL BE IN THERE AT ONE POINT. AND, UNFORTUNATELY, THIS MORNING, WHEN

WE WERE GOING TO CONNECT WITH THE AMERICAN SCHOOL FOR THE

DEAF, I HEARD OUR SPRINT LINE WAS DOWN. THIS IS JUST

SOMETHING I AM LETTING YOU KNOW. WE HAD ONE TECHNICAL

DIFFICULTY GETTING A CONNECTION DURING THE NINE CLASSES THAT

WERE TAUGHT, WHICH I WOULD SAY IS JUST EXCELLENT. I AM GOING

TO INTRODUCE YOU AGAIN TO RHONDA PARRISH. SHE WILL TALK TO

YOU A LITTLE BIT ABOUT HER PERSPECTIVES FROM R.S.D., AND THEN

WE WILL HAVE ED AND THEN WE WILL HAVE TIME FOR QUESTIONS.

>> RHONDA PARRISH: GOOD MORNING. AT R.S.D., OUR

SITUATION WAS DIFFERENT. WE WERE RECIPIENTS OF INSTRUCTION.

AS SUCH, OUR NEED FOR TECHNICAL SOPHISTICATION WAS MUCH LESS

THAN IT WAS HERE AT N.T.I.D.. THANK GOD. BASICALLY WE

NEEDED A SPACE TO HAVE CLASSES, WE NEEDED COMPUTER EQUIPMENT,

AND PO THAT WORKED, AND SOMEONE TO CONTROL OUR CAMERA, AND

THAT COULD BE DONE BY SOMEONE AT THIS END IF NEEDED. THIS GAVE US AN OPPORTUNITY TO EXPLORE OUR INTEREST IN VIDEO CONFERENCING. WHEN THE DISCUSSIONS IN OUR PLANNING TEAM BEGAN, WE REALLY HAD NO EXPERIENCE, WE WERE INTERESTED IN VIDEO CONFERENCING, AND I HAD ATTENDED THE TEXAS WORKSHOP

IN '99 AND HAD BEEN ABLE TO SEE A VARIETY OF EQUIPMENT AND TALKED TO PEOPLE WHO WERE USING VIDEO CONFERENCING, AND WE

TALKED TO THE SCHOOL A LITTLE BIT WHAT WE MIGHT WANT TO DO,

BUT WE REALLY HADN'T GOTTEN OUR FEET WET. WE WERE STILL EXPLORING AND WONDERING HOW WE WERE GOING TO USE VIDEO CONFERENCING, AND THIS PROJECT JUST GAVE US THAT PUSH WE NEEDED TO GET IN THERE AND SEE WHAT WE NEEDED TO DO. WE HAD

TO FIRST DECIDE ON EQUIPMENT, AND THE TEXAS CONFERENCE REALLY

GAVE US A GOOD START THERE, BECAUSE THERE WAS AN OPPORTUNITY

TO SEE A WIDE VARIETY.

WE SAW V-TELE, PICTURE-TELE, AND WE SAW THE POLYCON
EQUIPMENT, AND A VARIETY OF OTHERS, AND IT WAS A NICE
CHANCE

TO COMPARE WHAT THE DIFFERENT EQUIPMENTS OFFERED. WE ALSO
SPENT TIME TALKING TO VENDORS, TALKING ABOUT EQUIPMENT,
AND

IN THE END, WE CHOSE THE POLYVIEW STATION 12, IT WAS A
DECISION BASED ON FINANCIAL CONSTRAINTS AND WE FELT IT WAS
THE BEST EQUIPMENT VALUE FOR THE BUDGET WE WERE WORKING
WITHIN. MANY OF THE PEOPLE WE TALKED TO IN TEXAS WERE USING
POLYCOM AND LIKED IT. WE DIDN'T WANT A SYSTEM DRIVEN BY
COMPUTER AS A SEPARATE PIECE OF EQUIPMENT FROM OUR VIDEO
CONFERENCING EQUIPMENT. WE ALSO PURCHASED TWO 32-INCH
SONY

MONITORS AND CABINETS AND DOCUMENT CAMERAS, BUT FOR THIS
PROJECT WE USED THE CAMERA THE TWO MONITORS, AND SOME
SPECIAL

LIGHTING WE HAD INSTALLED. IT WAS A LESS THAN A MONTH
BEFORE

THE PROJECT WAS TO START, AND THEY WERE COMING TO INSTALL
OUR

ISDN LINES. WE WERE UNBOXING EQUIPMENT, GETTING IT SET UP,
AND TAKING A CRASH COURSE IN HOW TO GET EVERYTHING TO RUN
SMOOTHLY. WE DECIDED TO INSTALL OUR VIDEO CONFERENCING
EQUIPMENT IN OUR LEARNING RESOURCE CENTER.

THAT IS A MULTIPURPOSE ROOM, HAS OUR LAB, OUR COMPUTERS, AND UP THERE YOU SEE THE INSTRUCTIONAL AREA. THIS

AREA IS USED FOR EVERY CONCEIVABLE USE. IF YOU COME TO THE CONFERENCE TOMORROW, YOU WILL SEE IT HAS BEEN TRANSFORMED

INTO A RECEPTION AREA. WE USE IT FOR CLASSES FOR THOSE WHO WANT TO COME IN AND USE THE SMART BOARD AND COMPUTER SETUP.

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WE USE IT FOR PARENTS AND HE MEETING FOR STAFF. DURING THIS PROJECT, WE TRANSFORMED IT INTO OUR VIDEO CONFERENCING AREA.

IN DECIDING WHERE TO SET UP VIDEO CONFERENCING EQUIPMENT AND

WHERE TO INSTALL OUR ISDN LINES, WE WENT BACK AND FORTH.

SHOULD WE HAVE IT IN A DEDICATED CLASSROOM WHERE IT WOULD BE

SET UP ALL THE TIME AND READY TO USE AND WE WOULDN'T HAVE A LOT OF LABOR TO GET IT READY EACH TIME WE WANTED TO USE IT?

THAT SEEMED LIKE A GOOD IDEA, BUT THEN WE WERE LIMITED TO THE

NUMBER OF CHILDREN OR PEOPLE WHO COULD USE THE ROOM. MOST OF

OUR CLASSROOMS WILL HOLD, COMFORTABLY, SIX TO EIGHT PEOPLE DOING ANY KIND OF AN ACTIVITY. WE THOUGHT, WELL, WHAT IF WE WANT TWO CLASSES OR THE LOWER SCHOOL TO PARTICIPATE IN A

VIRTUAL FIELD TRIP? WE CAN'T DO THAT IN A CLASSROOM. SO IN THE END, WE DECIDED TO GO WITH THE LRC, THAT ALSO GAVE US OPPORTUNITY TO USE THAT AREA FOR VARIOUS THINGS, WE WEREN'T

RETAINING A CLASSROOM THAT WAS ONLY USED OCCASIONALLY FOR

VIDEO CONFERENCING.

ANOTHER BENEFIT WAS IT WAS CLOSE TO THE LAB.

ESPECIALLY FOR THIS PROJECT WAS IT VERY NICE TO HAVE OUR

VIDEO CONFERENCING EQUIPMENT AND OUR COMPUTER LAB IN THE SAME

SPACE BECAUSE THE STUDENTS IN THE PHYSICS COURSE USED BOTH OF

THOSE TECHNOLOGIES. THIS AREA WAS TRANSFORMED INTO THE VIDEO

CONFERENCING LAB. IT LOOKED LIKE THIS. ONE OF THE DRAWBACKS

IS, EVERY TIME WE WANTED TO USE THIS FOR CLASS, SOMEONE FROM

THE STAFF HAD TO GO AND SET THE ROOM DOWN, SET UP THE

EQUIPMENT, THE SEATING SO CHILDREN COULD BE SEEN AND

COMMUNICATED WITH. WE HAD ANOTHER PORTABLE WALL LIKE THE ONE

YOU SEE BEHIND THE MONITORS THAT COULD BE SET UP BEHIND AND

ALONGSIDE THE STUDENTS SO THEY REALLY DIDN'T HAVE A SEPARATE

CLASSROOM. FOR THIS PROJECT, IT WASN'T A PROBLEM. THE

CLASSES DIDN'T MEET THAT FREQUENTLY. WE HAVE 80-MINUTE BLOCKS OF TIME. SO WE DIDN'T SET UP BUT EVERY OTHER TIME. NOT MUCH OF A PROBLEM. I DON'T THINK IT WOULD BE A PROBLEM TO SET UP FOR OCCASIONAL USE FOR CHILDREN FOR FIELD TRIPS, WHATEVER. I'M NOT SURE IT WILL BE SO EASY IF WE EVER DECIDE TO OFFER A SEMESTER-LONG COURSE WHERE EVERY OTHER DAY WE ARE

SETTING UP EQUIPMENT. THAT MIGHT REQUIRE US TO RETHINK WHERE

WE WANT TO HAVE OUR VIDEO CONFERENCING EQUIPMENT. BUT FOR

THIS PROJECT, IT WORKED OUT FINE. AS FAR AS THE SUPPORT FOR DURING THE TIME THE CLASSES WERE GOING ON, I TRIED TO BE ALWAYS AROUND IN CASE THERE WAS A PROBLEM. BUT THINGS RAN QUITE SMOOTHLY. DURING THE PHYSICS CLASS I STAYED IN THE CLASSROOM AND MANAGED THE CAMERA. NOT BECAUSE I REALLY HAD

TO BUT BECAUSE I WANTED TO BECOME MORE FAMILIAR WITH THE EQUIPMENT. WE SAT DOWN THAT FIRST DAY NOT HAVING MUCH EXPERIENCE WITH THIS NEW EQUIPMENT. THE DAY BEFORE THIS NEW

CLASS THE SUPERINTENDENT INFORMED ME HE WOULD LIKE TO DO AN

INTERVIEW WITH A CANDIDATE WHO WAS APPLYING FOR A POSITION.

THAT WAS OUR FIRST USE.

