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10/2/103

2003 SENATE APPROPRIATIONS
SB 2260

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12/9/1/03

Date

#### 2003 SENATE STANDING COMMITTEE MINUTES

#### **BILL/RESOLUTION NO. SB 2260**

Senate Appropriations Committee

☐ Conference Committee

Hearing Date 1-27-03

Tape Number	Side A	Side B	Meter #
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Committee Clerk Signatur	e Jandha.	1)Aurson	

Minutes: Chairman Holmberg opened the hearing to SB 2260. Bill relating to provide an appropriation for approved applied technology programs. (Meter 8) Senator Rich Wardner, District 37: Explained the bill origination from the smaller schools and people teaching technical education. Describing his personal background of being in education for 32 years knowing how important it is. It was discussed with the governor's office and tried to get this to be put into the governor's budget, it wasn't. Wanted it to come through the vocational education portion of the governor's budget. On the 1.5 million, there is not a definite place where it will come from but he made some suggestions. We will be talking about technology, education and workforce training. Asked the committee to take a look at this bill, see how it fits in the big picture when we talk about technology in this state, when we talk about education in this state. Under the current situation, most of your larger schools have their own technology programs but the smaller schools can not afford them. Up until now they have used federal moneys to keep these coops going. There are about 69 schools that are involved these coops. What happens is that equipment

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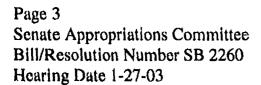
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Senate Appropriations Committee
Bill/Resolution Number SB 2260
Hearing Date 1-27-03

is moved from schools to schools, and it needs to be kept up, you need tech support to take care of it, to repair it. You also need professional development and that has been tough. Recalled his personal experience in Dickinson. Described what is happening to these coops, the equipment and the schools. Walked through the bill with the committee. See Exhibit 1. (meter 1268) Chairman Holmberg: when you look at the sum of the 1.5 million dollars and do the math, you are giving ten thousand dollars (\$10,000) to 69 school districts, there is still a gap of two hundred seventy thousand dollars (\$270,000) between what is appropriated there and the original bill. Where do you in vision that money being spent? (Meter 1317) Senator Wardner: I would in vision some of that money being spent on professional development. The money that goes out to the schools of 10 and 20 would be mostly for the equipment and the software, and things like that. I would be willing to cut the numbers down but feel this is worth it. (Meter 1383) Chairman Holmberg: According to the "No child left behind" the estimates are 13 million dollars a year of new money coming into the state for professional development and work in that particular area. (Meter 1406) Senator Wardner: This is exactly what we are talking about, people are left behind because they didn't adjust to the regular classroom. (Meter 1427) Senator Krauter: Do you have a listing of the current 69 schools cooperatives? (Meter 1446) Senator Wardner: I don't but the person speaking after me will have those. (Meter 1460) Senator Andrist: Isn't it possible to work this kind of educational consortium through the districts with the funds they operate on right now? Wouldn't this be some what of an indictment on our system that we shove this in the back closet at the system level? (Meter 1530) Senator Wardner: From being in education and knowing how students think and how they operate and some of things that are going on, unmotivated students. If you go into a school, one of the things you will find teachers

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talking about is the number of unmotivated students. (Meter 1664) Senator Andrist: Would it be possible to look at a way that we could facilitate this without the money? How can we encourage those local consortiums to put promisee - a high enough value on this so they did it without any money? (Meter 1731) Senator Wardner: Could not answer this but feels he can not let it die especially with the "No child left behind" we seem pretty hypocritical addressing these needs. (Meter 1785) Senator Lindaas: Has anybody thought about the possibly of private funds? Similar to the work force development? (Meter 1816) Senator Wardner: We haven't really explored that. In vocational programs there is a lot of public/private partnerships but not on this particular issue. (Meter 1866) Senator Thane: Do you envision centrally located schools that others schools would come in and share the equipment is shared by other schools? (Meter 1919) Senator Wardner: Not in this program, we are looking at the equipment which is called modules, and the school has it for two to three weeks and then they rotate. You have to have faculty at each school to use the equipment. (Meter 1997) Wilford Bulusky, superintendent of Beulah school district: Spoke on how the cooperatives got started, Referred to Exhibit 1. (Meter 2898) Senator Grindberg: Noted personal experience. Are we becoming disjointed at the agency level and are these dollars replacement of school or work dollars that have gotten away? (Meter 2983) Wilford Bulusky: School to work dollars may be a part of this. Carl Perkins dollars were also dollars that were used in that it appears that those dollars will go away. Gave examples of his school districts scenarios. (Meter 3360) Senator Andrist: If a school can't afford the \$12,000, which is equivalent to the 1/3 or 1/4 salary of a teacher, this really doesn't have a high priority when a school district makes choices in their system? (Meter 3421) Wilford Bulusky: The school districts are being squeezed for dollars themselves. This project was initially started and funded through dollars

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coming, although we have had to do that the last few years on our own, five thousand dollars the schools can understand to fund that but the twelve to fifteen thousand dollars on an annual basis to keep thing modern and make sure tech support is happening, for the smaller districts, the cost is too great. If the money is applied, this technology education is very important. (Meter 3578) Senator Krauter: Have you accessed your four mills? (Meter 3591) Wilford Bulusky: In our district, we are asking the patrons to put the 5 mill in. As far as the other districts, there are some that have it and some that do not have it. (Meter 3625) Senator Krauter: Since we haven't had the voc ed budget yet, give us some dialog of what the scenario is? (Meter 3665) Wilford Bulusky: The project was initially designed with the state board vocational technical education being a major player in it, but ever since that time the money they have received has dwindled and they have chosen not to fund it any longer. (Meter 3950) Senator Robinson: Local mill levy efforts, of those eight schools, how many have the mill levy in place? (Meter 3965) Wilford Bulusky: The technology mill levy, he mentioned several - 3 districts in his area. Some failed to get it passed. (Meter 4018) Myron Schweitzer, Superintendent Mott-Regent Public School District: Explained his personal story using modules and of trying to find tech support for teaching tools. Referred to Exhibit 1 and explained some of the modules. (Meter 4690) Chairman Holmberg asked Wayne Kursner if his budget had been heard over on the House side as far as this type of bill. (Meter 4761) Wayne Kursner, State Director for the Vocational and Technical Education: It has been hear but there hasn't been any movement on the budget on terms of what it is going to look like. In 1988, the dollars that were used to start the high tech projects were federal dollars - federal Perkin dollars. In 1988 the state had a lot of leeway in terms of how they were able to use those dollars, in 1990 the act changed and the funding allocation process changed so that 85% of all the

