

Senator Sams introduced--

S.F. No. 586: Referred to the Committee on Education.

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A bill for an act

relating to education; modifying teacher license
variance for certain special education teachers;
amending Minnesota Statutes 2004, section 122A.09,
subdivision 10.

BE IT ENACTED BY THE LEGISLATURE OF THE STATE OF MINNESOTA:

Section 1. Minnesota Statutes 2004, section 122A.09,
subdivision 10, is amended to read:

Subd. 10. [VARIANCES.] (a) Notwithstanding subdivision 9
and section 14.05, subdivision 4, the Board of Teaching may
grant a variance to its rules upon application by a school
district for purposes of implementing experimental programs in
learning or management.

(b) To enable a school district to meet the needs of
students enrolled in an alternative education program and to
enable licensed teachers instructing those students to satisfy
content area licensure requirements, the Board of Teaching
annually may permit a licensed teacher teaching in an
alternative education program to instruct students in a content
area for which the teacher is not licensed, consistent with
paragraph (a).

(c) A special education license variance issued by the
Board of Teaching for a primary employer's low-incidence region
shall be valid in all low-incidence regions.

Senators Pappas, Michel, Kierlin, Hann and Kelley introduced--
S.F. No. 784: Referred to the Committee on Education.

1 A bill for an act

2 relating to education; providing for a state
3 coordinator for school world languages programs;
4 providing for grants to model extended world languages
5 programs; appropriating money; proposing coding for
6 new law in Minnesota Statutes, chapter 127A.

7 BE IT ENACTED BY THE LEGISLATURE OF THE STATE OF MINNESOTA:

8 Section 1. [127A.21] [STATE COORDINATOR FOR WORLD
9 LANGUAGES.]

10 (a) The commissioner of education shall designate a
11 full-time state coordinator for world languages education within
12 the Department of Education by July 1, 2005. The commissioner
13 shall seek input from the Quality Teaching Network before
14 designating or hiring the coordinator who must have classroom
15 experience teaching world languages. The coordinator, at a
16 minimum, shall:

17 (1) survey school districts in the state to:

18 (i) identify the types of existing world language programs
19 and exemplary model extended world languages programs; and

20 (ii) in consultation with Minnesota postsecondary
21 institutions, identify and address staff development needs of
22 current world language teachers and preservice teachers;

23 (2) identify successful extended world language programs
24 from other states;

25 (3) award grants for model extended world languages
26 programs under section 2;

1 (4) establish guidelines for a variety of model extended
2 world languages programs;

3 (5) research and recommend the funding necessary to
4 implement various models of extended world languages programs in
5 different languages; and

6 (6) support and monitor, using the most recent information
7 available, current world language programs.

8 (b) For the purposes of this section, "extended world
9 languages program" means a world languages program with a
10 sequence of consecutive years in any of kindergarten through
11 grade 12, including for example sequences of kindergarten
12 through grade 12, grades 5 through 12, and grades 7 through 12.

13 Sec. 2. [MODEL EXTENDED WORLD LANGUAGE PROGRAM GRANTS.]

14 (a) The commissioner of education shall award six
15 three-year grants to school districts and charter schools to
16 develop model extended world languages programs including at
17 least model plans for implementing world languages to close the
18 achievement gap between groups of students. The commissioner
19 shall award grants only for the 2006-2007 through 2008-2009
20 school years. The commissioner should award grants for a
21 variety of language programs, if possible.

22 (b) The commissioner shall award grants to four school
23 districts or charter schools in the seven-county metropolitan,
24 Rochester, and Duluth areas, including two urban and two
25 suburban school districts or charter schools, and two school
26 districts or charter schools outside the seven-county
27 metropolitan, Rochester, and Duluth areas, to:

28 (1) develop a model extended world languages program; or

29 (2) extend an existing world language program to a model
30 extended program.

31 (c) A school district and charter school shall apply for a
32 grant in a form and manner prescribed by the commissioner. A
33 school district and charter school must use the grant money to
34 develop and implement or to extend existing world languages
35 programs according to the terms of the grant application and the
36 criteria under paragraph (a).

1 (d) For the purposes of this section, "extended world
 2 languages program" means a world languages program with a
 3 sequence of consecutive years in any of kindergarten through
 4 grade 12, including for example sequences of kindergarten
 5 through grade 12, grades 5 through 12, and grades 7 through 12.

6 Sec. 3. [APPROPRIATION; MODEL EXTENDED WORLD LANGUAGES
 7 PROGRAMS.]

8 The sums indicated in this section are appropriated from
 9 the general fund to the Department of Education for the fiscal
 10 years designated for grants for model extended world languages
 11 programs under section 2:

12	<u>\$.,.,.,.,.</u>	<u>.....</u>	<u>2006</u>
13	<u>\$.,.,.,.,.</u>	<u>.....</u>	<u>2007</u>

14 These appropriations do not cancel but are available until
 15 expended.

Senators Kelley and Gaither introduced--
S.F. No. 764: Referred to the Committee on Education.

1 A bill for an act
2 relating to education; authorizing a task force to
3 study the delivery and funding of special education.

4 BE IT ENACTED BY THE LEGISLATURE OF THE STATE OF MINNESOTA:

5 Section 1. [TASK FORCE ON DELIVERY OF SPECIAL EDUCATION TO
6 NONPUBLIC SCHOOL STUDENTS BY PUBLIC SCHOOL DISTRICTS.]

7 Subdivision 1. [PURPOSE; ESTABLISHMENT.] With the
8 congressional reauthorization of the federal Individuals with
9 Disabilities Education Act, a task force on the delivery of
10 special education services to nonpublic school students by
11 public school districts shall be established to compare and
12 evaluate how the individual needs of each child are being met,
13 if services are provided in the least restrictive environment,
14 and whether best practices and program efficiencies are being
15 used in the specific areas of transportation, location of
16 services, and shared time aid.