TO BE HONEST WITH YOU, I HAD HOPED OUR FIRST USE
COULD BE OUR THIRD CLASS TALKING TO ANOTHER THIRD CLASS.
BUT
INSTEAD IT WAS OUR SUPERINTENDENT AND BOARD MEMBERS
INTERVIEWING A POTENTIAL CANDIDATE. A LOT MORE PRESSURE
THAN
WE NEEDED AT THAT POINT. BUT IT GOT US STARTED. WE WERE
READY TO ROLL. WE TURNED ON THE EQUIPMENT, EVERYTHING
CAME
UP AND RUN, THE CALL CAME FROM N.T.I.D. AND WE WERE OFF.
DURING THE SECOND SET OF CLASSES, PATTI SPIECKER RAN THE
7
CAMERA HERSELF. MY FASCINATION WITH THAT PART OF IT WAS
OVER. I WAS JUST IN THE AREA TO PROVIDE SUPPORT. THEY
DIDN'T REALLY NEED IT, AND WE DIDN'T NEED MUCH TECHNICAL
SEASONS TANS. ON THE COMPUTER SIDE WE PROVIDED THE KIND
OF
SUPPORT WE WILL FOR ANY TEACHER. DURING THE PHYSICS CLASS,
STUDENTS WERE USING GRAPHICS TABLET, THE TEACHER HAD
NEVER
USED THAT TECHNOLOGY BEFORE SO WE PROVIDED SUPPORT AHEAD
OF
TIME. WE ALSO SUPPORTED THEIR USE OF F SIMULATION
SOFTWARE,
BUT THAT IS THE KIND OF THING WE DO DAY IN, DAY OUT. NO
DIFFERENT FOR US THAN A REGULAR DAY'S WORK. THE VIDEO

CONFERENCING CONCERNED OUT TO BE A PIECE OF CAKE.

WE WERE PLEASANTLY SURPRISED, AND WE WERE GOING IN WITH LESS EXPERIENCE THAN WE WOULD HAVE LIKED. WE FOUND IT WAS PRETTY EASY TECHNOLOGY TO USE ON THE RECEIVING END. I'M NOT SURE THAT WOULD BE THE CASE ON THE SENDING END. I THINK

CAMILLE LIKE TO TALK A LITTLE BIT MORE ABOUT THE KIND OF ACTIVITIES THEY HAD HERE AT N.T.I.D..

>> CAMILLE AIDALA: I WANT TO INTRODUCE YOU NOW TO

DAVE CONYER. HE WAS OUR DIRECTOR FOR THIS PARTICULAR PROJECT

THAT WE WORKED ON. YOU MIGHT BE THINKING, WHY DO YOU NEED A

DIRECTOR? I WILL LET DAVE ANSWER THAT. ONE OF THE THINGS HE TOLD ME, AND THAT I HAVE REALIZED IN WORKING WITH VIDEO

CONFERENCING, IS THAT YOU ARE MAKING TELEVISION HAPPENING, IS

THAT WE ARE NOT USED TO BE IN THE MODE OF MAKING TELEVISION.

WE ARE USED TO BE PASSIVE RECEIVERS BUT WHEN YOU ARE MAKING

TELEVISION, IT HAS TO BE DESIGNED PROGRAMMING. WE DID USE

TELEVISION SERVICES A GREAT DEAL TO SUPPORT THEN. I AM NOT

SAYING YOU NEED TO HAVE THESE TYPES OF RESOURCES IN ORDER TO

PARTICIPATE IN VIDEO CONFERENCING BUT IF YOU HAVE THEM -- AND

WE HAVE THEM -- WE USED THEM. I THINK ALL OF THE DECISIONS THAT WERE MADE TECHNICALLY WERE DRIVEN BY WHAT OUR FACULTY

AND THE FACULTY AT R.S.D. WANTED TO ACCOMPLISH WITH THEIR INSTRUCTIONAL OBJECTIVES.

SO I WOULD LIKE TO INTRODUCE DAVE CONYER. HE IS

OUT OF THIS ROOM, LIKE THE WIZARD OF OZ IN MASTER CONTROL. I

AM CROSSING MY FINGERS THAT HE IS HEARING WHAT I AM SAYING RIGHT NOW AND HE WILL APPEAR ON THE SCREEN BEHIND ME.

>> DAVE CONYER: WELCOME TO N.T.I.D.'S TELEVISION

CONTROL ON THE SECOND FLOOR. ONE OF THE FIRST THINGS I CONSIDERED WAS MY AUDIENCE, WHAT IS IT THEY NEED TO SEE IN ORDER TO GET THE MOST OUT OF THE INSTRUCTION? AS YOU WILL SEE, EACH TEACHER HAS A DIFFERENT TEACHING TECHNIQUE WHICH

REQUIRES DIFFERENT VISUALIZATIONS. IN THE CASE OF PHYSICS, THE TEACHER WANTED TO SHOW TABLE-TOP DEMONSTRATIONS UTILIZING

LARGE PIECES OF EQUIPMENT. I DECIDED TO BRING IN TWO

CAMERAS, ONE TO CAPTION THE TEACHER, THE OTHER TO COVER THE

DEMONSTRATION. THE INSTRUCTOR HAD THE ABILITY ALSO TO USE A

COMPUTER, VISUALIZER OR A WHITE BOARD BEHIND HER. SO IN

ESSENCE, I AM RESPONSIBLE FOR SENDING THE CORRECT VISUALS TO

THE STUDENTS AT R.S.D., BY FOLLOWING WHAT THE INSTRUCTOR IS SAYING. ALL OF THE VIDEO COMPONENTS WERE DIRECTED OUT OF THIS CONTROL ROOM. BY THE WAY, THE TYPE OF CREW I USED FOR THIS PRODUCTION WAS A CAMERA OPERATOR, OPERATING TWO ROBOTIC

CAMERAS, A TECHNICAL DIRECTOR, A PERSON SITTING NEXT TO ME, TWO TELEVISION ENGINEER, A FLOOR DIRECTOR WHO IS LOCATED IN

THE COURTROOM TO FACILITATE COMMUNICATION WITH THE INSTRUCTOR. THE MATH INSTRUCTOR WANTED TO USE A SMALLER

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ROOM, KEEPING MOST OF THE VISUALIZATION TO TWO ROBOTIC CAMERAS POINTED TO HER. SHE ALSO HAD A VISUALIZER AND A CALCULATOR. YOU WILL FIND MORE ABOUT THAT LATER.

PROBABLY ONE OF THE MOST IMPORTANT THINGS I LEARNED

ABOUT PRODUCING TELEVISION FOR DEAF IS NEVER TO CUT AWAY FROM

THE SPEAKER UNTIL THE PRESENTER IS FINISHED SPEAKING. VERY DISTRACTING FOR THE AUDIENCE AND A GOOD CHANCE THEY WILL LOSE

CONTENT FROM THE LESSON. ANOTHER THING I LEARNED IS YOU

DON'T DIRECT A LIVE INSTRUCTIONAL PROGRAM LIKE YOU WERE

DIRECTING A LIVE EVENT OR DRAMATIC PRODUCTION. I ALWAYS LET

THE INSTRUCTOR DICTATE WHAT NEEDS TO BE ON THE SCREEN AND FOLLOW THAT ACTION WITH THE BEST POSSIBLE VIDEO SOURCE.

ALWAYS PUT YOURSELF IN THE PLACE OF THE AUDIENCE, DON'T TRY TO OVERCUT OR MAKE FAST CUTS. IT ONLY CONFUSES THE AUDIENCE.

ONE LAST COMMENT: ALL OF THIS LOOKS LIKE A LOT OF EQUIPMENT TO PRODUCE THIS KIND OF TELEVISION. WELL, IT IS.

BUT YOU DON'T NECESSARILY HAVE TO HAVE THAT IN YOUR SITUATION. YOU CAN PROBABLY DO IT WITH ONE CAMERA, A CAMERA

OPERATOR, AND A PROCTOR. SINCE WE HAVE THE CAMERA HERE -- THE EQUIPMENT HERE AT N.T.I.D., WE DECIDED TO UTILIZE IT.

OKAY, THAT'S IT FOR HERE. LET ME TAKE YOU BACK DOWN TO THE THEATER.

>> VINCE DANIELE: VICKI IS GOING TO START TO DISCUSS CONTENT, PHYSICS.

>> VICKI ROBINSON: I'M A REAL TECHNICAL ENTHUSIAST. BACK IN 1985, I RAN INTO SOMETHING CALLED THE WORLD WIDE WEB, AND I THOUGHT, THIS WILL HAVE THE IMPACT THAT

THE GUTTENBURG PRESS HAD. I HAVE NOT CHANGED MY MIND. WHEN

THIS PROJECT WAS BROUGHT TO ME AS A POSSIBILITY, AND THE VIDEO CONFERENCING PART WAS INTERESTING BUT I SAW THAT AS

ESSENTIALLY PRETTY MUCH THE SAME THING I HAVE BEEN DOING FOR

23 YEARS I HAVE BEEN DOING AT N.T.I.D., INTERACTING DIRECTLY WITH STUDENTS. THE ONLY DIFFERENCE WAS THEY AND I WOULD BE ON THE SCREEN. I FIGURED WE COULD WORK AROUND THAT BUT I TRIED TO PACK AS MUCH TECHNOLOGY OF DIFFERENT KINDS INTO THIS

EXPERIENCE AS I COULD TO SEE HOW THE STUDENTS WOULD REACT TO

IT AND SEE HOW I DID WITH IT. SO, LET'S SEE, HOW DID IT

WORK? WE HAD FOUR CLASS PERIOD FOR INSTRUCTION. WE HAD FOUR

CLASS PERIODS FOR STUDENTS TO DO THEIR HOMEWORK, BASICALLY.

THEY NEEDED TO USE THEIR COMPUTERS IN THE INSTRUCTIONAL LEARNING CENTER, OR THE RESOURCE CENTER, I GUESS IT IS CALLED, AT R.S.D.. AND I COULDN'T COUNT ON THEM BEING ABLE TO TAKE IT HOME, THEY WOULDN'T SAY THE SOFTWARE THEY NEED.

SO WE ALTERNATED, CLASS, PROCESSING, CLASS, PROCESSING. IT WORKED FAIRLY WELL. THEY NEEDED MORE PROCESSING TIME THAN I

HAD ANTICIPATED BUT WHEN YOU ARE TALKING ABOUT PHYSICS, THAT'S USUALLY THE CASE.