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Bill/Resolution Number SB 2260
Hearing Date 1-27-03

funds which we received are allocated directly to the schools we have no control over those dollars. The 15% that remains is use in terms of administration and leadership dollars. The dollars that were put in 1988 were pooled dollars that were available to the state board at that time to do this like this. We don't have those dollars any longer. The five hundred dollars (\$500) that each schools receives originally those dollars designed for professional development or repair of equipment. Those dollars were also coming out of the federal leadership or administration dollars so there is about 35 thousand that we put in from the federal side. We never put in any state dollars into this project, it has all been federal. The Perkin dollars that are out there right now, are allocated out to schools about one hundred thousand annually is used in support of current programs for buying equipment and those sorts of things. (Meter 5050) Senator Matern: Why didn't your board put this in the budget? (Meter 5075) Wayne Kursner: We knew how tight the budgets were going to be this coming biennium. In terms of priorities, when we looked at where we are sitting at and the need we have for the dollars we have in our state supported programs currently, they was a decision made then that it wasn't something we wanted to ask for in our budget because of the priorities we have already. (Meter 5181) Senator Kringstad: The Perkins funding was 100% to your vocational programs, later it changed and went directly to the schools, is that correct? (Meter 5240) Wayne Kursner: Yes, it went to every school, based on the Title 1 funding. Based on student enrollment funding. Not every school received it, there were consortiums formed across the state. Some schools were allocated as little as two hundred dollars. (Meter 5336) Senator Kringstad: Are the Carl Perkins funds still available? (meter 5341) Yes, it is but at the federal level, they are looking at it but all indications will still be there. (Meter 5380) Senator Krauter: Is there any optional funds available? (Meter

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Page 6 Senate Appropriations Committee Bill/Resolution Number SB 2260 Hearing Date 1-27-03

5420) Wayne Kurnser: In the optional budget, there was nine hundred and sixty thousand dollars that was put in for adult for management. We were trying to be realistic in terms of what we were asking for. It has never used state dollars before and the Perkins dollars were the total funding.

Chairman Holmberg stated that this will be looked at closely by the committee.

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#### 2003 SENATE STANDING COMMITTEE MINUTES BILL/RESOLUTION NO. SB 2260 vote

Senate Appropriations Committee

☐ Conference Committee

Hearing Date 2-05-03

Tape Number	Side A	Side B	Meter#
1		X	732-1353
		X	2188 -2603
Committee Clerk Signatu	re Sandia	DAVISON	

Minutes: Chairman Holmberg opened the hearing to SB 2260. Senator Mathern proposed some amendments he had drafted. (Meter 758) Senator Mathem summarized the bill and the amendments about the applied technology programs amongst schools. Senator moved to pass the amendments. Senator Mathern made a motion to DO PASS the amendments (30251.0202), Senator Krauter seconded. (Meter 963) Senator Grindberg voiced his opinion to pass the amendments to save some money. Stated he did not support the bill until he hears the vo-ed budget. (Meter 1037) Senator Robinson: Supports the amendment, schools are affected throughout the state. Does not want to leave kids behind to see them in the correctional services later in life. (Meter 1159) Senator Bowman also voiced his opinion on this subject. Believes this will help students and will open the doors for students. (Meter 1284) Senator Andrist: He total supports this bill with the amendment. Still is troubled by the amount and the schools should cost share but will support it. (Meter 1358) Senator Krauter: School districts have a commitments to their schools. (Meter 1407) A voice vote was established with all yeas. Amendment pass (

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Page 2 Senate Appropriations Committee Bill/Resolution Number SB 2260 Hearing Date 2-05-03

30251.0202). Senator Robinson made a motion DO PASS AS AMENDED, Senator Mathern seconded it. Roll vote ended in a tie (7 yeas 7 nays) motion failed. A motion for a DO NOT PASS by Senator Grindberg and seconded by Thane. Motion 7 yeas 6 nays 1 absent. (Meter 1670) Committee decided to hold off further voting until Senator Mathern could come back to committee and vote.

(Meter 2188) Returned to the SB 2260. Questions and comments were made by committee members. (Meter 1942) Senator Grindberg motioned to further amend this bill. Senator Bowman seconded it. A voice vote of all yeas prevailed. A vote roll call was made with 13 yeas and 1 nay. Senator Robinson will carry it on the Senate floor.

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30251.0202 Title. Prepared by the Legislative Council staff for Senator Mathern January 28, 2003

#### PROPOSED AMENDMENTS TO SENATE BILL NO. 2260

Page 1, line 4, replace "\$1,500,000" with "\$900,000"

Page 1, line 16, remove "up to twenty-seven"

Page 1, line 22, remove "Each member of the advisory board is entitled to"

Page 1, remove lines 23 and 24

Renumber accordingly

#### STATEMENT OF PURPOSE OF AMENDMENT:

#### Dept. 270 - State Board for Vocational and Technical Education

SENATE - Changes the amount of the appropriation from \$1,500,000 to \$900,000, removes the limit on the number of schools that can contract to participate for the first time in cooperatives, and removes the provision that would allow advisory board members to receive reimbursement for expenditures.