17 Subd. 2. [MEMBERS.] The governor shall appoint the members
18 of the task force from each of the following:

19 (1) two members from the Department of Education, one
20 representing special education programs and policy and one
21 representing district finances;

22 (2) two special education teachers with one member from a
23 public school and one member from a nonpublic school;

24 (3) two special education administrators with one member

1 from a public school and one member from a nonpublic school;

2 (4) two members with one from each of two special education
3 advocacy organizations;

4 (5) two parents of children receiving special education
5 services with one member from a public school and one member
6 from a nonpublic school;

7 (6) two elementary school principals with one member from a
8 public school and one member from a nonpublic school;

9 (7) two superintendents with one member from a public
10 school district and one member from a nonpublic school district;

11 (8) two school business officials with one from a public
12 school and one from a nonpublic school; and

13 (9) two school board officials with one from a public
14 school and one from a nonpublic school.

15 The task force may select additional members to work on the
16 task force. The commissioner of education shall provide
17 necessary materials and assistance.

18 Subd. 3. [REPORT.] The task force shall submit a report by
19 January 15, 2006, to the house of representatives and senate
20 committees having jurisdiction over education on the delivery of
21 special education services to nonpublic school students by
22 public school districts, to compare and evaluate how the
23 individual needs of each child are being met in the least
24 restrictive environment, and whether best practices and program
25 efficiencies are being used.

26 Subd. 4. [EXPIRATION.] This section expires January 31,
27 2006.

28 [EFFECTIVE DATE.] This section is effective the day
29 following final enactment.

Senators Kelley, Skoe, Olson and Michel introduced--
S.F. No. 1291: Referred to the Committee on Education.

1 A bill for an act
2 relating to education; licensing teachers of
3 interdisciplinary teaching and facilitating learning
4 in innovative schools and programs; providing for
5 rulemaking; amending Minnesota Statutes 2004, section
6 122A.09, subdivision 4.

7 BE IT ENACTED BY THE LEGISLATURE OF THE STATE OF MINNESOTA:

8 Section 1. Minnesota Statutes 2004, section 122A.09,
9 subdivision 4, is amended to read:

10 Subd. 4. [LICENSE AND RULES.] (a) The board must adopt
11 rules to license public school teachers and interns subject to
12 chapter 14.

13 (b) The board must adopt rules requiring a person to
14 successfully complete a skills examination in reading, writing,
15 and mathematics as a requirement for initial teacher licensure.
16 Such rules must require college and universities offering a
17 board-approved teacher preparation program to provide remedial
18 assistance to persons who did not achieve a qualifying score on
19 the skills examination, including those for whom English is a
20 second language.

21 (c) The board must adopt rules to approve teacher
22 preparation programs. The board, upon the request of a
23 postsecondary student preparing for teacher licensure or a
24 licensed graduate of a teacher preparation program, shall assist
25 in resolving a dispute between the person and a postsecondary
26 institution providing a teacher preparation program when the

1 dispute involves an institution's recommendation for licensure
2 affecting the person or the person's credentials. At the
3 board's discretion, assistance may include the application of
4 chapter 14.

5 (d) The board must provide the leadership and shall adopt
6 rules for the redesign of teacher education programs to
7 implement a research based, results-oriented curriculum that
8 focuses on the skills teachers need in order to be effective.
9 The board shall implement new systems of teacher preparation
10 program evaluation to assure program effectiveness based on
11 proficiency of graduates in demonstrating attainment of program
12 outcomes.

13 (e) The board must adopt rules requiring successful
14 completion of an examination of general pedagogical knowledge
15 and examinations of licensure-specific teaching skills. The
16 rules shall be effective on the dates determined by the board
17 but not later than September 1, 2001.

18 (f) The board must adopt rules requiring teacher educators
19 to work directly with elementary or secondary school teachers in
20 elementary or secondary schools to obtain periodic exposure to
21 the elementary or secondary teaching environment.

22 (g) The board must grant licenses to interns and to
23 candidates for initial licenses.

24 (h) The board must design and implement an assessment
25 system which requires a candidate for an initial license and
26 first continuing license to demonstrate the abilities necessary
27 to perform selected, representative teaching tasks at
28 appropriate levels.

29 (i) The board must receive recommendations from local
30 committees as established by the board for the renewal of
31 teaching licenses.

32 (j) The board must grant life licenses to those who qualify
33 according to requirements established by the board, and suspend
34 or revoke licenses pursuant to sections 122A.20 and 214.10. The
35 board must not establish any expiration date for application for
36 life licenses.

1 (k) The board must adopt rules that require all licensed
2 teachers who are renewing their continuing license to include in
3 their renewal requirements further preparation in the areas of
4 using positive behavior interventions and in accommodating,
5 modifying, and adapting curricula, materials, and strategies to
6 appropriately meet the needs of individual students and ensure
7 adequate progress toward the state's graduation rule.

8 (l) In adopting rules to license public school teachers who
9 provide health-related services for disabled children, the board
10 shall adopt rules consistent with license or registration
11 requirements of the commissioner of health and the
12 health-related boards who license personnel who perform similar
13 services outside of the school.

14 (m) The board must adopt rules that require all licensed
15 teachers who are renewing their continuing license to include in
16 their renewal requirements further reading preparation,
17 consistent with section 122A.06, subdivision 4. The rules do
18 not take effect until they are approved by law. Teachers who do
19 not provide direct instruction including, at least, counselors,
20 school psychologists, school nurses, school social workers,
21 audiovisual directors and coordinators, and recreation personnel
22 are exempt from this section.

23 (n) The board must adopt rules that require all licensed
24 teachers who are renewing their continuing license to include in
25 their renewal requirements further preparation in understanding
26 the key warning signs of early-onset mental illness in children
27 and adolescents.