I DID A FAIRLY STANDARD CLASS SETUP, TOO. I DID

DEMONSTRATION AND DISCUSSIONS. THAT'S WHAT YOU DO IN

PHYSICS. IT WAS KIND OF INTERESTING, THOUGH. IN THAT YOU

STUDENTS WERE WATCHING THE DEMONSTRATIONS ON TV. THEY COULDN'T COME UP TO THE EQUIPMENT, THEY COULDN'T TOUCH IT, COULDN'T PLAY WITH IT, COULDN'T WATCH IT IN THE ROUND. IT MADE IT A LITTLE BIT TOUGH TO DRAW THEM INTO THE DEMONSTRATION THE WAY YOU LIKE TO DO WHEN YOU ARE TEACHING HANDS-ON SCIENCE, WHICH IS PRETTY DIFFICULT TO DO WHEN THE HANDS ARE MILES AWAY FROM THE EQUIPMENT. BUT WE DID GIVE IT

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IT TRY. THE FIRST VIDEO CLIP IS THE SET-UP AND LATER ON YOU WILL SEE HOW THE STUDENTS WORKED WITH IT. HOW WE TALKED ABOUT VARIOUS FACTORS THAT AFFECTED PERIODS OF PENDULUM, DOING IT WITH THE PENDULUM WHERE I WAS, THE STUDENTS WHERE

THEY WERE, AND TRYING TO BRING THEM INTO THAT. SO DAVE, COULD WE HAVE THE FIRST CLIP?

>> VICKI ROBINSON: BLAKE, MAKE THIS CLOCK WORK

WELL, WE HAVE TO BE ABLE TO CONTROL THE PERIOD OF THE PENDULUM. ISN'T THAT RIGHT? NOW, BLAKE HAS ALREADY TOLD US THAT IT DOESN'T MATTER HOW HIGH WE START IT. ACTUALLY, IT DOES MAKE A DIFFERENCE IF YOU START IT WAY HIGH. BECAUSE OF AIR RESISTANCE. BUT IF YOU START IT OUT HERE -- IF YOU START IT OUT HERE, IT REALLY DOESN'T MATTER. LET'S TRY TO PROVE THAT THE SAME WAY GALILEO DID. OKAY? CAN YOU ALL FIND YOUR

PULSE? WHAT I WANT TO DO IS TRY TO FIGURE OUT THE PERIOD OF THIS LONG PENDULUM. OKAY? NOW, 1 -- 2 --

>> VICKI ROBINSON: OKAY, DAVE MENTIONED TWO CAMERAS.

THROUGH SEE THE DIFFERENT VIEWPOINTS. ONE WAS ON ME AND IT FOLLOWED ME, WHEREVER I WENT IN THE CLASSROOM. THEN THERE WAS THAT LONGER VIEW THAT SHOWED THE WHOLE CLASSROOM WHERE I

COULD LAY OUT MY DEMONSTRATION. THIS WAS THE FRONT OF THE PENDULUM BUT YOU PROBABLY SAW ME CHASING A LITTLE CAR DURING

THE TEASER AT THE BEGINNING. THEY KEPT FALLING OFF. IT WAS REALLY NICE. I COULD SAY, DAVE, GO TO THE DEMONSTRATION CAMERA AND BOOM, THERE WE WERE, YOU COULD SEE THE WHOLE FRONT. IT WORKED EFFORTLESSLY. I DON'T SEEM TO BE ABLE TO ADVANCE MY SLIDES HERE.

OKAY, I DECIDED TO DO THIS PAPERLESS. BECAUSE

N.T.I.D. AND R.S.D. ARE ONLY 4 MILES APART, WE COULD DRIVE THINGS BACK AND FORTH, BUT I DECIDED TO DO IT BY WEBSITE.

OKAY, THERE'S OUR WEBSITE. I WENT UP TO R.S.D. BEFORE WE STARTED THE PROJECT, MET WITH THE STUDENTS, MET WITH THE COOPERATING TEACHER WHO ISN'T HERE TODAY, HIS NAME IS BOB GELLMER.

YOU CAN SEE HIM ON THE FAR RIGHT. HE WAS AN IMPORTANT PART OF

THIS PROJECT. THE STUDENTS NEEDED TO HAVE HIM THERE DURING LESSONS. YOU CAN SEE THE ROLE HE PLAYED LATER. BUT BOB WAS A BIG ADDITION TO THIS, AND I WOULD RECOMMEND STRONGLY THAT

ANYBODY WHO IS TRYING TO TEACH A LAB SCIENCE, VIA VIDEO CONFERENCING, HAVE SOMEONE KNOWLEDGEABLE ON THE OTHER END TO

WORK WITH THE STUDENTS. IT WOULD BE DIFFICULT FOR STUDENTS

TO BE SET IN FRONT OF A MONITOR AND SAY, GO TO IT, YOUR TEACHER IS 500 MILES AWAY. IT MAKES IT TOUGH LATER ON WHEN THEY HAVE QUESTIONS.

WE USE THE WEBSITE FOR ALL DIFFERENT KINDS OF THINGS. ONE IN PARTICULAR WAS BEING ABLE TO PRESENT THEIR LAB MATERIALS, AND ALSO, IT WAS A WONDERFUL WAY TO INTRODUCE

NEW VOCABULARY, THINGS LIKE THAT. FOR EXAMPLE, TALKING ABOUT

THE PERIOD AND FREQUENCY OF A PENDULUM. TRY TO DO THIS WITH

A PAPER HANDOUT IN THE CLASSROOM. NOW, I MADE THESE LITTLE QUIK-TIME MOVIES WITH A PIECE OF SOFTWARE CALLED INTERACTIVE

PHYSICS, FOUND AT WWW.KREV.COM. A VERY HANDY PIECE OF SOFTWARE, ESPECIALLY IF YOU ARE BUYING IT IN BULK. YOU WILL SEE HOW HANDY IT CAME IN WHEN IT SHOWS HOW IT LET STUDENTS DO

THEIR EXPERIMENTS IN THEIR OWN RESOURCE CENTER WITHOUT THE

EQUIPMENT THAT I HAVE. YOU CAN DO NOT ONLY THIS BUT YOU CAN

BORROW THE WEB, YOU HAVE ACCESS TO EVERYTHING ALL OVER THE

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WORLD, BUT I COULD BORROW ALL KINDS OF WONDERFUL ADDITIONAL

INFORMATION AND MATERIALS TO GIVE TO THE STUDENTS, AND ONE OF

THE FUN THINGS WE DID WAS, LET ME SEE. I GUESS I WON'T SHOW

YOU THE CLOCK PAGE ON THE COMPUTER BECAUSE YOU WILL SEE IT ON

THIS CLIP, BUT WE HAVE THE CLIP OF -- YOU HEARD ME TALKING

ABOUT EXPLODING FROM THE INSIDE OF A CLOCK. YOU CAN SEE THE

REACTION IT GOT FROM THE KIDS OF R.S.D.. ROLL IT, DAVE.

>> VICKI ROBINSON: WHAT YOU WILL SEE IS AN

EXPLODED VIEW OF A CLOCK. IT SHOWS YOU HOW THE GEARS WORK,

HOW THE PENDULUM CONTROLS THE STRING UNWINDING. WE WILL LET

IT STAY THERE UNTIL YOU TELL ME YOU ARE FINISHED LOOKING AT

IT. HOW ABOUT THAT? I CAN SEE YOU, YOU CAN'T SEE ME. BUT

WHEN YOU ARE DONE, LET ME KNOW. CAN WE GO TO THE COMPUTER

SCREEN, PLEASE, DAVE? YOU SEE THE CAMERA WAS ON TOP OF

MONITOR. YOU WILL SEE BOB COME IN HERE ON THE RIGHT. THE

STUDENTS WERE ASKING HIM QUESTIONS ABOUT WHAT THEY WERE
LOOKING AT ON THE SCREEN. THERE HE IS.

>> VICKI ROBINSON: IT'S A VERY NICE SYSTEM.

WORKED OUT QUITE WELL. LET ME SEE. WHAT ELSE? I ALSO PUT
IN E-MAIL LINKS TO BOTH BOB'S MAIL ACCOUNT AND MINE,
BECAUSE

STUDENTS E-MAILED ALL OF THEIR WORK BACK AND FORTH. LET'S
SEE. I HAVE JUMPED AHEAD OF MYSELF HERE. OKAY, THE
INTERACTIVE PHYSICS SIMULATION SOFTWARE DOES ABSOLUTELY
WONDERFUL THINGS. LET ME GIVE YOU AN EXAMPLE. HERE'S THE
LAB THAT THE STUDENTS DID ON PENDULUM MOTION. NOW, I
ACTUALLY DEVELOPED FOUR LABS FOR THEM BECAUSE THEY HAD
FOUR

LESSONS BUT BECAUSE YOU HAVE SEEN PART OF THE PENDULUM
DEMONSTRATION I THOUGHT I WOULD CARRY THROUGH ON A
THEME.

FOR THIS, THE STUDENTS CAN ADJUST THE ANGLE OF THE ROPE,
THEY

CAN CHANGE THE LENGTH OF THE ROPE, AND THEY CAN CHANGE
THE

MASS OF THE PENDULUM. OF COURSE, THAT DOESN'T SHOW, BUT
THERE IT IS. AND THEN, THEY CAN LET IT RUN. THE TIME IS

MEASURED FOR THEM. THIS IS INFINITELY VARIABLE. THIS IS A
WONDERFUL FLEXIBLE PIECE OF SOFTWARE. I USE IT WITH MY OWN

STUDENTS, EVEN THE STUDENTS HERE AT N.T.I.D. WHO HAVE
ACCESS

TO THE EQUIPMENT, THEY HAVE USED IT IN THE CLASSROOM BUT THIS

TAKES THE MYSTERY OUT OF THE MEASUREMENTS. WHEN YOU ONLY HAVE TEN WEEKS TO TEACH A COURSE, SOMETIMES THAT'S IMPORTANT.

SO THE STUDENTS USE THIS FOR EACH OF THE LABS THAT I TAUGHT.

THIS WAS A FUN ONE. THE DIFFERENCE BETWEEN

ACCELERATED MOTION AND CONSTANT MOTION. THERE IS NOTHING YOU

CAN'T DO WITH THIS SOFTWARE. IT'S WONDERFUL. I RECOMMEND IT HIGHLY. AND THEY WILL NOT PAYING ME TO SAY THIS! LET ME

SEE, WHERE ARE WE NOW? OKAY, THE STUDENTS SAW THE REAL PENDULUM, AND THEY SAW SOME TIMING. I ALSO USED THE SOFTWARE

TO GENERATE GRAPHS. LATER ON I WAS GOING TO ASK THEM TO GENERATE THEIR OWN GRAPH. MAYBE IT IS MORE SELF-EXPLANATORY

TO SHOW YOU THE CLIP. DAVE?

>> VICKI ROBINSON: HOW MANY PULSE BEATS DID YOU COUNT FOR TEN SWINGS? HOW MANY?