30251.0202

Page No. 1

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30251.0203 Title.0300

Prepared by the Legislative Council staff for Senate Appropriations February 5, 2003

#### PROPOSED AMENDMENTS TO SENATE BILL NO. 2260

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#### STATEMENT OF PURPOSE OF AMENDMENT:

#### Dept. 270 - State Board for Vocational and Technical Education

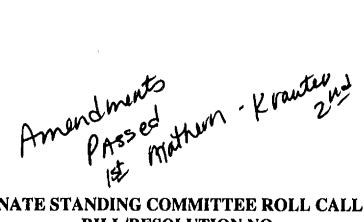
SENATE - This amendment changes the amount of the appropriation for approved applied technology programs from \$1,500,000 to \$50,000, removes the limit on the number of schools that can contract to participate for the first time in cooperatives, and removes the provision that would allow advisory board members to receive reimbursement for expenditures.

Page No. 1

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Date: 2-5-03 Roll Call Vote #:

#### 2003 SENATE STANDING COMMITTEE ROLL CALL VOTES **BILL/RESOLUTION NO.**

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Date: 2-5-03

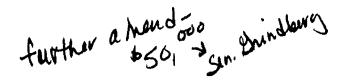
Roll Call Vote #: 2

# 2003 SENATE STANDING COMMITTEE ROLL CALL VOTES BILL/RESOLUTION NO.

Senate Appropriations  Check here for Conference Con	nmittee			Com	mitte
 Legislative Council Amendment Nui	nber				
Action Taken Do Not	_	A55			
Notion Made By	nama - armininggaptiya,	Sec	onded By Thane	*****	
Senators	Yes	No	Senators	Yes	No
Senator Holmberg, Chairman					
Senator Bowman, Vice Chair					
Senator Grindberg, Vice Chair					
Senator Andrist	V				
Senator Christmann					,
Senator Kilzer	-				
Senator Krauter		7.			
Senator Kringstad					
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Senator Mathern					
Senator Robinson		7	**************************************		Mark Port Security
Senator Schobinger					
Senator Tallackson		7			
Senator Thane					· · · · ·
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Date:

Roll Call Vote #: 3

# 2003 SENATE STANDING COMMITTEE ROLL CALL VOTES BILL/RESOLUTION NO.

Senate Appropriations	W-1844			Committee
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Legislative Council Amendment N	umber _			
Action Taken B Do	PA	153	ps surther amende	<u>d</u>
Action Taken  Motion Made By  Grind	surg	Se	conded By Bown	an Krauter
Senators	Yes	No	Senators	Yes No
Senator Holmberg, Chairman				
Senator Bowman, Vice Chair	/	 		
Senator Grindberg, Vice Chair				
Senator Andrist				
Senator Christmann				·
Senator Kilzer		<b>\</b>		
Senator Krauter				
Senator Kringstad	\ \ \ \ \ \ \ \ \ \ \ \ \ \ \ \ \ \ \			
Senator Lindaas	\ <u>/</u>			
Senator Mathern				
Senator Robinson	1			
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Senator Thane	V			
Total (Yes) 3	<u></u>	No	• \	Community of the Commun
Absent				
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f the vote is on an amendment, brie	fly indicat	e intent	<b>:</b>	

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Module No: SR-23-1827 Carrier: Robinson

Insert LC: 30251.0203 Title: .0300

REPORT OF STANDING COMMITTEE

SB 2260: Appropriations Committee (Sen. Holmberg, Chairman) recommends AMENDMENTS AS FOLLOWS and when so amended, recommends DO PASS (13 YEAS, 1 NAY, 0 ABSENT AND NOT VOTING). SB 2260 was placed on the Sixth order on the calendar.

Page 1, line 4, replace "\$1,500,000" with "\$50,000"

Page 1, line 16, remove "up to twenty-seven"

Page 1, line 22, remove "Each member of the advisory board is entitled to"

Page 1, remove lines 23 and 24

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#### STATEMENT OF PURPOSE OF AMENDMENT:

#### Dept. 270 - State Board for Vocational and Technical Education

SENATE - This amendment changes the amount of the appropriation for approved applied technology programs from \$1,500,000 to \$50,000, removes the limit on the number of schools that can contract to participate for the first time in cooperatives, and removes the provision that would allow advisory board members to receive reimbursement for expenditures.

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SR-23-1827

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2003 HOUSE APPROPRIATIONS SB 2260

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10/21/03

Date

#### 2003 HOUSE STANDING COMMITTEE MINUTES

#### BILL/RESOLUTION NO. SB 2260

House Appropriations Committee

☐ Conference Committee

Hearing Date 03-12-03

Tape Number	Side A	Side B	Meter #
1	X		-17.8
1		X	32.2
Committee Clerk Signatur	e his 3	Nylin	

Minutes:

Chairman Svedjan Opened the hearing on SB 2260. A quorum was present.

Senator Rich Wardner, Dickinson, District 37. Spoke on the original intent of the bill before the Senate amendments. This will deal with applied technology for high school vo-tech students. Its good for students and education in general to teach these. The bill has had a 1.5 million dollar appropriation to be used for machinery, etc. This bill would train and retain youthful vocational workforce for North Dakota.

Chairman Svedjan Was any though given to why this wasn't in the Vocational Education budget?

Sen. Wardner This wasn't included in the Governor's budget either.

Chairman Svedjan Where should this reside?

Sen. Wardner With Vocational Ed.

Chairman Svedjan Does the board that is created by this require any payments?

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Sen. Wardner No, they are voluntary.

Wilfred Volesky, Superintendent of Beulah School District, Chairman of the Southwest

Technical Cooperative See written testimony.

Rep. Kempenich Where did you come up with the 15 million dollars?

Volesky Additional schools would receive \$10,000, and then we ask for \$20,000 for new schools. There is a \$270,000 for management teams to function.

Rep. Monson Do most of your co-ops asses a fee for this?

Volesky Yes, each school pays in \$5,000.

Chairman Svedjan Who supplies the funding for this now?

Volesky Other than \$500, the schools fund this.

Rep. Skarphol How many students are we talking about?

Volesky The 69 school districts in the state in our area.

Rep. Timm The original bill called for \$10,000 from the boards of the 69 schools, and in your testimony you say that another \$20,000 for new schools. You say that the cost is \$15,000, so you want the total cost paid for by the state?

Volesky The \$15,000 is what it would take for our cooperative to fund it all on its own.

Rep. Timm Do you expect more schools to join this cooperative?