28 (o) The board, in consultation with the Department of
29 Education and Minnesota Quality Teaching Coalition, must adopt
30 rules to license teachers of interdisciplinary teaching and
31 facilitating learning in innovative schools and programs.

Senator Kiscaden introduced--

S.F. No. 1004: Referred to the Committee on Education.

1 A bill for an act
2 relating to higher education; creating a citizen's
3 council; specifying duties of the council;
4 appropriating money.

5 BE IT ENACTED BY THE LEGISLATURE OF THE STATE OF MINNESOTA:
6 Section 1. [UNIVERSITY CENTER ROCHESTER CITIZEN'S
7 COUNCIL.]

8 Subdivision 1. [ESTABLISHMENT.] The University Center
9 Rochester Citizen's Council is established to make
10 recommendations for the creation of a mission-driven educational
11 entity that focuses on state and regional opportunities and
12 needs in the areas of science, technology, agribusiness, and
13 management.

14 Subd. 2. [MEMBERSHIP.] The nine-member council will
15 consist of:

16 (1) one Minnesota State Colleges and Universities trustee
17 or designee;

18 (2) one University of Minnesota regent or designee;
19 (3) five citizens from the Rochester area representing
20 health sciences, agribusiness, technology, bioinformatics, and
21 medical device industries; and

22 (4) two citizens from the Rochester area representing
23 students.

24 Subd. 3. [DUTIES.] The council is directed to develop a
25 long-range detailed strategic plan for the delivery of

1 postsecondary education in the Rochester area that address the
2 following:

3 (1) the mission and focus of the entity created to deliver
4 postsecondary education in the area;

5 (2) the governance structure of the entity;

6 (3) preferred institutional alignments;

7 (4) projected student capacity and enrollment;

8 (5) projected facility needs on the University Center
9 Rochester campus to provide space and an identity for upper
10 division and graduate programming;

11 (6) opportunities for public-private partnership;

12 (7) opportunities for maximizing collaboration and
13 alignment with regional and state economic interests;

14 (8) opportunities for collaborative agreements between the
15 University of Minnesota, the Minnesota State Colleges and
16 Universities, and private institutions; and

17 (9) opportunities for the utilization of distance education
18 and technology-enhanced learning.

19 The council will report its findings and recommendations to
20 the legislature by January 13, 2006.

21 Sec. 2. [APPROPRIATIONS.]

22 (a) \$..... is appropriated from the general fund to the
23 University of Minnesota for development of upper division and
24 program offerings in Rochester in science, technology,
25 bioinformatics, and management.

26 (b) \$..... is appropriated from the general fund to the
27 Higher Education Services Office for activities associated with
28 the council's duties.

29 (c) The appropriations in paragraphs (a) and (b) are
30 available for the biennium ending June 30, 2007.

Senator Senjem introduced--

S.F. No. 1159: Referred to the Committee on Education.

1 A bill for an act

2 relating to higher education; establishing a planning
3 committee for a four-year university at Rochester;
4 appropriating money.

5 BE IT ENACTED BY THE LEGISLATURE OF THE STATE OF MINNESOTA:

6 Section 1. [PLANNING AND IMPLEMENTATION COMMITTEE;
7 UNIVERSITY AT ROCHESTER.]

8 A nine member planning and implementation committee is
9 created for the purpose of establishing a public four-year
10 university in the city of Rochester, Minnesota. The speaker of
11 the house, the committee on committees in the senate, and the
12 governor shall each appoint three members of the committee by
13 July 1, 2005. The committee shall report to the legislature and
14 to the governor with a progress report on establishing a
15 four-year university with recommendations for future actions by
16 July 1, 2006.

17 Sec. 2. [APPROPRIATIONS.]

18 \$3,000,000 is appropriated from the general fund to the
19 Higher Education Services Office for fiscal year 2006 for a
20 grant to cover the operating expenses and costs of the planning
21 and implementation committee for the university at Rochester.

1 Senator Kelley from the Committee on Education, to which
2 was referred

3 S.F. No. 586: A bill for an act relating to education;
4 modifying teacher license variance for certain special education
5 teachers; amending Minnesota Statutes 2004, section 122A.09,
6 subdivision 10.

7 Reports the same back with the recommendation that the bill
8 do pass. Report adopted.

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(Committee Chair)

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March 15, 2005
(Date of Committee recommendation)

1 Senator Kelley from the Committee on Education, to which
2 was referred

3 S.F. No. 764: A bill for an act relating to education;
4 authorizing a task force to study the delivery and funding of
5 special education.

6 Reports the same back with the recommendation that the bill
7 do pass and be re-referred to the Committee on State and Local
8 Government Operations. Report adopted.

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.....
(Committee Chair)

March 15, 2005.....
(Date of Committee recommendation)

1 Senator Kelley from the Committee on Education, to which
2 was referred

3 S.F. No. 1291: A bill for an act relating to education;
4 licensing teachers of interdisciplinary teaching and
5 facilitating learning in innovative schools and programs;
6 providing for rulemaking; amending Minnesota Statutes 2004,
7 section 122A.09, subdivision 4.

8 Reports the same back with the recommendation that the bill
9 do pass and be re-referred to the Committee on State and Local
10 Government Operations. Report adopted.

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.....*Steve Kelley*.....
(Committee Chair)

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March 15, 2005.....
(Date of Committee recommendation)

1 Senator Kelley from the Committee on Education, to which
2 was referred

3 S.F. No. 1004: A bill for an act relating to higher
4 education; creating a citizen's council; specifying duties of
5 the council; appropriating money.

6 Reports the same back with the recommendation that the bill
7 be amended as follows:

8 Delete everything after the enacting clause and insert:

9 "Section 1. [ROCHESTER HIGHER EDUCATION DEVELOPMENT
10 COMMITTEE.]