>> STUDENT: NOT SURE. ABOUT SIXTEEN.

>> VICKI ROBINSON: ABOUT SIXTEEN? KRISTIN?

>> STUDENT: 24.

>> VICKI ROBINSON: CLAYTON? 'SPOKE

>> STUDENT: 25

>> VICKI ROBINSON: STEPHANIE?

>> STUDENT: 27.

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>> VICKI ROBINSON: JEREMY?

>> STUDENT: 24

>> VICKI ROBINSON: OKAY, THAT WAS FOR A SHORT ARC.
NOW, LET'S PULL IT OUT FURTHER AND SEE WHAT HAPPENS.

>> VICKI ROBINSON: I'M SORRY, I HAVE MY CLIPS IN
THE WRONG ORDER ON MY PAPER. DAVE WAS RIGHT. I WAS WRONG.
BUT YOU CAN SEE HOW WE PULLED THE STUDENTS INTO THE
DISCUSSION OF THE DEMONSTRATION THAT I DID. HOW MUCH
MORE

TIME DO I HAVE? YES.

OKAY, WRITING LAB REPORTS CAN BE A CHALLENGE WHEN
YOU ARE WORKING WITH E-MAIL. HOW MANY OF YOU HAVE TAKEN
PHYSICS COURSES BEFORE? HANDS, HANDS? OKAY. HOW MANY
TIMES

DID YOUR INSTRUCTOR SAY SKETCH THE PROBLEM AND SHOW ALL
YOUR

WORK? NOW, IS THAT EASY TO DO IN E-MAIL? TO SKETCH THE
PROBLEM AND SHOW ALL YOUR WORK? WELL, YOU CAN USE
DRAWING

PROGRAMS. THEY ARE TEDIOUS AND ERROR-PRONE. TYPING
EQUATIONS? OH, PLEASE! I HAVE BEEN AT THIS FOR 30 YEARS NOW

AND I HATE DOING THAT, TO ASK STUDENTS WHO ARE NEW TO ALL OF

THIS TO BE TYPING ALL THIS STUFF OUT. IT ISN'T WORTH IT. SO

WHAT DID QUESTION DO? WE WENT TO THE WACOM GRAPHITE TABLET.

IT IS A WONDERFUL, LOW-COST DIGITIZING TABLET. YOU GET A PEN. YOU CAN SKETCH, YOU CAN LABEL, YOU CAN WRITE OUT EQUATIONS.

THEY MAILED IT TO ME. I GRADED IT WITH MY TABLET,

I COULD WRITE "EXCELLENT WORK" AND JUST E-MAIL IT BACK TO

THEM. IT WAS PERFECT, NO TYPES, NO TYPE, NO PROBLEMS. SO

THEY ATTACHED THEIR MATH WORK, ATTACHED THEIR TABLES. AS A

MATTER OF FACT, SOME OF THEM DID THEIR ENTIRE LAB REPORTS

THIS WAY AND JUST FORGOT THE WORD PROCESSING PROGRAM ENTIRELY

BECAUSE THEY HAD FUN WITH THIS. IT COMES ACTUALLY WITH AN ARTIST SOFTWARE.

I RECOMMEND IT HIGHLY FOR TEACHING A LAB SCIENCE AT

A DISTANCE. BUT, AT THE SAME TIME, WE DID A LOT OF

INTERACTIVE STUFF IN CLASS, TOO. YOU HAVE ALREADY SEEN PART

OF IT. DAVE, LET'S SEE THE SMALL GROUP DISCUSSION, DRAWING

GRAPHS.

>> VICKI ROBINSON: I WANT TO YOU GET TOGETHER AND

FOR, I DON'T KNOW, FIVE MINUTES OR SO, I WANT YOU TO DISCUSS

AMONG YOURSELVES WHAT A DISTANCE VERSUS TIME WOULD LOOK FOR

HE MOTION AND ACCELERATED MOTION.

THESE ARE STUDENTS WHO HAD NEVER TAKEN PHYSICS

BEFORE. THEY TOOK MY FOUR LESSONS. AND THIS WAS AN

EXTREMELY BRIGHT AND ABLE BUNCH OF STUDENTS. BOY, I HAD A

GOOD TIME WORKING WITH THEM. I'M NOT SURE WE WOULD HAVE HAD

SUCH GOOD OUTCOMES IF THE STUDENTS HADN'T BEEN THIS

PARTICULAR BUNCH. THEY WERE ABSOLUTELY ON THE BALL, THEY

WERE ENTHUSIASTIC, MOTIVATED, BRIGHT. THEY HAD NO

HESITATIONS ABOUT THE TECHNOLOGY. IT WAS A WONDERFUL

EXPERIENCE WORKING WITH THESE KIDS. R.S.D. IS DEFINITELY

DOING SOMETHING RIGHT TO BE BRINGING UP A WHOLE COHORT OF

KIDS LIKE THIS.

WE WERE ABLE TO DO THINGS WITH THE TECHNOLOGY WE

HAD. HAVING STUDENTS WORKING AT THE WHITE BOARD IN A SMALL

GROUP. I SORT OF WATCHED THEIR CONVERSATION. MOSTLY I

DIDN'T. IT TURNED OUT IN THE VERY SMALL DISCUSSION YOU SAW

THERE, IT WAS ACTUALLY A CONDENSATION OF A MUCH LONGER ONE.

WHEN THEY HAD QUESTIONS, THEY TENDED TO TURN TO THEIR TEACHER

ON SITE; WHICH I THOUGHT WAS APPROPRIATE. HE WAS THERE, HE WAS PART OF THEIR DISCUSSION. IT WAS HARD FOR ME TO SEE WHAT

THE GROUP WAS TALKING ABOUT FROM THAT VANTAGE POINT BUT I COULD SEE WHAT THE PRODUCT WAS AND THEY GAVE ME A LITTLE EXPLANATION OF HOW THEY HAD DECIDED THOSE GRAPHS WERE THE

CORRECT GRAPHS. I COULDN'T PUT THAT ON THE CLIP BECAUSE WE WERE TRYING TO KEEP THE TIME SHORT. WE HAD VERY LITTLE PROBLEM WITH THE TECHNOLOGY. THERE WAS VERY LITTLE SENSE OF

DISCONNECTEDNESS, WHICH WAS SOMETHING I WAS AFRAID OF. I DID

A LITTLE PRE AND POST-TEST ABOUT CONSTANT MOTION VERSUS ACCELERATED MOTION.

MOST OF THE SCORES WERE IN 60 PERCENT RANGE IN THE PRE-TEST. IN THE POST-TEST, THEY WERE ALL 100 PERCENT. I GUESS YOU COULD SAY SOME LEARNING HAPPENED. NOT TOO SCIENTIFIC. IN A ROUND TABLE DISCUSSION THEY TALKED ABOUT THE EXPERIENCE. THEY LOVED IT. I HAD A HARD TIME GETTING ANYBODY TO SAY ANYTHING BAD ABOUT IT. THEY SAID FINALLY, WELL, SOMETIMES WHEN THE CAMERA WAS MOVING, IT WAS HARD TO

SEE SOME OF THE THINGS.

THE STUDENTS ENJOYED THIS. THAT IS IMPORTANT.

STUDENTS NOT ENJOYING THEIR CLASS WON'T DO MUCH. THE DIFFICULTIES WAS MOSTLY BECAUSE OF THE VIDEO CONFERENCING MODALITY, WAITING FOR THE VIDEO CAMERA TO ZOOM AND FOCUS. THE FIRST COUPLE LESSONS, I DID.

THE FIRST COUPLE LESSON, I DID A LOT OF WAIT, WAIT, WAIT. YOU GET A PIXELATED VIEW OF MOTION WHEN THAT WAITING IS HAPPENING. DURING VOICEOVER, CLOSE-UPS OF EQUIPMENT, IF I WANTED TO SHOW THEM THAT WAS GOING ON, WOULD SAY, I WILL SHOW YOU SOMETHING, THEN YOU WILL SEE IT, THEN YOU WILL HAVE TIME TO THINK ABOUT IT, THEN WE WILL COME BACK. I HAD TO TELL THEM WHAT THEY WERE GOING TO SEE BECAUSE I WAS OUT OF CONTACT WITH THEM. WHEN THEY WERE SEEING SOMETHING LIKE THE SIMULATIONS AND GRAPHS BEING GENERATED, THEY COULDN'T SEE ME, THEY COULDN'T SEE ME AT THOSE TIMES SO THAT MADE IT A LITTLE DIFFICULT. BUT THERE AGAIN, WE COPE. MY OWN SENSE OF DISCONNECTEDNESS? SOMETIMES I WASN'T TERRIBLY BOTHERED BY IT. THEY WEREN'T EITHER. A DIFFERENT TEACHER MIGHT BE BOTHERED. THAT IS VERY SUBJECTIVE. WE DIDN'T FIND THESE DIFFICULTIES TO BE A REAL PROBLEM. STUDENT LEARNING OCCURRED AND STUDENTS WERE POSITIVE ABOUT THEIR EXPERIENCE. WE HERE

AT N.T.I.D. AND FOLKS AT R.S.D. LEARNED A LOT ABOUT THIS EXPERIMENT. I AM LOOKING FORWARD TO THE NEXT ROUND OF EXPERIMENTS. IT SHOULD BE INTERESTING. BUT, OF COURSE, THERE ARE ALWAYS THE ORDINARY PERILS OF TEACHING PHYSICS. ROLL IT, DAVE.

>> VICKI ROBINSON: YOU HAVE TO -- (LAUGHTER)

(MUSIC)

CLIP: >> VICKI ROBINSON: AGAIN. OOPS. I BROKE MY TRUCK! READY? GO. TA-DAH!!

>> VICKI ROBINSON: THAT'S WHY PHYSICS TEACHERS LOOK AS OLD AS WE ALL DO! THAT'S ALL I HAVE. I WOULD LIKE TO INTRODUCE JOAN CARR NEXT. SHE WAS OUR MATH TEACHER AND DID A VERY DIFFICULT BUT EQUALLY SUCCESSFUL KIND OF PRESENTATION WITH THE SAME SET OF STUDENTS. THANKS A LOT.