Volesky Yes, this would be an added incentive for them to.

Rep Timm. How many other cooperatives are there?

Volesky 7.

Chairman Svedjan How does a school district decide to enter an applied technology program?

Extra accordance at transfer and the second and an accordance of the second and accordance of the second accordance of th

Is it a local decision?

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Volesky Yes, but it is up to the joining school to fund their own teachers.

Chairman Svedjan Doesn't this fall into the Foundation Aid money that schools receive? I'm trying to sort out how it is you can start a program and ask for money for it because the Foundation Aid payments aren't enough.

Volesky The issue is that the Foundation Aid is part of it, but schools are oppressed for dollars and Foundation Aid is not enough to do this.

Rep. Monson Are you getting less money from the federal government with the Perkins funds?

Volesky They aren't funding this program.

Rep. Carlson Are there standard vocational education in the smaller schools?

Volesky Yes, but not the appropriate extent.

Rep. Carlson Where do the vocational education dollars go? Don't we already fund this?

Volesky We aren't receiving any money from that budget.

Rep. Carlson Where does this training set on your priority list? We have to make these tough choices.

Volesky \$5,000 won't keep the cooperative alive. We need \$15,000. I think this is a vital program and its high on my priority list.

**Rep. Skarphol** This was started in the late 80's. What impact has the roll out of the wide area network had on this?

Volesky These modules are stand-alone ones, so not much.

Myron Schweitzer, Superintendent of Mott Public School This involves more than vo tech students. It includes math science, and engineering students as well. Teachers also receive training for this equipment with these funds through UND.

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Bill/Resolution Number SB 2260
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Education?

Rep. Carlson What benefit does your school district get from the State Board of Vocational

Schweitzer There is no money for equipment in it.

Carlson There is 19 million dollars worth of grants going toward these types of things. Don't these go toward the same ends?

**Schweitzer** We don't receive that for these projects.

Keith Bohm, Beulah Vo Tech Instructor. Referred to Dr. Jeffrey D. Will's letter. See written testimony. We try to use this equipment for more than just vocational educational tools

Rep. Aarsvold Are the skills you teach prep or terminal?

**Bohm** Both. The robotics are good enough to be terminal, but the biochemistry would have to be prepitory.

Steven Hoepfner, Student at Buelah Public School This helps with preparing students for vo tech employment and college major decisions.

Dave Schmidt, As teacher from Center, ND I have to tun students away from 2 full classes it is so popular. This program works, but we need upgrades to continue it. These cooperatives will be dissolved without this money.

Rep. Carlson Have you requested like this to the Department of Public Instruction?

Volesky No, we haven't.

Corey Berger, Student at Center High School See written testimony.

Chairman Svedjan Hearing Closed.

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Deanne Walles

10/2/103

#### 2003 HOUSE STANDING COMMITTEE MINUTES

#### BILL/RESOLUTION NO. SB 2260

House Appropriations Committee

☐ Conference Committee

Hearing Date March 26, 2003

Tape Number	Side A	Side B	Meter#
3	X		18.8
Committee Clerk Signatur	· Chio-	5 Nishw	

Minutes:

REP. SVEDJAN Called the committee to order.

In summary, he stated it was the technology bill, which on the Senate side had a million and a half dollar appropriation which was not included in any other vocational technical budget. The Senate removed 1.45 million, leaving \$50,000, but they left all of the language which relates to the 1.5 million.

**REP. MONSON** Made a motion for a **DO NOT PASS**.

**REP. MARTINSON** Second the motion.

In discussion, Rep. Monson stated that \$50,000 is such a drop in the bucket. He stated he visited with Sen. Holmberg on his rationale who stated they liked the idea and wanted to help them out, and wanted to keep the bill alive by keeping the \$50,000 in there.

Rep. Monson felt \$50,000 doesn't buy enough to do any good.

REP. SVEDJAN Asked whether Rep. Monson had checked this with DPI

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Page 2 House Appropriations Committee Bill/Resolution Number SB 2260 Hearing Date March 26, 2003

REP. MONSON Stated he had not checked it with DPI, it was really vocational education.

MOTION CARRIED 16 yes 5 no

**REP. MONSON** Was given the floor assignment.

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# NORTH DAKOTA'S

21st Century

YOUTH TECHNICAL SKILLS DEVELOPMENT INITIATIVE

Sponsored By:

Senator: Richard Wardner

District # 37

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# North Dakota's 21st Century Youth Technical Skills Development Initiative

In order to properly prepare people to function as contributing members of the 21st century's global society, formerly called a worker, one must analyze the composition of the total competitive global workforce.

In addition, one must analyze where we presently are relative to the composition of the total composition of that 21st century's competitive global workforce.

Then, in the analysis process, one must place the people of North Dakota into the analysis matrix to see what can be done so that North Dakota's unique and specific workplace requirements can be met so as to support its major in place industries, while, at the same time developing the workforce skills needed by that 21st century's competitive global workplace, which, will be the single most critical component needed in order for North Dakota to stem its out migration, and, be a global competitor.

North Dakota is in a unique position to step up to these challenges, because, it has been involved with studies and demonstration programs/ projects which have developed a very accurate and documentable data base relative to the composition of that 21st century's competitive global workforce, and, it has program track records of which kind of training programs are effective and efficient to meet that workforce's training needs.

North Dakota's effective research and demonstration projects date back to the late 1980s. At that time the North Dakota State Board for Vocational/Technical Education(SBVTE) conducted a "Demonstration Project" which evolved into the creation of an instructional delivery system utilizing High Tech Equipment supported Applied "Technological-Concepts" Learning Modules.

Modules utilizing "Applied" and "Hands On" teaching methodology. Continued utilization and support of the developed instructional delivery system found that it was most efficient and cost effective when undertaken through organized school cooperatives and/or consortiums.

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#### Page Two

It now becomes apparent that; because, of the changing workplace training demands, and, the technological changes, that; these very effective instructional delivery systems are in jeopardy, because, of lack of State support.