11 Subdivision 1. [ESTABLISHMENT.] The Rochester Higher
12 Education Development Committee is established to research and
13 make recommendations to the governor and legislature on the
14 creation of mission-driven postsecondary educational programs or
15 institutions in the Rochester area that meet the educational
16 needs of the region and the state and that capitalize on the
17 unique opportunities for educational partnerships presented in
18 the Rochester area.

19 Subd. 2. [MEMBERSHIP.] The committee is composed of 11
20 members, to be appointed by the governor, as follows:

21 (1) a trustee of the Minnesota State Colleges and
22 Universities, or the trustee's designee;

23 (2) a regent of the University of Minnesota, or the
24 regent's designee;

25 (3) six persons from the Rochester area representing
26 business, health and medical sciences, and technology;

27 (4) the commissioner of finance, or the commissioner's
28 designee;

29 (5) one person who by training or experience has special
30 expertise in postsecondary finance and planning; and

31 (6) one person who by training or experience has special
32 expertise in postsecondary academic planning and programming.

33 Before the first meeting of the committee, the governor
34 shall select one person from the committee who shall serve as
35 chair.

36 Subd. 3. [COMPENSATION AND REMOVAL.] Appointments to the
37 committee are not subject to Minnesota Statutes, section 15.0597.

38 Members of the committee are not entitled to reimbursement under

1 Minnesota Statutes, section 15.059, subdivision 6. Members may
2 be removed and vacancies filled pursuant to Minnesota Statutes,
3 section 15.059, subdivision 4. The director of the Higher
4 Education Services Office may provide administrative support to
5 the committee.

6 Subd. 4. [DUTIES.] (a) The committee shall develop a
7 recommendation for establishment and implementation of expanded
8 higher education programs or institutions in Rochester. The
9 committee's report must include recommendations on:

10 (1) the mission and focus of the programs or institutions;

11 (2) the nature of undergraduate and graduate programs to be
12 offered;

(3) site and facility needs;

14 (4) funding sources and opportunities;

15 (5) operational needs;

16 (6) status and benefits of potential employees, including
17 coverage under the Minnesota State Retirement System;

18 (7) alliances or other types of cooperative arrangements
19 with public and private institutions;

20 (8) governance structures; and

21 (9) mechanisms to ensure that the expanded programs are
22 aligned with the unique needs and opportunities of the Rochester
23 area and that programs take advantage of opportunities presented
24 by regional business and industry.

25 (b) The committee must consider specifically whether
26 expansion of the University of Minnesota in Rochester is the
27 most appropriate method of meeting the region's needs.

28 (c) The committee may also research and provide
29 recommendations on sites for the facilities and programs. The
30 committee shall recommend any changes to Minnesota law required
31 to implement recommendations of the committee.

32 Subd. 5. [REPORT.] The committee must issue a report with
33 recommendations to the governor and the legislature by January
34 15, 2006.

35 Subd. 6. [SUNSET.] The committee expires on December 31,
36 2007.

1 Sec. 2. [ROCHESTER HIGHER EDUCATION DEVELOPMENT ACCOUNT.]

2 A Rochester higher education development account is created
3 in the state treasury in the special revenue fund. Money in
4 this account is appropriated to the Higher Education Services
5 Office for allocation to the committee established in section 1
6 and the implementation activities outlined in section 3. The
7 office shall serve as fiscal agent for the committee established
8 in section 1.

9 Sec. 3. [APPROPRIATION.]

10 Subdivision 1. [PLANNING ACTIVITIES.] \$200,000 is
11 appropriated to the Higher Education Services Office from the
12 general fund for fiscal year 2006, for the purposes of section 1.
This is a onetime appropriation.

14 Subd. 2. [IMPLEMENTATION FUNDING.] \$.,...,... is
15 appropriated from the general fund to the Higher Education
16 Services Office for fiscal year 2006. This is a onetime
17 appropriation that must be deposited into the Rochester higher
18 education development account. With the approval of the Higher
19 Education Services Office, money in this account may be used to:

20 (1) provide additional planning and development funds, if
21 needed;

22 (2) provide initial funding for academic program
development; or

24 (3) provide funding related to academic facilities, if
25 needed.

26 The appropriation under this subdivision is available until
27 June 30, 2009.


28 Sec. 4. [EFFECTIVE DATE.]

29 This act is effective the day following final enactment."

30 Delete the title and insert:

31 "A bill for an act relating to higher education; creating a
32 Rochester higher education development committee; appropriating
33 money."

And when so amended the bill do pass and be re-referred to
the Committee on Finance. Amendments adopted. Report adopted.

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38 (Committee Chair)

March 15, 2005.....
(Date of Committee recommendation)

1 Senator moves to amend S.F. No. 1159 as follows:

2 Delete everything after the enacting clause and insert:

3 "Section 1. [ROCHESTER HIGHER EDUCATION DEVELOPMENT
4 COMMITTEE.]

5 Subdivision 1. [ESTABLISHMENT.] The Rochester Higher
6 Education Development Committee is established to research and
7 make recommendations to the governor and legislature on the
8 creation of mission-driven postsecondary educational programs or
9 institutions in the Rochester area that meet the educational
10 needs of the region and the state and that capitalize on the
11 unique opportunities for educational partnerships presented in
12 the Rochester area.

13 Subd. 2. [MEMBERSHIP.] The committee is composed of 11
14 members, to be appointed by the governor, as follows:

15 (1) a trustee of the Minnesota State Colleges and
16 Universities, or the trustee's designee;

17 (2) a regent of the University of Minnesota, or the
18 regent's designee;

19 (3) six persons from the Rochester area representing
20 business, health and medical sciences, and technology;

21 (4) the commissioner of finance, or the commissioner's
22 designee;

23 (5) one person who by training or experience has special
24 expertise in postsecondary finance and planning; and

25 (6) one person who by training or experience has special
26 expertise in postsecondary academic planning and programming.