(APPLAUSE)

>> JOAN CARR: HI, I'M JOAN CARR, AND I HAVE BEEN

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TEACHING HERE FOR 27 YEARS. TEACHING MATH. I HAVE TAUGHT A VARIETY OF COURSES THROUGH THE YEARS BUT THIS WAS THE FIRST

OPPORTUNITY TO TRY SOME DISTANCE LEARNING. ALSO, BY NOW, BECAUSE OF THINGS PEOPLE ALREADY SAID ABOUT ME, YOU KNOW THAT

I AM THE ONE WITH THE PSYCHOLOGICAL PROBLEMS, BECAUSE I

WANTED THE SMALL CLASSROOM SO NOT MANY PEOPLE COULD WATCH ME.

SO TRY TO PUT THAT ASIDE FOR NOW. EARLIER THIS MORNING, DONELY SAID THAT TECHNOLOGY IS THE ANSWER, AND WE ARE JUST LOOKING FOR A QUESTION.

SO THE FIRST THING THAT PATTY AND I HAD TO DO WAS FIGURE OUT WHAT WE WANTED TO DO WITH DISTANCE LEARNING AND

VIDEO CONFERENCING, WE DECIDED WE WOULD USE THE T.I.

CALCULATOR TO INVESTIGATE A FEW MATH CONCEPTS. MANY OF YOU

MAY NOT HAVE TAKEN MATH COURSES RECENTLY, SO PERHAPS YOU

DON'T KNOW THE CALCULATOR IS A CRITICAL PORTION OF

MATHEMATICS EDUCATION AT THE HIGH SCHOOL AND COLLEGE LEVEL

AND ALSO AT THE MIDDLE SCHOOL LEVEL. SO WE DECIDED TO TEACH

THE GRAPHING ASPECTS OF THE T.I. 83 GRAPHING CALCULATOR TO

EXPLORE A FEW CONCEPTS THE STUDENTS HAD LEARNED PREVIOUSLY.

WE WERE ABLE TO HAVE FIVE CLASSES. EACH ONE RAN

APPROXIMATELY THE SAME WAY. WE HAD 80 MINUTES. AT THE START

OF EVERY CLASS, STUDENTS WOULD ENTER THE LEARNING CENTER AT

R.S.D. AND DOWNLOAD AND PRINT OUT PAPERS FOR THAT CLASS.

PAPERS INCLUDED WHAT WE CALLED A LAB EXPLANATION OF WHAT

WOULD HAPPEN DURING CLASS AND ALSO A HOMEWORK ASSIGNMENT.

WELL, HOMEWORK IS PROBABLY THE WRONG NAME FOR THAT BECAUSE STUDENTS ACTUALLY FINISHED THE WORK DURING CLASS.

ALSO, EACH STUDENT HAD TO GET THE T.I. 83 GRAPHING CALCULATOR

FROM THE TEACHER. THEN WE BEGAN ROUGHLY 40-MINUTE LECTURE,

DEMO, DISCUSSION, AND AT THE END OF THE CLASS, THE LAST 20-30

MINUTES, STUDENTS WOULD ASK ME QUESTIONS. I WOULD SIT DOWN

AND WAIT FOR THE STUDENTS WHILE THEY WORKED ON THEIR, QUOTE,

HOMEWORK. I USED ONE OF THE OLD TECHNOLOGIES FOR GRADING

HOMEWORK. AT THE END OF THE CLASS, THE STUDENTS WOULD GIVE

THEIR PAPERS TO PATTI, AND SHE ARRANGED TO HAVE THEM FAXED TO

ME. I WAS ABLE TO CORRECT THEM AND SEND THEM BACK BEFORE THE

NEXT CLASS, SO THE STUDENTS ALWAYS KNEW HOW THEY DID ON THE

PREVIOUS HOMEWORK BEFORE THEY STARTED THE NEXT CLASS.

I DIDN'T HAVE A LOT OF CLASS MATERIALS. THE

STUDENTS NEEDED THE CLASS NOTES EVERY DAY. AND THOSE NOTES

WERE ON THE WEB AT A RATHER SIMPLE WEBSITE THAT I WILL SHOW

YOU IN A MINUTE. THEY WERE PUT IN PDF FORMAT FOR STUDENTS AND THEY HAD NO TROUBLE PRINTING THEM OUT THAT WAY.

OBVIOUSLY, THERE ARE SOME -- THEY ALSO NEED A T.I. 83. THEY NEED A CALCULATOR, WHICH I WILL SHOW YOU A LITTLE BIT LATER. YOU WILL PROBABLY UNDERSTAND I HAVE LESS TECHNICAL TALENT FROM VICKI. I AM MORE NEUTRAL ABOUT WEBSITE USE, SO I DIDN'T CREATE THIS. THANK YOU, BILL, IF YOU ARE HERE. IT IS VERY SIMPLE. THE STUDENTS JUST CLICKED ON THE LAB THEY WANTED. IT SHOWED UP ON THE SCREEN, THEY PRINTED IT OUT. WE KEPT THAT PART OF IT REALLY SIMPLE.

STUDENTS COULD CONTACT ME WITH MY E-MAIL ADDRESS THERE BUT NO ONE DID. CALCULATOR HAS A VERY SMALL WINDOW. AND IT WOULD BE VERY TOUGH FOR A STUDENT TO SEE THIS IF I AM DEMONSTRATING IT IN FRONT OF A CAMERA. SO WE USED A PIECE OF EQUIPMENT CALLED THE PRESENTER, THE TI PRESENTER. AND WITH THIS, YOU CAN HOOK UP TO A VCR, TV MONITOR, OR A PROJECTOR SO

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STUDENTS CAN SEE WHAT'S IN MY CALCULATOR. I USED ONCE IN A WHILE THE DOCUMENT CAMERA, FOR SUMMARY INFORMATION. IN A MINUTE I'M GOING TO SHOW YOU A VIDEO CLIP OF PART OF THE INSTRUCTION THAT OCCURRED.

WHAT I WOULD ASK YOU TO LOOK AT IS A FEW THINGS.

FIRST OF ALL, THE BOARD SPACE ITSELF, A LITTLE BIT LIMITED FOR ME. ALSO NOTICE I USED A POSTER SO I COULD ACTUALLY POINT TO THINGS I WANTED TO SHOW THE STUDENTS. YOU WILL BE ABLE TO SEE HOW THE T.I. PRESENTER SEEMS TO STUDENTS, THAT IT

REALLY IS VERY LARGE IMAGE FOR THE STUDENTS TO SEE. ALSO, I HAD TO COPY ON THE BOARD WHEN I WANTED TO TALK ABOUT SOMETHING, BECAUSE THERE WAS NO VOICEOVER CAPABILITY, OF COURSE, BECAUSE THE STUDENTS ARE DEAF. DAVE?

>> JOAN CARR: WE WILL USE TWO NEW IDEAS FROM THE CALCULATOR TODAY. ONE IS CALLED TABLE SETUP. TBLSET, T-B-L-S-E-T. NOTICE IT IS PRINTED ABOVE "WINDOW." NOW, WHEN YOU PRESS TBLSET, MEANING TABLE SETUP.

WHAT I WANT YOU TO SEE IS (THIS). NOW, WHEN YOU

FINISH SETTING UP YOUR TABLE, HAVE YOU A LOT OF CONTROL OVER

THAT. LATER WE WILL SEE HOW CAN YOU PLAY WITH THAT. RIGHT NOW, SET IT UP WITH ZERO, AND TBL IS 1. NOW, TOUCH SECOND YOU TABLE. SEE WHAT HAPPENS -- TOUCH SECOND TABLE AND SEE WHAT HAPPENS.

>> JOAN CARR: YOU PROBABLY NOTICED THAT I AM

REALLY LIMIT FOOD BOARD SPACE, AND THAT WAS A LITTLE BIT OF A

PROBLEM. WHILE I AM TEACHING, I LIKE TO BE ABLE TO WRITE

VOCABULARY SO I CAN REINFORCE IT FOR THE STUDENTS AND I REALLY DIDN'T FEEL I HAD A PLACE WHERE YOU COULD DO THAT WELL. IN THE NEXT CLIP, WHAT I WOULD LIKE YOU TO SEE IS THAT I AM TRYING TO INTRODUCE A RATHER COMPLICATED PROCESS. AND THAT PROCESS IS FOR USING THE CALCULATOR TO FIND HORIZON. I KNEW STUDENTS WOULD HAVE PROBLEMS WITH IT DURING THE DISTANCE

LEARNING EXPERIENCE. IT IS A COMPLICATED PROCESS SO I TRIED TO FIRST EXPLAIN IT. SECOND, TO DEMO IT, AND THIRD, ASK THE STUDENTS TO TRY IT. DAVE?

(CLIP) >> JOAN: LEFT BOUND, RIGHT BOUND, AND THIRD GUESS.

ON THE LEFT, WHAT IT MEANS IS: ANYWHERE, ANYWHERE TO THE LEFT OF THE POINT YOU WANT ... RIGHT BOUND, ANYWHERE TO THE I

RIGHT OF WHERE YOU WANT ... GUESS, SOMETHING NEAR WHAT YOU

WANT. OKAY? SO THERE ARE THREE PARTS TO THIS PROCESS. AND HONESTLY, IT DOESN'T MATTER WHERE ON THE LEFT OR WHERE ON THE

RIGHT. ANYWHERE IS FINE. OKAY? SO WHY DON'T YOU WATCH ME DO IT ONE TIME AND THEN I WILL TRY TO HELP YOU GO THROUGH IT YOURSELVES: OKAY?

OKAY, SO WHAT IS HAPPENING IS, YOU WILL MOVE TO THE LEFT, ENTER. MOVE TO THE RIGHT, ENTER. MOVE BACK NEAR, ENTER. AND THE ANSWER POPS UP. (END CLIP).