In order to further analyze North Dakota's youth "Technical Skills" gap; one must step back and take a look at what present day manpower specialists, from both within government, business and industry, as well as, various, and, numerous studies tell us about the composition of that 21st century's competitive global workforce.

It is universally acknowledged that more than 72% of that workforce will need to have "Universal Technical Foundation" skills. In order to achieve those skills most individuals will need to have training beyond high school, but, not a typical 4 year degree type of program.

The "Universal Technical Foundation" skills will be required in order for individuals to competitively function as a worker in any of the three major Technological Systems which will require, again, more then 72% of all of the productive manpower available in the country.

The three major Technological Systems are the Information/Communication Technological System, the Mechanical/Industrial Technological System and the Bio-Chem Technological System.

Now, let us look at the rate of change that is taking place within these Technological Systems. Keep in mind that it is a rate of change, not their technical foundations, which we are identifying. Consequently, please, consider the following:

- 1.) The technical shelf life of computer software is approximately 24 months.
- 2.) The technical shelf life of computer hardware is about 24 to 36 months.
- 3.) The technical shelf life of Computer Numerical Controlled (CNC) manufacturing equipment to produce "Just In Time" inventory is about 48 to 60 months.

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#### Page Three

It is the constant instructional software and hardware upgrades and professional improvement training requirements which are placing an unprecedented and unique financial burden on the developed enhanced educational delivery system.

It is this need to constantly upgrade the enhanced educational delivery system which must be recognized and addressed. Fortunately, because of the system's field experience and operational data, the scope of this need can be accurately identified.

in addition, it can be identified that the system upgrade and training needs track in complete congruency with the technical shelf life components previously herein identified above; and, illustratively presented, in summary form; via Exhibits # 1 thru # 3.

The attached Exhibits will identify the required Learning Modules which are required in order to develop a sound "Universal Technical Foundation" program of training which is required as a foundation for continued skill development needed in order for an individual to become a productive employee within any of the three major Technological Systems.

These same Learning Modules are so designed that they can be effectively utilized for Employee Productivity Training which will provide our present workforce with the basic foundation skills they will need in order to remain competitive employees within the 21st century's competitive global workforce.

The attached Exhibits likewise, identify the various Learning Module's original organization, acquisition and training costs as well as their on going operational and maintenance costs.

From the various attached Exhibits the following "Summary of Needs" can be very firmly established.

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#### Page Four

#### "Summary Of Needs":

- 1.) There are approximately 69 of the approximately 171 public high school district's; or, about 40% of the State's total high school districts; that are organized into High Tech Equipment Learning Cooperatives/Consortiums. Although the present cooperatives are organized into various numbers of participating school districts, for planning purposes, a 12 school configuration will be used as the planning standard, which means, that there are presently, in effect, the equivalent of almost (6) existing High Tech Equipment Learning Cooperatives.
- 2.) If rural out migration and local consolidation continues as predicted, the year 2003 will reflect that the State will have about 156 to 160 public high school districts; or, perhaps, even, fewer; public school districts.
- 3.) If one plans to develop a delivery system which is 90% effective one needs to plan for the development of (6) additional High Tech Equipment Learning Cooperatives over (2) biennium periods so that you would have an instructional delivery system that would be responsive to the "Universal Technical Foundation" skill requirements of 90% of 160, or 144, or (12) High Tech Learning Cooperatives consisting of 12 participating schools each; not, necessarily, school districts; or 12 x 12 = 144 schools. This type of organized cooperative; and, operational; utilization of effective High Tech learning resources can also serve as a planning guide to the ultimately required reorganization and/or consolidation of public school districts within our State.
- 4.) The (15) years of operational data indicates the following:
  - A.) The most instructional sound and most cost effective organizational structure consists of a (12) school cooperative/consortium configuration. (For effectiveness the minimum size of a Hi-Tech Learning Cooperative should consist of no less then (6) secondary schools in order to receive State funding)
  - B.) The most cost effective method of system management and technical support, because of technological complexity, is through external contract system management, operation and tech. support.

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#### Page Five

- C,) In order to address the technical shelf life issue, the program upgrade requirements; and, the continual professional improvement issues; one can expect a capital investment infusion requirement of \$100,000.00 every 36 months for a (12) school High Tech Equipment Learning Cooperative.
- D.) In order to organize, establish and prepare staff each (12) school High Tech Equipment Learning Cooperative will require a \$240,000.00 initial capital investment.
- E.) In order to operate, upgrade, maintain, provide staff upgrade training, on a continual bases, and properly tech support a (12) school High Tech Equipment Learning Module Cooperative; each Cooperative must be prepared to allocate a minimum of \$36,000.00 of local funds on an annual basis.
- 5.) In order to implement the type of plan outlined via Items (A) thru (E) above; and, via the various attached Exhibits; it is projected that it would require an approximate 1.5 million dollar State investment for the 2003 2005 biennium as well as the 2005 2007 biennium; the actual sum would depend on the rate of consolidation and/or reorganization efforts and initiatives. Thereafter, the State support should be able to drop to 1.2 million dollars per biennium to address the \$100,000.00 upgrade and technical shelf life issues for each of the (12) fully operational High Tech Equipment Learning Cooperatives/Consortiums.
- 6,) Depending on inflation and, other operational cost increases, it appears that local support costs over the (2) biennium period could increase from a \$3,000.00 per year local commitment to approximately \$4,500.00 per year local fund commitment for each of the (12) school High Tech Equipment Learning Cooperative/Consortium participating schools.

In order to more fully understand the expected effectiveness of the utilization of cooperative/consortium High - Tech Learning Modules to build solid "Youth Technical Skills" with-in the K -12 learning environment, several components of the previously here-in referenced SBVTE Demonstration Project most be presented.

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#### Page Six

The most important component; relative to the Demonstration Project, is that, is was managed, and, administered; by a Management Team/Advisory Committee who contracted for ongoing operation through a local (LEA) with SBVTE as its fiscal agent.

Several other outcomes of the Demonstration Project are also of extreme importance that must now be considered; as, one drafts, a plan; as to how we can best address the need to develop a competent trained future workforce.