27 Before the first meeting of the committee, the governor
28 shall select one person from the committee who shall serve as
29 chair.

30 Subd. 3. [COMPENSATION AND REMOVAL.] Appointments to the
31 committee are not subject to Minnesota Statutes, section 15.0597.
32 Members of the committee are not entitled to reimbursement under
33 Minnesota Statutes, section 15.059, subdivision 6. Members may
34 be removed and vacancies filled pursuant to Minnesota Statutes,
35 section 15.059, subdivision 4. The director of the Higher
36 Education Services Office may provide administrative support to

1 the committee.

2 Subd. 4. [DUTIES.] (a) The committee shall develop a
3 recommendation for establishment and implementation of expanded
4 higher education programs or institutions in Rochester. The
5 committee's report must include recommendations on:

6 (1) the mission and focus of the programs or institutions;

7 (2) the nature of undergraduate and graduate programs to be
8 offered;

9 (3) site and facility needs;

10 (4) funding sources and opportunities;

11 (5) operational needs;

12 (6) status and benefits of potential employees, including
13 coverage under the Minnesota State Retirement System;

14 (7) alliances or other types of cooperative arrangements
15 with public and private institutions;

16 (8) governance structures; and

17 (9) mechanisms to ensure that the expanded programs are
18 aligned with the unique needs and opportunities of the Rochester
19 area and that programs take advantage of opportunities presented
20 by regional business and industry.

21 (b) The committee must consider specifically whether
22 expansion of the University of Minnesota in Rochester is the
23 most appropriate method of meeting the region's needs.

24 (c) The committee may also research and provide
25 recommendations on sites for the facilities and programs. The
26 committee shall recommend any changes to Minnesota law required
27 to implement recommendations of the committee. Meetings of the
28 committee are not subject to Minnesota Statutes, chapter 13D.

29 Subd. 5. [REPORT.] The committee must issue a report with
30 recommendations to the governor and the legislature by January
31 15, 2006.

32 Subd. 6. [SUNSET.] The committee expires on December 31,
33 2007.

34 Sec. 2. [ROCHESTER UNIVERSITY DEVELOPMENT ACCOUNT.]

35 A Rochester higher education development account is created
36 in the state treasury in the special revenue fund. Money in

1 this account is appropriated to the Higher Education Services
 2 Office for allocation to the committee established in section 1
 3 and the implementation activities outlined in section 3. The
 4 office shall serve as fiscal agent for the committee established
 5 in section 1.

6 Sec. 3. [APPROPRIATION.]

7 Subdivision 1. [PLANNING ACTIVITIES.] \$200,000 is
 8 appropriated to the Higher Education Services Office from the
 9 general fund for fiscal year 2006, for the purposes of section 1.
 10 This is a onetime appropriation.

11 Subd. 2. [IMPLEMENTATION FUNDING.] \$,.,.,.,. is
 12 appropriated from the general fund to the Higher Education
 13 Services Office for fiscal year 2006. This is a onetime
 14 appropriation that must be deposited into the Rochester higher
 15 education development account. With the approval of the Higher
 16 Education Services Office, money in this account may be used to:

17 (1) provide additional planning and development funds, if
 18 needed;

19 (2) provide initial funding for academic program
 20 development; or

21 (3) provide funding related to academic facilities, if
 22 needed.

23 The appropriation under this subdivision is available until
 24 June 30, 2009.

25 Sec. 4. [EFFECTIVE DATE.]

26 This act is effective the day following final enactment."

1 Senator Kelley from the Committee on Education, to which
2 was referred

3 S.F. No. 1159: A bill for an act relating to higher
4 education; establishing a planning committee for a four-year
5 university at Rochester; appropriating money.

6 Reports the same back with the recommendation that the bill
7 be amended as follows:

8 Delete everything after the enacting clause and insert:

9 "Section 1. [ROCHESTER HIGHER EDUCATION DEVELOPMENT
10 COMMITTEE.]

11 Subdivision 1. [ESTABLISHMENT.] The Rochester Higher
12 Education Development Committee is established to research and
13 make recommendations to the governor and legislature on the
14 creation of mission-driven postsecondary educational programs or
15 institutions in the Rochester area that meet the educational
16 needs of the region and the state and that capitalize on the
17 unique opportunities for educational partnerships presented in
18 the Rochester area.

19 Subd. 2. [MEMBERSHIP.] The committee is composed of 11
20 members, to be appointed by the governor, as follows:

21 (1) a trustee of the Minnesota State Colleges and
22 Universities, or the trustee's designee;

23 (2) a regent of the University of Minnesota, or the
24 regent's designee;

25 (3) six persons from the Rochester area representing
26 business, health and medical sciences, and technology;

27 (4) the commissioner of finance, or the commissioner's
28 designee;

29 (5) one person who by training or experience has special
30 expertise in postsecondary finance and planning; and

31 (6) one person who by training or experience has special
32 expertise in postsecondary academic planning and programming.

33 Before the first meeting of the committee, the governor
34 shall select one person from the committee who shall serve as
35 chair.

36 Subd. 3. [COMPENSATION AND REMOVAL.] Appointments to the
37 committee are not subject to Minnesota Statutes, section 15.0597.
38 Members of the committee are not entitled to reimbursement under

1 Minnesota Statutes, section 15.059, subdivision 6. Members may
2 be removed and vacancies filled pursuant to Minnesota Statutes,
3 section 15.059, subdivision 4. The director of the Higher
4 Education Services Office may provide administrative support to
5 the committee.