>> JOAN: OKAY, YOU PROBABLY NOTICED THAT THE CAMERA MOVING WAS A LITTLE BIT JERKY. WELL, THAT WAS NOT THE PROBLEM OF THE DIRECTOR. IT WAS REALLY THE CAMERA ITSELF. ALSO, WHAT WAS I GOING TO SAY? I HAVE FORGOTTEN. OH, WELL, MAYBE I WILL REMEMBER IN THE NEXT CLIP. ONE OF THE THINGS THAT HAPPENED IN THE SMALL CLASSROOM WHERE THESE WERE MADE WAS I DIDN'T HAVE THE ABILITY TO USE THE SPLIT SCREEN. THAT WAS FINE, BECAUSE WE FELT THAT PROBABLY THAT WOULD MAKE THE SIGNING TOO SMALL AND THEY WOULD NOT BE ABLE TO WATCH THE SPLIT SCREEN SO IT WAS NOT A PROBLEM FOR ME

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TO HAVE IT. IN THE NEXT CLIP, THOUGH, YOU WILL NOTICE THERE SEEMS TO BE THIS SPLIT SCREEN. THAT WAS DONE AFTER THE FACT. IT WAS DONE THROUGH EDITING. IN THIS THIRD CLIP, NOTICE THAT THE WALL BEHIND THE STUDENTS IS KIND OF A DARK GRAY, AND THAT WAS REALLY HELPFUL FOR SEEING THEM. I THINK IT WAS A MUCH BETTER COLOR THAN WE HAD BEHIND ME WHILE I WAS PRESENTING. ALSO, NOTICE THAT THERE IS A VARIETY OF STUDENT INTERACTIONS HAPPENING. ONE STUDENT IS ASKING ME A QUESTION WHILE OTHERS ARE DISCUSSING

SOMETHING WITH EACH OTHER. DAVE? (CLIP)

>> FROM THE FLOOR: WHERE IS THE GUESS? YOU

WOULD JUST PICK THE POINT? JOAN: OH, NEAR THE INTERSECTION.

>> STUDENT: OKAY. AND THEN ENTER?

>> JOAN: YES. COULD I HAVE THE BIG GROUP AGAIN? THANK

YOU. OKAY. EVERYONE SUCCESSFUL NOW?

>> FROM THE FLOOR: YES.

>> STUDENT: WE'RE ALMOST DONE. RIGHT IN THE MIDDLE.

(END CLIP)

>> JOAN: I JUST GOT THE TWO-MINUTE WARNING, SO I'M

GOING TO MOVE RIGHT ON TO THE NEXT CLIP IN A MINUTE. THIS

NEXT ONE INVOLVES THE KIND OF LIVE TUTORING THAT HAPPENED
AT

THE END OF MY CLASSES WHERE STUDENTS WERE ABLE TO ASK ME

ANYTHING THEY WANTED RELATING TO THE HOMEWORK. DAVE?

>> STUDENT: I FINISHED ONE. AND THEN YELLOW, DELTA Y,

1.

>> JOAN: DELTA 1 BY DELTA X.

>> STUDENT: OKAY. (END CLIP).

>> JOAN: THANK YOU. I THINK I ALREADY MENTIONED

THAT. I THINK I ALREADY MENTIONED THAT SHE IS MORE OF A

TECHNICAL EXPERT. OKAY. FIRST OF ALL, THE STUDENT

EVALUATIONS WERE VERY POSITIVE. THE STUDENTS SEEMED TO
ENJOY

THE EXPERIENCE, AND THE POST-TEST RESULTS INDICATED THEY HAD

LEARNED SOMETHING. ACTUALLY, THE PRE-TESTS I GAVE THEM SHOWED ZEROS, SO THEY SHOWED A LOT OF PROGRESS. FEELING CONNECTED? I PROBABLY FELT LESS CONNECTED THAN I WOULD HAVE

IN A LIVE CLASSROOM, PARTLY BECAUSE I WAS NOT ABLE TO TAKE ADVANTAGE OF SIDE CONVERSATIONS THAT I SAW. SOMETIMES I COULDN'T SEE CLEARLY WHAT THE STUDENTS WERE TALKING ABOUT, OR

SOMETIMES I COULDN'T SEE CONVERSATIONS AT ALL IF THE CAMERA

WAS ON OTHER STUDENTS. I FELT I DIDN'T HAVE ENOUGH BOARD SPACE FOR WRITING, THE WAY I LIKE TO IN A REGULAR CLASSROOM.

THAT'S PROBABLY SOMETHING THAT I WOULD ADJUST TO THROUGH TIME. I WILL LEAVE THAT TO PATTI.

I WILL TALK A LITTLE BIT ABOUT EYE CONTACT.

SOMETIMES I WOULD ASK A STUDENT SOMETHING AND THE STUDENTS

THEMSELVES DIDN'T KNOW WHO I WAS LOOKING AT SO THAT WAS A LITTLE BIT OF A PROBLEM. WE WOULD HAVE HAD TO IDENTIFY THE STUDENT BY NAME SIGN OR BY NAME, WHATEVER. PROBABLY THE LAST

ONE IS MORE CRITICAL FOR ME. IN A REGULAR CLASSROOM, I AM ABLE TO SEE STUDENTS WHILE THEY ARE WORKING.

I CAN TAKE ADVANTAGE OF THINGS THAT ARE GOOD AND I
CAN WARN STUDENTS ABOUT THINGS THAT I SEE THAT ARE NOT
GOOD.

AND SAVE THE STUDENTS SOME TROUBLE, STRUGGLING.

RIGHT NOW WHAT I WOULD LIKE TO DO IS TURN IT OVER
TO PATTI, WHO WAS THE R.S.D. PERSON CONNECTED WITH ME.

>> PATTI SPIECKER: HI, MY NAME IS PATTI SPIECKER,

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AND I TEACH IN THE MATH DEPARTMENT OF R.S.D., AND I HAVE
BEEN

THERE FOR TWO YEARS AND I DO HAVE PRIOR EXPERIENCE. WHEN

R.S.D. ASKED ME TO BECOME INVOLVED WITH THE DISTANCE
LEARNING

COURSE, I WAS SO ENTHUSIASTIC, I DECIDED TO ACCEPT RIGHT

AWAY. I HAD DECIDED TO TAKING DISTANCE LEARNING WHEN I WAS
A

STUDENT HERE AT R.I.T. ABOUT SIX YEARS AGO. WHEN THEY

MENTIONED THE COURSE, IT WAS LIMITING FOR THE DEAF
STUDENTS

AND FOR THE VIDEOTAPING, THERE WAS NO CAPTIONING FOR THE

VIDEOTAPING SO I WOULD HAVE TO READ THE NOTES AND WATCH
THE

MOVIE AT THE SAME TIME. FROM THAT EXPERIENCE, EVEN THOUGH
IT

WAS LIMITED, IT WAS A VERY POSITIVE EXPERIENCE. NOW WE CAN

APPLY IT TO R.S.D. STUDENTS AND WE CAN APPLY IT TO R.S.D.

STUDENTS AND I THOUGHT IT WAS WONDERFUL. SO WE DECIDED TO GO

AHEAD AND TRY IT AND I DECIDED TO ACCEPT THE POSITION AS INSTRUCTOR FOR THE PROJECT. I'M GOING TO PRESENT THE STUDENT'S PERSPECTIVES, NOT MY OWN. FROM MY OWN OPINION, AS

THE TEACHER, I HAVE VERY POSITIVE EXPERIENCES AND I THINK WE WILL CONTINUE TO USE THIS AT R.S.D.

SO I THINK FOUR THINGS RELATED TO THE STUDENTS

PERSPECTIVES. THE FIRST WAS EYE STRAIN. THE SECOND WAS COMMUNICATION AND QUESTIONS. THE THIRD WAS VIDEOTAPE ESSENTIALS AND THE LAST WAS LIMITS OF SPONTANEITY. THE FIRST

ONE, EYE STRAIN, THE DISTANCE LEARNING SESSION WERE VERY LONG

AND THE STUDENTS COMPLAINED ABOUT HAVING TO LOOK AT THE MONITORS FOR SUCH A LONG TYPE. THE SECOND LECTURE WAS BETTER

BECAUSE IT WAS MORE BACK AND FORTH. THE TEACHER WOULD EXPLAIN SOMETHING AND THE STUDENTS WERE ABLE TO DO THE ACTIVITY, SO THEY DIDN'T HAVE TO LOOK AT THE MONITOR FOR SO LONG AND IT WAS LESS STRAIN ON THEIR EYES. AND I WAS VERY CRITICAL FOR THE STUDENTS TO HAVE A BREAK, SHOULD BE ABLE TO

REST THEIR EYES. THE SECOND WAS COMMUNICATING QUESTIONS.

WHEN THE STUDENTS ASK QUESTIONS TO THE TEACHER, THE PROCESS

WOULD REINFORCE THE LEARNING PROCESS, ESPECIALLY FOR TECHNICAL VOCABULARY.

SECOND, THE STUDENTS HAD TO LEARN HOW TO EXPRESS THEIR QUESTIONS VERY CLEARLY FOR TWO REASONS -- THE DISTANCE

BETWEEN THE TEACHER AND THE STUDENTS, AND THE TIME LIMITATIONS.

THE POSITIVE THING WAS, IT ENCOURAGED THE STUDENTS TO THINK WHEN THEY SPOKE, WHICH IS REALLY NICE. THE THIRD THING IS THE VIDEOTAPE ESSENTIAL. THEY WERE ABLE TO WATCH THE VIDEOTAPE AT THEIR OWN CONVENIENCE. SO IF THEY MISSED A CLASS, THEY COULD MAKE IT UP AND COMPLETE THEIR ASSIGNMENT.

THE ADVANTAGE OVER THE REGULAR CLASSROOM WAS IF THEY MISSED A

CLASS, THEY WERE STILL ABLE TO SEE THE CLASS BECAUSE IT WAS VIDEOTAPED SO THAT WAS A VERY POSITIVE OUTCOME OF THE PROJECT. IT'S IMPORTANT TO NOTICE THAT TWO SIDES, N.T.I.D. AND R.S.D., WERE SEPARATED, AND THE STUDENTS WERE ONLY ABLE

TO WATCH THE PROFESSOR'S VIDEOTAPE, NOT THE STUDENT'S VIDEOTAPE. SO THEY FELT LIKE THEY WERE NOT GETTING THE COMPLETE VERSION OF THE LESSON BUT THEY BASICALLY UNDERSTOOD

WHAT WAS BEING COVERED. SO THAT IS WHAT THE STUDENTS MENTIONED, THEY WANTED TO SEE WHAT THE STUDENTS' QUESTIONS

WERE FROM THAT DAY.

IT IS IMPORTANT TO RECOGNIZE THAT THE STUDENTS WERE ABLE TO GET THE VIDEOTAPES DURING THE DAY, BECAUSE OF THE PROXIMITY BETWEEN R.S.D. AND N.T.I.D., WHICH IS NOT NORMALLY

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FOR DISTANCE LEARNING. TYPICALLY, THE DISTANCE IS MUCH FURTHER. LASTLY, I WANTED TO DISCUSS LIMITS OF SPONTANEITY.