First, Demonstration Project data indicated that if "hands-on" High Tech Modules were scheduled in a school each day of the school year the K 7-12 students utilizing the modules more than doubled, from, a 17% utilization factor to a 42% utilization factor.

Second, the High Tech Modules were most effectively utilized in school districts who trained science and math, as well as, information communication teachers; in addition, to, Tech Ed and Ag teachers; as to their utilization as a "hands-on" learning resource relative to the mastery of the "Universal Technical Foundation" skills.

Third, consistent High Tech Module users needed continual upgrade training at the Graduate Credit hour level; because, of; the continual upgrade of the hardware and software relative to the complex "Universal Technical Foundation" skills that were consistently being addressed. This presented the High Tech Learning Module cooperatives with a constant challenge to the continual costs associated with equipment hardware and software upgrades, as well as, the continual cost of curriculum upgrades and professional improvement training of these "hands-on" teaching resource users.

The teacher training issue was able to be mitigated to some degree, because, initially the Demonstration Project's Investigator/coordinator was an "Instructor of Record" for UND's Division of Continuing Education; and, because; UND, at the same point in time; had identified the same need for "Universal Technical Foundation" skill training; and, tried to solve that need; by developing a "Mobile Lab" concept that utilized almost the same High Tech Learning Module hardware and software. UND's efforts however, were discontinued; mainly, because, of; Tech-Support problems, which are;

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#### Page Seven

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inherited problems in the utilization of this kind of "hands-on" training hardware and software.

Since then; and, throughout the twelve years of the Project; UND has remained involved with the High Tech Cooperatives; and, presently has (14) Graduate Credit Hour level courses that it offers through its Division of Continuing Education to users of the "Universal Technical Foundation" skills Learning Module users. The cost of upgrading the High Tech Learning Modules hardware and software; however, have not been as easy to address, and, consequently; the need for this single line item funding request.

Initially, the Demonstration Project was 100% funded by SBVTE with federal funds available through the Carl Perkins Act. Consequently, the High Tech Demonstration Cooperative got its initial High Tech Module hardware and software at no investment to the local participating school districts. They were only required to fund its ongoing operational costs such as, Tech support, module rotation and project administration/management.

The High Tech Module equipment, hardware and software of the newly organized High Tech cooperatives started; because, of the success of the Demonstration Project; could not be funded at the 100% level with SBVTE funds; and, consequently; these cooperatives often deployed modules with not the latest and/or best suited training hardware and software; and, which, consequently; were not always the best suited to teach the complex "Universal Technical Foundation" concepts.

Likewise the teacher training issue became more burdensome; even, though; SBVTE made a great effort of trying to assist the High Tech cooperatives with that effort.

Three sources of funding were used to address the above referenced High Tech Cooperative educational enhancement impediments.

One, school districts pooled, whenever possible; Cal Perkins founds to make modular upgrades and improvements; even, though; the modules were utilized in the science, math and information/communication curriculum areas.

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#### Page Eight

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Two, Literacy Learning Grants; through, DPI; were used for information/communication module upgrades and teacher training

Three, DPI Goals 2000 funds were also used for teacher professional development training involving some of the (14) UND Graduate Credit Hour level courses which addressed the "Universal Technical Foundation" Curriculum which was utilized by High Tech Learning Module Cooperatives.

The concept of sharing High-Tech Equipment to teach complex "Universal Technical Foundation" concepts through the utilization of "Hands-on" teaching hardware and software is now in jeopardy, because, all of the presently organized High Tech Cooperatives need to have their modules upgraded, and, their teachers need upgraded training in order to utilize the upgraded equipment hardware and software.

It has been determined that an amount of approximately \$120,000 per (12) school, existing cooperative, will be needed to upgrade the Learning Module hardware and software, and, train the module users and teachers to effectively utilize the upgraded modules. It has likewise been determined that it would take approximately \$240,000.00 per (12) schools to establish a new High Tech learning cooperative.

Although the State has through DPI, SBVTE, ITD; and, enabling legislation; done much to improve the development and utilization of the Information/Communications Technological System; it has not been able to address the Learning need of the Mechanical/Industrial Technologies or the Bio-Chemistry Technologies; except, through the efforts of the High-Tech Cooperatives. Although it is true that virtually all of the other technologies demand a firm knowledge base in the information/communications technologies; a modern earner and /or learner, must, also master the complex "Universal Technical Foundations" concepts in order to be a competitive employee in a 21st Century global economy.

The High-Tech Learning Cooperatives's have a proven record of how to teach these complex concepts to a broad-base of K 7-12 students via the utilization of "hands-on" High Tech Equipment Learning modules.

Consequently, it seems; that, with the required merging/reorganization and/

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#### Page Nine

or consolidation of school districts and/or school plants, that; this learning resource can be utilized most effectively through the organization of more High-Tech Learning Cooperatives.

Consequently, if one looked at the cooperative structure of the present (7) cooperatives involving (69) school districts and reorganized those into either (6) or (12) school cooperatives for a total of (72) total school districts/plants one would need an amount of (69) times \$10,000 or \$690,000 in order to provide the funds for those cooperatives to upgrade their Learning Modules and train their teachers in their utilization.

In addition, the reorganizing cooperatives could be expected to receive an additional \$20,000 per school for each new participating school district that agreed to join their cooperative.

#### As An Example:

The SW Cooperative Project presently has 8 participating school districts that could be expected to receive \$80,000 for the participating school districts and an additional \$80,000 for the addition of (4) new school districts; at \$20,000 per district. For a total of \$160,000 to upgrade their modules, upgrade train their present users and train the new users.

This amount is almost exactly the amount of funds needed to make the module upgrade identified by the Project's input committee which consists of past and new users of the present High-Tech Module users this past year. The result of not being able to provide the identified upgrade needs has resulted in the signing of a (1) year; instead of a (3) year; cooperative agreement. This means that, without module upgrades; the cooperative more than likely will cease to exist after the (1) year commitment.

These particular school districts are still prepared to utilize their local funds for tech support, rotate and manage/administer the High-Tech cooperative; but, they simply can not manage the hardware, software, curriculum upgrades and enhancement/improvement requirements without State assistance of some sort.