6 Subd. 4. [DUTIES.] (a) The committee shall develop a
7 recommendation for establishment and implementation of expanded
8 higher education programs or institutions in Rochester. The
9 committee's report must include recommendations on:

- 10 (1) the mission and focus of the programs or institutions;
11 (2) the nature of undergraduate and graduate programs to be
12 offered;
13 (3) site and facility needs;
14 (4) funding sources and opportunities;
15 (5) operational needs;
16 (6) status and benefits of potential employees, including
17 coverage under the Minnesota State Retirement System;
18 (7) alliances or other types of cooperative arrangements
19 with public and private institutions;
20 (8) governance structures; and
21 (9) mechanisms to ensure that the expanded programs are
22 aligned with the unique needs and opportunities of the Rochester
23 area and that programs take advantage of opportunities presented
24 by regional business and industry.

25 (b) The committee must consider specifically whether
26 expansion of the University of Minnesota in Rochester is the
27 most appropriate method of meeting the region's needs.

28 (c) The committee may also research and provide
29 recommendations on sites for the facilities and programs. The
30 committee shall recommend any changes to Minnesota law required
31 to implement recommendations of the committee.

32 Subd. 5. [REPORT.] The committee must issue a report with
33 recommendations to the governor and the legislature by January
34 15, 2006.

35 Subd. 6. [SUNSET.] The committee expires on December 31,
36 2007.

1 Sec. 2. [ROCHESTER HIGHER EDUCATION DEVELOPMENT ACCOUNT.]

2 A Rochester higher education development account is created
3 in the state treasury in the special revenue fund. Money in
4 this account is appropriated to the Higher Education Services
5 Office for allocation to the committee established in section 1
6 and the implementation activities outlined in section 3. The
7 office shall serve as fiscal agent for the committee established
8 in section 1.

9 Sec. 3. [APPROPRIATION.]

10 Subdivision 1. [PLANNING ACTIVITIES.] \$200,000 is
11 appropriated to the Higher Education Services Office from the
12 general fund for fiscal year 2006, for the purposes of section 1.
13 This is a onetime appropriation.

14 Subd. 2. [IMPLEMENTATION FUNDING.] \$.,.,.,. is
15 appropriated from the general fund to the Higher Education
16 Services Office for fiscal year 2006. This is a onetime
17 appropriation that must be deposited into the Rochester higher
18 education development account. With the approval of the Higher
19 Education Services Office, money in this account may be used to:

- 20 (1) provide additional planning and development funds, if
- 21 needed;
- 22 (2) provide initial funding for academic program
- 23 development; or
- 24 (3) provide funding related to academic facilities, if
- 25 needed.

26 The appropriation under this subdivision is available until
27 June 30, 2009.

28 Sec. 4. [EFFECTIVE DATE.]

29 This act is effective the day following final enactment."

30 Delete the title and insert:

31 "A bill for an act relating to higher education; creating a
32 Rochester higher education development committee; appropriating
33 money."

34 And when so amended the bill do pass and be re-referred to
35 the Committee on Finance. Amendments adopted. Report adopted.

36
37 *Stew Kelly*
38 (Committee Chair)

March 15, 2005.....
(Date of Committee recommendation)

**Senate Council, Research,
and Fiscal Analysis**

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Senate

State of Minnesota

S.F. No. 764 - Special Education Task Force

Author: Senator Steve Kelley

Prepared by: Ann Marie Butler, Senate Counsel (651/296-5301) *AM B*

Date: March 14, 2005

Section 1 [Task Force on the Delivery of Special Education to Nonpublic School Students by Public School Districts.]

Subdivision 1 [Purpose; Establishment.] establishes a task force to compare and evaluate how the individual needs of each child is met, if services are provided in the least restrictive environment, and whether best practices and program efficiencies are being used in the areas of transportation, location of services, and shared time aid.

Subdivision 2 [Members.] directs the Governor to appoint members as follows:

- (1) Two members from the Department of Education, one from special education programs and one from district finances;
- (2) Two special education teachers, one from a public school and one from a nonpublic school;
- (3) Two special education administrators, one from a public school and one from a nonpublic school;
- (4) Two members representing different special education advocacy organizations;
- (5) Two parents of children receiving special education services, one from a public school and one from a nonpublic school;
- (6) Two elementary school principals, one from public school and one from a nonpublic school;
- (7) Two superintendents, one from a public school district and one from a nonpublic school;
- (8) Two school business officials, one from a public school and one from a nonpublic school; and
- (9) Two school board officials, one from a public school and one from a nonpublic school.

The task force may select members in addition to those appointed by the Governor. The Commissioner is required to provide materials and assistance.

Subdivision 3 [Report.] directs the task force, by January 15, 2006, to submit a report to the legislative committee having jurisdiction over education.

Subdivision 4 [Expiration.] sets the expiration date for this section as January 31, 2006.

[Effective Date.] Makes this section effective immediately.

AMB:vs

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Last update: February 16, 2005 at 6:44 AM

Editorial: U-Rochester/Invest now for high-tech gain

Published February 16, 2005

Cynics called it a political sop when Gov. Tim Pawlenty said in his State of the State message that Rochester should have its own public university. Zero-summers scoffed at the suggestion that Minnesota should expand higher education now, while existing campuses are still reeling from big state funding cuts in 2003.

They're both wrong. There's much more than politics behind the Republican governor's proposal to put more public higher education muscle in Rochester -- the city's DFL trend in the last election notwithstanding. There's a fleeting economic opportunity to be seized, one Minnesota cannot afford to pass up.

Rochester's confluence of world-class medicine, technology and bio-industry, including agriculture, makes it uniquely poised to be a major player in the 21st-century economy. It has the potential to be for Minnesota what Austin became in the 1990s for Texas -- a mecca for high-wage, high-skill scientific enterprises.

But Rochester lacks one ingredient that has been key to Austin's success -- the presence of a major research university. The city is served by Rochester Community and Technical College, which grants two-year degrees. Nearby Winona State University offers 35 degree-granting programs in Rochester, mostly in the liberal arts, nursing, business and computer science. A number of private colleges have a smaller presence in the city too, as does the University of Minnesota.