THE INTERACTION BETWEEN THE STUDENTS AND TEACHERS WAS LESS

SPONTANEOUS BECAUSE THEY HAD TO FOCUS ON THE MONITORS AND

THAT LIMITED OUR QUESTIONS ALSO. THE STUDENTS HAD TO WAIT FOR THE CAMERA TO FOCUS ON THEM BEFORE THEY WERE ABLE TO ASK

A QUESTION SO THAT MADE THE STUDENTS LESS SPONTANEOUS. THEY

WOULD ONLY ASK VERY IMPORTANT QUESTIONS, NOT SPONTANEOUS

QUESTIONS. SO THEY FELT THAT WAS LIMITING THEM. AND THEY WERE ASKING QUESTIONS, THE STUDENTS WEREN'T ABLE TO PARTICIPATE IN CLARIFYING THE QUESTION. IT IS DIFFERENT FROM A HEARING CLASSROOM, YOU ARE ABLE DO THAT BUT IN A DEAF

CLASSROOM YOU CAN'T, BECAUSE HAVE YOU TO TAKE TURNS AND MAKE

SURE THE CAMERA IS FOCUSED ON EACH PERSON, AND THERE IS NOT

ENOUGH TIME FOR THAT. ALSO FOR THE TEACHER, IN A DEAF

CLASSROOM IT IS IMPORTANT FOR THE TEACHER TO SEE WHAT THE

STUDENTS' COMMENTS ARE SO THE TEACHER IS LESS ABLE TO TAKE

ADVANTAGE OF STUDENT INTERACTION THAN WOULD HAPPEN IN A

REGULAR CLASSROOM. WHILE THE CAMERA IS FOCUSING ON ONE

STUDENT WHO IS ASKING THE QUESTION, THE TEACHER MISSES OUT ON

THE OTHER CONVERSATIONS OF THE STUDENTS IN THE CLASS. NOW

BACK TO VINCE.

>> VINCE DANIELE: WE WILL NOT RUN TO NOON. THIS

WILL REQUIRE ABOUT FIVE MINUTES MORE OF ADDITIONAL TIME THEN

WE WILL OPEN IT UP FOR SOME QUESTIONS. I WOULD JUST LIKE TO

SUMMARIZE SOME OF THE THINGS THAT WE HAVE SEEN FROM THE

PANEL. THIS MORNING. WE HAVE TALKED ABOUT THESE FOUR THINGS

I THINK YOU HAVE ALREADY SEEN THAT THE R.S.D. STUDENTS

THEMSELVES, THOSE FIVE OR SIX STUDENTS, ARE BRIGHT YOUNG

PEOPLE WHO ARE MOTIVATED AND A LOT OF THE POSITIVE RESULTS OF

THIS PROJECT ARE RELATED TO THAT GROUP OF STUDENTS. I DON'T

KNOW HOW A PROJECT WOULD PROGRESS IF WE HAD A DIFFERENT

GROUP. THESE STUDENTS WERE MOTIVATED, AND THEY HELPED US
A

GREAT DEAL. I BELIEVE WE HAD CLEAR AND SUCCESSFUL

COMMUNICATION THROUGH THE VIDEO CONFERENCING. IT WAS
GOOD.

PATTI IS RIGHT. IT IS NOT EXACTLY THE SAME THING

AS SITTING DOWN WITH A GROUP OF SIX STUDENTS AND TALKING
TO

THEM, BUT IT WAS GOOD COMMUNICATION. AND THE SAME THING, I

THINK THE PACE OF THE LESSONS WAS REASONABLE. NOT EXACTLY

THE SAME THING AS A FACE-TO-FACE CLASSROOM, PERHAPS, BUT IT

PROGRESSED WELL. ONE OF THE BIGGEST THINGS IS WHAT PATTI

SAID ABOUT, WELL, FOR EXAMPLE, IN MATH -- PROJECTING THE

CALCULATOR. IF MY STUDENTS ARE HERE WITH ME, I CAN POINT TO

THAT CALCULATOR AND TALK ABOUT IT.

I CAN POINT TO THAT CALCULATOR AND TALK ABOUT IT.

SAME THING AS WITH THE PHYSICS. WHEN YOU DID A

DEMONSTRATION, IT WAS IMPOSSIBLE TO TALK WHILE THE
STUDENTS

WERE WATCHING SOME KIND OF DEMONSTRATION OR CALCULATOR

ACTIVITY.

REALITIES: I AM NOT YET CONVINCED THAT WE ARE READY TO

TEACH OUR N.T.I.D. SCIENCE AND MATH COURSES IN A DISTANCE

LEARNING FORMAT. WELL, I AM NOT YET CONVINCED THAT WE ARE

READY TO USE VIDEO CONFERENCING. ONE OF THE REASONS IS THAT

IT IS A SYNCHRONOUS OR LIVE EXPERIENCE. THE TEACHER IS STANDING THERE COMMUNICATING WITH STUDENTS LIVE, OVER A DISTANCE. AND WE HAD A LOT OF WORK TO DO TO SET UP A SCHEDULE THAT WOULD MESH, MATCH, WHILE WE ARE ON BREAK, ON

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VACATION THAT WEEK, AND R.S.D. WAS ON VACATION THE NEXT WEEK.

THERE WAS A CONFLICT. VICKI SAID, WELL, I TEACH AT 10 O'CLOCK IN THE MORNING. R.S.D. MEANS WE CAN'T HAVE SCIENCE AT 10 O'CLOCK IN THE MORNING. WE HAD TO ARRANGE SOMETHING SO

IT MATCHED. SO TEACH A 10-WEEK COURSE OR AN 11-WEEK COURSE,

THAT'S WHAT WE HAVE HERE AT N.T.I.D.. WE ARE ON A QUARTER SYSTEM OF ELEVEN WEEKS EACH FALL, WINTER, AND SPRING. IT WOULD BE TOUGH TO MATCH A DISTANCE SITE, SO WE MIGHT HAVE TO

USE OTHER DISTANCE LEARNING APPROACHES. YOU HAVE SEEN THIS

TEAM PLUS DAVE, WHO IS UP THERE SOMEWHERE, PLUS THE ADMINISTRATORS, PLUS THE OTHER TECHNICAL PEOPLE WHO HELPED

US. THIS THING COST A LOT OF MONEY. I THINK IT IS POSSIBLE TO DO DISTANCE LEARNING CHEAPER, BUT THIS WAS AN EXPENSIVE

PROJECT, AND WE WOULD HAVE TO ASK QUESTIONS ABOUT THE FUTURE

AND THE COST INVOLVED. AND, OF COURSE, RHONDA AND OTHERS FROM R.S.D. GAVE US A LOT OF TECHNICAL HELP -- EXCUSE ME, GAVE US A LOT OF TECHNICAL HELP. IT WOULD BE TOUGH JUST TO SAY TO SOMEONE IN THE MIDDLE OF THE COUNTRY, IN ANOTHER STATE, OH, WE WILL SEND YOU A DISTANCE LEARNING COURSE. YOU NEED TECHNICAL EXPERTS THERE, AT THE SAME TIME AS HERE.

THIS PROJECTOR RIGHT HERE, I THINK APPLIES TO ALL STUDENTS, DEAF OR HEARINGS DOESN'T MATTER. IF YOU WANT TO USE VIDEO CONFERENCING, THESE THINGS ARE REALLY SOMETHING YOU

HAVE TO THINK ABOUT. I BELIEVE, AND I FEEL THE TEAM WILL SUPPORT THIS, DEAF STUDENTS, THERE ARE OTHER THINGS TO THINK

ABOUT. I BELIEVE WITH HEARING STUDENTS, IT IS POSSIBLE TO SET UP A VIDEO CONFERENCING WITH YOU ONE GROUP OVER HERE AND

ONE GROUP OVER THERE AND BECAUSE I WOULD BE USING VOICE, THEY

BOTH WOULD BE RECEIVING ME, AND IF SOMEONE HAD A QUESTION,

THEY WOULD USE VOICE AND GET BACK TO ME, AND THIS VOICE COULD

BE HEARING FROM THEM EASILY. I I NOT SURE IT WOULD BE THAT

EASY WITH DEAF STUDENTS, BECAUSE OF THE CAMERA, AND CAPTURING

THE SIGN LANGUAGE, AND COMMUNICATING THROUGH ME ME BACK TO

THIS OTHER GROUP, SO I THINK IT IS POSSIBLE TO SAY THAT

MULTIPLE SITES, DISTANCE SITES, IS A CONSIDERATION FOR DEAF

STUDENTS. PATTI AND THE OTHERS TALKED A GREAT DEAL ABOUT THE

COMMUNICATION ISSUES AND THIS VOICEOVER WHERE SOMETHING IS

PROJECTING AND YOU ARE SIMPLY TALKING, IS REALLY SOMETHING

THAT SLOWS DOWN THE LESSONS. WE MADE A DECISION NOT TO

CAPTION OUR DISTANCE LEARNING LESSONS, BUT, YOU KNOW, THERE

ARE DEAF PEOPLE WHO DO NOT SIGN, AND SO THAT IS A QUESTION,

THAT'S A CONCERN, OR A CONSIDERATION. SHOULD THE DISTANCE

LEARNING LESSONS BE CAPTIONED AS YOU SEE HERE ON THE

JumboTron? MAYBE I SHOULD SHOW THEM MY BALD SPOT.

(LAUGHTER).

PICKING YOUR FACULTY AND GETTING THEM PREPARATION

TIME IS IMPORTANT. I AM RESPONSIBLE FOR INSTRUCTION IN

SCIENCE AND MATHEMATICS BECAUSE I AM THE DEPARTMENT CHAIR,

AND I LOOK AT COMMUNICATION WHEN I WATCH PEOPLE TEACH. WE

NEEDED TWO PEOPLE WHO COULD SPEND A LOT OF TIME PREPARING

THESE LESSONS. I HAVE ALREADY SAID THAT THE R.S.D. STUDENTS

WERE MATURE AND BRIGHT.