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Page Ten

#### A "Plan summary":

If one were to plan on funding the present (69) cooperative school districts/plants, and, plan to add (27) new school districts; (2) - (12) school districts/ plants plus (3); one would have the equivalence of (8) - (12) school/district plants for a funding cost of (69) times \$10,000 for a cost of \$690,000 plus (27) times \$20,000 for a cost \$540,000, for a total cost of \$1,230,000.00, for the 2003-2005 biennium for hardware, software, curriculum upgrade and enhancement and associated teacher training.

In order to professionally develop, monitor, manage, administrate and evaluate the effectiveness of the High-Tech Learning Cooperatives the Project would be directed by a (9) member Advisory Board/Management Team which would be composed of (3) presently the involved High-Tech Cooperative Administrators experienced with the present High-Tech Cooperative's operation and management; representing the Southwest. Southeast and Northeast geographic areas of North Dakota; (3) business and industry members representing the same geographic areas who are familiar with the present projects, and, those project's worker output product; (2) presently experienced High-Tech Project Facilitators and (1) UND delegated representative from its Division of Continuing Education who is familiar with the development and implementation of the present (14) Graduate Credit Hour level courses which address the professional improvement training requirements in order to effectively utilize the "hands-on" teaching and learning resources utilized to teach the complex "Universal Technical Foundation"skills demanded by today's technologically oriented global society. The Advisory Board/Management Team appointees would be left to the discretion of the selected Project Administrative (LEA).

In order to properly present the project to interested school districts, reorganize present cooperatives where such reorganization is needed, create and effective evaluation system, provide for eligible member per diem for Advisory Board/Management Team members, project related travel, as well, as contracted (LEA) administration of the Youth Technical Skills Development Initiative it is estimated that the sum of \$270,000.00 would be required for the 2003 - 2005 biennium; for a total project cost of \$1.500.000.00 . It is, likewise, proposed that SBVTE be the fiscal agent of the project; which, as previously delineated; would be conducted by the appointed Advisory Board and/or Management Team

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#### Page Eleven

In summary, by utilizing the enhanced educational delivery system herein described and further delineated via the various Exhibits, North Dakota has the opportunity to prepare its present and future workforce, in fact, all of its citizens, become extremely competitive in a 21st century competitive workforce environment which will, consequently, give North Dakota a tremendous edge in the attraction and location of technology based industries within the State, and thereby, stemming the State's rural out migration pattern.

INPUT NOTATION AREA:

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High Tech Equipment Learning Cooperative

### Group A

# Computer Competencies (Production) C/N/C Competencies (Production) Robotics Bio-Chem Electronics Laser/Fiber Optics

## **Group B**

Computer Competencies (Production)

C/N/C Competencies (Production)

Robotics

M/P/H

Electronics

Laser/Fiber Optics

Exhibit #1

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#### High Tech Equipment Learning Cooperative

# 12 School Organization Totals

#### **Total System Cost**

Total Computer Competencies (Production)	\$ 48,856,00
Total C/N/C Competencies (Production)	\$ 63,940.00
Total Robotics	\$ 41,886,00
Total Bio-Chem	\$ 10,086,00
Total M/P/H	\$ 18,185.00
Total Electronics	\$ 10,090.00
Total Laser/Fiber Optics	\$ 16,957,00
Total	\$ 210,000.00
Initial Training Cost	\$ 30,000.00
Total Project Cost	\$ 240,000.00

#### Exhibit #2

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#### High Tech Equipment Learning Cooperative

#### 12 School Organization Yearly Operating Budget

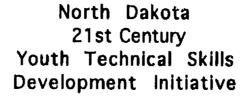
Income	
12 Schools x \$3,000.00	\$ 36,000.00
Total Income	\$ 36,000.00
Expenses	
LEA Service Reimbursement	
.05 x \$36,000.00	\$ 1,800.00
Instructional Equipment Repair	\$ 4,200.00
Travel	\$ 6,000.00
Supplies	\$ 4,500.00
System Management	\$ 5,000.00
Technical Support	\$ 5,000.00
Rotation	\$ 5,000.00
Continuing Training	\$ 4,500.00
Total Expenses	\$ 36,000.00

Exhibit #3

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#### Plan Objectives:

With the national legislation of the "No Child Left Behind" initiative the State must make an extraordinary effort to develop K-12 clientele's Math, Science and language skills. In small rural school districts this could very well result in the abandonment of virtually all vocational and/or technical skill training.

In addition; because of the "No Child Left Behind" teacher qualifications requirements; the possibility emerges that teacher professional Improvement training will likewise be undertaken which will not imvolve "Applied Hands on Technical Training" in the applied science and math curriculum areas; thus, further removing our State's K-12 clientele; from adequate career preparatory skills in this country's fastest growing industries; namely, those industries that require universal technical competencies; which, by the way; are one of this country's fastest growing career areas.

The University of North Dakota recognizes this, and, has to date approved 14 graduate level credit hour courses so as to properly prepare teachers with the basic universal technical competencies so that present Math, Science and Modern Communication teachers can utilize the applied "Universal Technical Competencies" Learning Modules in their enhanced curriculum.

The effective utilization of these Applied Technological Learning Modules requires a great deal of tech-support because of their complexity; and, consequently; can best be utilized through a cooperative effort of several school districts sharing these enhanced learning resources.

Also, since these enhanced learning resources need to be shared their utilization can likewise be most effective if they are managed via the users via a "Management Team' and/or a "Project Advisory Board"

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Dean Sans

I am Corey Berger of Center High School and I have taken the Ag Tech class which uses the Sw HiTech equipment.

As FFA Reporter for the Center FFA, I've used the computer knowledge I gained in my Ag. Tech. class in many different ways. I have used word processors to write articles and newsletters for the chapter. The SW HiTech Cooperative taught me how to write, scan pictures, and then take pictures off of a digital camera put them on disk and send them along with the articles to the Newspaper or send a copy through email to the Newspaper to be published.