But the university's 400-student operation is too small to fully meet the needs of Rochester's two big science-driven employers -- the Mayo Clinic and IBM -- and the city's many smaller science-based companies. Those companies need both top-flight graduate-level education for their employees and research collaboration close at hand as they build businesses on the cutting edges of biogenomics, bio-informatics, food science and more.

Many of those companies are footloose. They'll start and stay in a place that offers the high-tech research and education support they need, and they'll go elsewhere if it's lacking. That situation is what makes a higher education investment in Rochester particularly promising, and particularly urgent.

Rochester isn't asking for a full-fledged campus. It isn't asking for a building at all, at this stage. Rather, explains Sen. Sheila Kiscaden, I-Rochester, the community's vision is for development of a science/technology/management institute within the University of Minnesota family -- not to replace the academic programs already located in Rochester,

but to supplement them.

Think of the concept as a higher education mall, Kiscaden said, with Rochester Community and Technical College (RCTC) and the University of Minnesota as anchor tenants, and an assortment of other providers operating in between.

Who would be the landlord? Who would be in charge? On those points, this promising concept needs work. Those best suited to undertake it might well be the Rochester area task force that Pawlenty would entrust with \$3 million in state funds over the next two years to do the planning. But the planners would be wise to invite to their circle of leaders from both the University of Minnesota and Minnesota State Colleges and Universities, the system that includes both RCTC and Winona State University. For the sake of accountability and its own stability, the Rochester higher ed "mall" must be tied to those systems, and they ought to figure prominently in the planning.

Unfortunately, the cynicism that greeted Pawlenty's proposal is clouding the Legislature's view of what could blossom in Rochester. Also unhelpful is a move to push the entire discussion under MnSCU's umbrella. That move misses the point. The education infusion Rochester wants is the sort that is the unique franchise of the University of Minnesota. Legislators should look past the naysaying, and see that the whole state will gain if Rochester's higher ed dream comes true.

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but to supplement them.

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SF1291 3/15/05

HAMLIN UNIVERSITY

*Graduate School
of Education*

*Center for Global
Environmental Education*

15 March, 2005

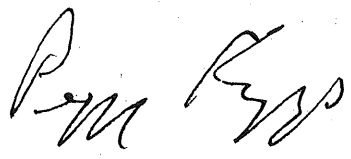
To Whom It May Concern:

Hamline University's Center for Global Environmental Education (CGEE), part of the Graduate School of Education, supports the creation of an endorsement to a license in integrated learning for specialized learning environments. Integrated learning as it is practiced in non-traditional and specialized learning environments requires a unique set of skills, knowledge, and dispositions that teachers typically won't experience in preparation for current categories of licensure.

The strategies of integrated, project-based and place-based education are well supported by research as being effective and engaging. When implemented by teachers who are adequately prepared, these strategies can help students hold themselves accountable for standards in meaningful ways. Beyond standards, these strategies help students become more active and engaged citizens, with a real sense of how they fit into a larger community.

CGEE is working with integrated learning practitioners and other educators to design and implement a graduate certificate program in integrated learning, including a pilot course running in Spring 2005 called "Making Projects Work." This certificate program will help teachers construct the skills, knowledge and dispositions needed to effectively implement strategies for teaching and learning that fall outside the focus of existing licensure criteria. CGEE urges the Legislature to favorably consider the proposal to create an endorsement to ensure rigor in this unique area of teaching and learning.

Respectfully,



Peggy Knapp
Assistant Professor
Center for Global Environmental Education
Hamline University
St. Paul, MN 55104

MINNESOTA QUALITY TEACHING COALITION

Minnesota Association of Alternative Programs *** Minnesota Association of Charter Schools
Minnesota On-line Learning Alliance *** Minnesota Rural Education Association

MARCH, 2005

Proposal for an interdisciplinary teachers license

As a broad coalition of Minnesota educators, we're proposing legislation that directs the State Board of Teaching to create a new *interdisciplinary teachers license*. This license would set high standards for competencies needed to teach in the kind of smaller and innovative schools and programs that today's diverse student population both needs and is demanding.

This new type of license is also consistent with the goals of both federal and state policy – that every student in every classroom will have their learning supported by a *highly qualified teacher*. And, it is consistent with Minnesota's historic leadership in promoting high quality and innovation in its public schools, as well as Minnesota's twenty-year record of expanding both school choice and choic-es. More specifically, the proposal is for an amendment to MS 122A.09 – as follows:

"The board, in consultation with the Department of Education and Minnesota Quality Teaching Coalition, must adopt rules to license teachers of interdisciplinary teaching and facilitating learning in innovative schools and programs."

This proposed legislation has been introduced in the House as HF 969 by Representatives Sandra Erickson (R-Princeton), Kent Eken (DFL-Twin Valley) and Frank Moe (DFL-Bemidji). It has also been introduced in the Senate as SF 1291 by Senators Steve Kelley (DFL-Hopkins), Gen Olson (R-Minnetrista), Rod Skoe (DFL-Clearbrook) and Geoff Michel (R-Edina).

The intent of this legislation is to direct the Minnesota State Board of Teaching to establish this new license and determine the competencies and other qualifications it would require. It is also presumed that the Minnesota Department of Education would determine the types of schools and programs where this license would apply and could be used and ensure that, in such situations, it meets the highly qualified teacher requirements in the federal "No Child Left Behind" legislation.

Finally, our coalition supports a parallel and longer-term initiative on the part of Minnesota's teacher training institutions and programs to prepare current and future teachers to work in interdisciplinary and other innovative learning environments. And we strongly support both public and privately-funded research designed to track the long-term results of interdisciplinary and other innovative teaching/learning environments in preparing students to become productive and contributing members of society.