THE QUESTION IS PERHAPS AT WHAT AGE WOULD IT BE
APPROPRIATE TO START USING DISTANCE LEARNING WITH DEAF
STUDENTS? WHAT CHARACTERISTICS ARE IMPORTANT? MATURITY.
WHAT ELSE? WE TALKED ABOUT SOME OF THE CHARACTERISTICS --

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MOTIVATION -- THAT THAT R.S.D. GROUP OF STUDENTS SEEMS TO
HAVE. THERE ARE QUESTIONS ABOUT THE -- THAT PERHAPS VIDEO
CONFERENCING IS NOT THE ONLY APPROACH. MAYBE A COMPLETE
COURSE ON THE WORLD WIDE WEB WOULD BE BETTER AND I
MYSELF

HAVE QUESTIONS, BECAUSE R.S.D. CAME TO US ORIGINALLY AND
SAID, IS IT POSSIBLE FOR SOME OF OUR SENIOR STUDENTS TO
TAKE

N.T.I.D. COURSES FOR CREDITS? AND I THINK YOU HAVE --

SUPPOSE YOU HAVE A GROUP OF STUDENTS WRITE. YOU MIGHT
WANT

TO ASK ABOUT OTHER PLACEMENT OPTIONS FOR OTHER STUDENTS -
- TO

COME HERE LIVE, TO BE PLACED IN A MAINSTREAM IN SOME KIND
OF

AN ADVANCED HIGH SCHOOL A.P. COURSE OR SOMETHING WHERE
THEY

WOULD BE STUDYING WITH PEERS. I AM NOT SAYING THAT IS WHAT
SHOULD BE PICKED, THE OPTION, THE COURSE THAT YOU TAKE, BUT
I

THINK THAT IS A GOOD QUESTION THAT YOU ASK BEFORE YOU AUTOMATICALLY SAY, OH, PERHAPS N.T.I.D. CAN DO SOME VIDEO CONFERENCING.

THIS PROJECT WAS VERY PROJECT WAS VERY POSITIVE, AND, AT THE SAME TIME, A VERY DIFFERENT EXPERIENCE. I THINK YOU SAW THAT FROM WHAT THE PANEL MEMBERS HAD TO SAY.

PATTI HAS SAID TO ME SEVERAL TIMES DISTANCE LEARNING MAY BE HELPFUL TO SCHOOLS FOR THE DEAF BECAUSE OF THE SMALL NUMBER OF FACULTY MEMBERS AND MAYBE A LIMITED NUMBER OF COURSE OPTIONS, AND IF SOMEONE IS TEACHING FOUR OR

FIVE COURSES A DAY ALREADY, TO TEACH AN ADVANCED COURSE, A SIXTH COURSE MIGHT BE A LOT OF EXTRA WORK, SO MAYBE IN THAT SITUATION, AN N.T.I.D. DISTANCE LEARNING PROJECT COULD HELP SERVE A SCHOOL FOR THE DEAF. SO THE QUESTION IS, WHAT CIRCUMSTANCES, WHAT SITUATIONS WILL MAKE DISTANCE LEARNING

APPROPRIATE IN THE FUTURE? AND I THINK THAT'S THE LAST THING THAT IT SAYS UP THERE, SO I THINK WE ARE READY TO OPEN IT UP; FOR DISCUSSION OR IF ANYONE WOULD LIKE TO ADD THINGS.
JOAN,

YOU ARE ONE PERSON, I GAVE YOU THE TWO-MINUTE WARNING.
YOU

WANT TO GET BACK UP NOW? HOW ABOUT QUESTIONS FROM THE AUDIENCE?

>> FROM THE FLOOR: (INAUDIBLE)

>> VINCE DANIELE: I DO NOT KNOW OF ANY CASE LAW.

I CAN SAY, THOUGH, THAT IS WHY WE FELT THE MATURITY OF THE R.S.D. STUDENTS WAS IMPORTANT HERE. YOU KNOW, I AM THE CHAIRPERSON HERE. I CAN TELL YOU THAT IN OUR PHYSICS AND MATH COURSES IN THE BUILDING, WE HAVE HIGH PERCENTAGES OF D,

F, AND W GRADES BY STUDENTS. THESE ARE COLLEGE STUDENTS WHO

ARE STRUGGLING WITH OUR COURSES. SO YOU HAVE TO ASK, SUPPOSE

WE WERE TO USE SOME DISTANCE LEARNING. CAN WE ASSUME THAT

THE STUDENTS WHO ARE 30 MILES AWAY OR 500 MILES AWAY ARE GOING TO DO AS WELL OR BETTER THAN THE STUDENTS WHO ARE HERE,

THE COLLEGE STUDENTS WHO ARE ALREADY IN THE BUILDING? SO THIS MAY QUESTION, SO THIS MATURITY QUESTION, THE WHOLE IDEA

OF STUDENTS BEING ABLE TO SIT TOGETHER AND AVOID A PROBLEM,

IS ONE WE HAVE NOT THOUGHT ABOUT. THAT COULD HAPPEN.

DOESN'T MATTER IF THE STUDENTS ARE FIGHTING OR IF THEY JUST HAD AN ACCIDENT, IF THEY FELL OR SOMETHING.

>> FROM THE FLOOR: (INAUDIBLE)

>> VINCE DANIELE: GOOD QUESTION. THAT MIGHT BE

SOMETHING TO CONSIDER BEFORE WE CONTACT OUR NEXT DISTANCE

SITE. DON?

>> FROM THE FLOOR: (INAUDIBLE) (I WAS WONDERING IF THE STUDENTS PERFORMED JUST AS WELL)

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>> VICKI ROBINSON: I CAN'T TELL YOU THAT. FIRST OF ALL, WE HAD A SHORT TIME. WE HAD FOUR CLASSES FOR THESE STUDENTS. IT WAS A NEW EXPERIENCE. AS YOU KNOW, THE STARTING OF ANY NEW COURSE, ANY NEW WAY OF PRESENTATION, PEOPLE SAY, THIS IS SO MUCH FUN. IT HADN'T HAD TIME TO BECOME OLD HAT YET. I DID FOUR SINGLE-TOPIC COURSES, PENDULUM, ACCELERATED MOTION ACCELERATED VERSUS CONSTANT. WE NEVER GOT INTO THE BORING STUFF, HOW DO YOU SOLVE THIS EQUATION, AND THE LIKE. SO IT IS HARD TO SAY. I WILL SAY THAT THE STUDENTS WE WERE TEACHING I THINK WERE BETTER PREPARED IN MANY WAYS THAN SOME OF THE STUDENTS I SEE HERE AT N.T.I.D.. WHY THAT IS, I DON'T KNOW. AND I AM NOT ABOUT TO SPECULATE. THIS BUNCH OF KIDS WE WERE WORKING WITH I THINK WILL DO WELL WHATEVER THEY END UP DOING. IT WAS REALLY A WONDERFUL EXPERIENCE WORKING WITH THEM AND I DON'T THINK IT

WAS JUST A NEW EXPERIENTIAL I THINK IT WAS SOMETHING TO THEM.

BUT HE -- --

>> FROM THE FLOOR: (INAUDIBLE)

>> VICKI ROBINSON: THAT ALWAYS HAPPENS. 23 YEARS, AND I AM STILL LEARNING MORE.

>> VINCE DANIELE: WOULD YOU LIKE TO ADD TO THAT, JOAN, TO ANSWER DON AT ALL, ABOUT HOW THE STUDENTS DID IN MATH?

>> JOAN: I DIDN'T REALLY GIVE THEM ANY STANDARDIZED TEST. (INAUDIBLE) THE NUMBER OF STUDENTS WAS SO FEW, I DON'T FEEL AS THOUGH I CAN MAKE A JUDGMENT BASED ON THE LIMITED EXPERIENCE THAT WE HAD. I FELT IT WAS POSITIVE. I FELT IT PROBABLY COULD, IF I HAD TO TEACH THEM FOR A FULL QUARTER OR

A FULL SEMESTER, I WOULD -- I MIGHT BE ABLE TO GET RESULTS SIMILAR, BUT I CAN'T MAKE PROMISES. BUT I HAD THE SENSE THAT I COULD PROBABLY MANAGE TO GET SIMILAR RESULTS.

>> VINCE DANIELE: IT IS INTERESTING, DON. ALREADY SEVERAL TIMES THIS MORNING, PEOPLE HAVE HEARD US USE THE VOCABULARY, THE NLC, EXCUSE ME, THE N.T.I.D. LEARNING CENTER. IT IS THIS ROOM ON THE SECOND FLOOR WHERE ALL THE COMPUTERS

ARE. WELL, THAT ROOM IS ALSO A TUTORING CENTER. WE HAD -- HAVE TUTORING THERE SEVERAL HOURS EVERY DAY AND IN THE

EVENINGS, SUNDAY EVENING THROUGH THURSDAY EVENING. I SEE STUDENTS GOING IN FOR HELP WITH MATHEMATICS, FOR EXAMPLE. ONE OF THE QUESTIONS I HAVE, MYSELF, IS, SUPPOSE THERE IS A. SUPPOSE THERE IS A STUDENT IN ANOTHER STATE. WHEN AND HOW WILL THAT STUDENT GET SOME TUTORING? THAT IS WHY WE USED PATTI AND BOB AT R.S.D., SO THE STUDENTS HAD A PLACE TO GO FOR HELP. BUT LEAVING A STUDENTS OUT THERE, SAYING, YOUR HOMEWORK IS THIS, THAT BRINGS UP SOME IMPORTANT QUESTIONS.

>> PATTI: I WANTED TO ADD, I KNOW SOME STUDENTS I HAD IN MY CLASS FOR TWO YEARS. WITH THE DISTANCE LEARNING COURSE, THEY WERE MUCH MORE PREPARED, THEY DEPENDED ON EACH OTHER MORE, THEY ANALYZED THEMSELVES PERPENDICULAR, COMPARED TO THE REGULAR CLASSROOM. IT WAS MORE SPONTANEOUS CLASSROOMS IN A REGULAR CLASSROOM. YOU COULD HAVE DISCUSSION BUT WHEN YOU HAVE V DEPEND ON YOURSELF FOR ONE COURSE, THEY REALLY DID LEARN TO DEPEND ON THEMSELVES. THAT WAS ONE BIG DIFFERENCE BETWEEN TRADITIONAL CLASSROOMS AND THE DISTANCE LEARNING CLASSROOM.

>> VINCE DANIELE: IT IS CLOSE TO NOON. I AM SURE THESE

PEOPLE WOULD BE HAPPY TO CHAT IF YOU HAVE QUESTIONS ABOUT THE

EQUIPMENT OR ANYTHING ELSE. WE DO HAVE COPIES OF OUR PAPER,

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OUR PRESENTATION. IT IS ON THE WORLD WIDE WEB, ALL THE PAPERS ARE ON THE WORLD WIDE WEB. BUT SUPPOSE YOU WANTED A

HARD COPY. WE HAVE SEVERAL HERE, SEVERAL OF THEM HERE.

THANK YOU. WELCOME TO N.T.I.D.

(APPLAUSE)