The computer aided drafting and design programs have become useful in developing blue prints for such things as a saw horse or a cord holder that are projects that we make in our classes.

Not being to involved in technology other than the Ag Tech class, the use of the Robotics has interested me to the point of exploring it as a career or new field of work. Melroe/Bobcat uses robotics and CNC technology heavily. Learning how to cut out objects with the CNC mill can be applied to CNC plasma arc cutting which they use to cut out many parts of their heavy equipment. Robots in class are used to move cylinders from point A to Point B. But its not that simple. You need to learn how to program the computer to do what it needs to do, such as typing in special codes to start and stop the machine at certain points. Robotics at Melroe are used for moving large pieces from point A to B, almost the exact same program we use but on a larger scale. The same with the CNC Mill, we make a small plastic item but Melroe attaches it to a plasma arc cutter and cuts out sides of Bobcats.

We also used the electrophoresis apparatus to do some gene mapping. I now understand how it is used in forensics and how it used in plant and animal development.

The equipment is getting worn out. I especially felt that the robots were severely worn from all the years of use that they have had from each school. Because of the wear on these machines, it makes it harder for the students to learn correctly and get enough experience to excel in completing the tasks efficiently and if the robot is broke down this makes it harder for all the students to get there full amount of time on them. The robots and CNC mills are getting old and out dated and lacks the new technology that is being used else where.

I feel that the Sw HiTech program is a enjoyable yet is a very educational program that prepares the youth for the future in many fields of work, but it needs updating and more than simple repairs.

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COLLEGE OF ENGINEERING

March 7, 2003

North Dakota House of Representatives Appropriations Committee State Capitol 600 East Boulevard Bismarck, ND 58505-0360

Dear Appropriations Committee:

GELLERSEN CENTER VALPARAISO, INDIANA 46383-6493

Office of the Dean 219-464-5085

**DEPARTMENTS** 

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It is with urgency and passion that I write you this letter urging your continual funding of the Southwest Cooperative Project for rotating technology models. As a graduate of Beulah High School and a four-year participant in the agricultural education program there, I can attest to how powerful and important this program and these like it are. Agricultural education and membership in the FFA Organization had a profound affect on me as a student, and still impacts me today. This is a wonderful and excellent program that touches students on many levels.

While in the agricultural education program at Beulah. I had exposure to three of the rotating technical learning modules; the robotics unit, the CNC lathe, and the computerized milling machine. These were not simple toys or demonstrations, but exposure to advanced technology that greatly benefited me in my subsequent engineering career. I was able to write my own programs and design my own pieces for the mill. When I took my advanced robotics course my senior year at the University of Illinois, complex state-space transformation models made sense to me because I could relate it to the EMU robot arms I had seen six years previous.

Our university's mechanical engineering department has both a CNC lathe and a computerized milling machine. To me, they were just replicas of "things I had seen and used in high school," but for virtually every mechanical engineering student that passes through our doors (many educated in Chicago-suburb high schools), it is the first time they have ever had a chance to see, let alone operate these devices. I am unique in that I graduated from high school having intimate knowledge and experience with such advanced technology.

Throughout my academic and professional career, I have consistently been able to impress others with the quality of my North Dakota education. It was the high level of funding that the agricultural education program at BHS received, and the expert application of this funding by my teacher Mark Wagner which gave me and my fellow students such a high quality education. I have always been impressed by the fiduciary support that North Dakota gives its students. I urge you now to continue your track record of excellence.

Sincerely,

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Jeffrey D. Will, Ph.D.

Assistant Professor

Electrical and Computer Engineering

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# Presentation to the House Appropriations Committee (On Senate Bill 2260) Wilfred Volesky, Beulah Public School

Chairman Svedjan and members of the House Appropriations Committee.

My name is Wilfred Volesky and I am the Superintendent of the Beulah School District. I am also the current chairman of the Southwest High Tech Cooperative. I am here today to discuss SB 2260 which requests funding for 9-twelve school High Tech Cooperatives. The amount of funding being requested is \$1.5 million over the upcoming biennium.

To understand our request I need to reflect back in history to explain how these cooperatives got started. In the late 1980's an 18 month Demonstration Project was undertaken by the State Board for Vocational and Technical Education. It was the intent of this project to spend 6 months of the project working with business, industry employers and educators at both K-12 and Higher Education to determine what were the basic "Universal Technical Foundation" skills that would be required of a modern day technical worker.

What the Demonstration Project led to was the development of high tech equipment used to teach the complex "Universal Technical Foundation" skills, which are required of any individual to function as a worker in any of the three major Technical Systems. Those Technological systems are the Information/Communications, Mechanical/Industrial and the Bio-Chem Technological Systems.

Initially, the Demonstration Project was 100% funded by the State Board for Vocational & Technical Education with the federal funds available through the Carl Perkins Act. Consequently the High Tech Demonstration Cooperative got its initial high

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Operator's Signature

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0121/03 00to Tech Module hardware and software at no investment to the local participating school districts. The school districts were only required to fund its ongoing operational costs such as, tech support, module rotation and project administration/management.

At the present time we have seven High Tech Cooperatives that are trying to continue to exist. But the need for teacher training, upgrades of hardware and software and tech support for the equipment is more than many schools in the cooperatives can afford financially. In the Southwest High Tech Cooperative each school pays \$5000 annual fee to use the equipment. We have repaired the equipment to the point where it is worn out and needs to be replaced. Many of our teachers are not trained adequately for them to use the equipment. In order to take care of these needs in our cooperative it would be necessary to assess each school a minimum annual fee of \$15,000. For many schools, especially the small schools, this is an amount that is beyond their means and therefore will drop out of the cooperative.

For this reason we are here today to request you to consider putting state dollars into these cooperatives. The request in SB 2260 would allow the 69 school districts in current cooperatives to continue to exist and allow for the expansion of 27 new school districts to join cooperatives. These cooperatives teach young adults the necessary skills to be employable in any high tech job today. I believe that funding this project is a major step towards creating economic development in North Dakota.

I would ask that you provide funding the funding of \$1.5 million that SB 2260 requests.

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