Background and rationale for this proposal

Minnesota education leaders – including the State Board of Teaching and officials in the State Department of Education – have been working for the last several years on various elements of the state's compliance with accountability, teacher quality and other provisions of the federal "No Child Left Behind" legislation. One such element involves the development and implementation of teacher licensure and other requirements to ensure that every Minnesota public school teacher will be "highly qualified."

The NCLB legislation provides a number of options for states to use in determining if teachers are "highly qualified," including college majors, passing content-specific tests and experience at teaching in a particular subject area. While states have flexibility in determining what mix of factors it will use to define "highly qualified," the law and related federal guidance places a heavy emphasis on teachers being able to demonstrate competencies in core subject areas.

Please be assured that we strongly support the goal in NCLB of significantly enhancing teacher quality. We also agree that all students and all schools must be accountable for achieving the high academic standards that are also required by NCLB and by related state law. We agree that these two objectives are linked – that achievement of high academic standards requires highly qualified teachers. And we agree that, in settings where learning is organized around traditional core academic subjects, teachers should be able to demonstrate competencies in the core subject areas they teach.

At the same time, a growing number of our state's students have made the choice or been referred to schools that may not teach core academic subjects as we traditionally think of them – at least not one core subject area at a time. Many of these settings also involve fundamentally different roles for students as learners, extensive use of technology, different and more collaborative relationships between students and adults and very different roles for teachers. In some settings, what we have historically called “teachers” might more accurately be called “facilitators of student learning” or “content acquisition managers.”

Proposal recognizes not all students learn the same way or at the same pace

These diverse settings recognize the reality that not all students learn in the same ways and at the same pace. No one program can meet the needs of what is now the most diverse cadre of students this country has ever known. This diversity of students and learning styles also comes at a time when federal and state policies have declared that *all* students shall be educated to high levels and that *no* child shall be left behind.

These diverse learning environments also reflect the belief that the ultimate goal of education is to produce effective citizens, productive workers and lifelong learners. The goal is not just an accumulation of credits from having taken traditional courses and subjects in school. Many of these programs work to achieve these broader competencies in different ways than do traditional course and subject models.

Not surprisingly, the competencies needed to teach in these different kinds of settings are also different. But, they are no less rigorous and no less demanding. In fact, we would argue that teachers who don't possess these different sets of skills are *not* “highly qualified” to work in these different types of schools. As such, these competencies deserve full recognition in the federal and state-required processes for training teachers and in affirming their qualifications to work in the broad range of teaching and learning environments that are now available – or that will be available in the future.

In summary, we believe the time has now come to formally recognize these realities by creating a new type of teaching license in Minnesota that identifies and codifies the competencies needed to work in non-traditional learning environments. Quite frankly, we feel this approach is highly superior to a continued dependence on temporary licenses, waivers and other approaches that do little more than delay or avoid realities – without the formalized assurances of quality that should come through formal licensure tied to specific sets of qualifications.

Proposal has implications for a growing, vital segment of public education

This is an important discussion because it has significant implications for a growing and vital segment of public education in our state that includes three broad categories of schools or programs. All three are represented in the coalition that has developed this proposal:

- **Alternative schools**, both urban and non-metro, that are often small in scale and place an emphasis on establishing a culture and adult/student relationships that will attract, retain and engage students that have previously not succeeded in traditional educational settings or who want to learn in non-traditional settings.
- **Small, most often rural secondary schools** that are struggling to offer a broad and rigorous curriculum to students – against financial realities that challenge their capacity to offer individual academic subjects that are all taught in traditional courses by teachers who meet content-specific “highly qualified” requirements.
- **Charter and district secondary schools that use a variety of non-course-specific teaching and learning methods**, including project-based learning, service learning, internships, inter-disciplinary classes and others – all of which require teachers to have different, but still highly skilled competencies. This includes a growing number of district, charter and alternative schools and programs that use a variety of **on-line learning technologies and teaching methods**.

In addition, a variety of **programs within traditional district high schools** have similar needs for teachers with qualifications beyond subject matter competencies. They include certain special education programs with unique programming, programs utilizing community experts, experiential programs such as Outward

Bound and many environmental education programs, service learning, on-line learning programs and other programs using interdisciplinary teams of teachers.

Examples of competencies needed for the proposed interdisciplinary license

As noted above, we believe teachers obtaining this new type of license must be able to demonstrate a number of rigorous competencies. While not intended to be a complete list, examples of such competencies include the knowledge or ability to:

- Facilitate interdisciplinary learning experiences that bring students to integrate knowledge, skills and methods of inquiry across state subject-area standards.
- Exhibit the skills of a facilitator of student personal learning plans that can be used to individualize instruction for every student to meet differing learning styles, interests and multiple intelligences.
- Use community, parent, technology and other “non-school” resources to foster student learning.
- Demonstrate skills in creating positive relationships and partnerships with students and families – helping to create the type of culture and environment in which students will be successful and sustained learners.
- Use formal and informal assessments to determine student acquisition of not only required state standards but also broader life competencies such as those needed to be responsible citizens, productive workers and lifelong independent learners.

Commitment to ongoing implementation, research and refinement

In making these recommendations, we are conscious that we are dealing with some very large and long-range issues. The implementation of these recommendations must not be a single set of actions by one or two agencies of state government. Rather, we must be willing to work collaboratively over an extended period of time to adapt our system of teacher preparation, certification, professional development and research and evaluation to meet the changing needs of today's educational environment and students. More specifically, we are committed to:

• Further collaboration with State Board of Teaching, Education Department on details

We have consciously avoided proposing that the Legislature prescribe the detailed language on either the proposed interdisciplinary license or criteria to be used in determining settings in which the proposed license could be used. However, we are committed to working with the State Board of Teaching and Department of Education to develop these criteria, as well as the process for implementing the new license.

• Changing teacher preparation for non-course-based learning environments

We are committed to working with traditional teacher training institutions and other emerging resources for teacher preparation and professional development to help establish or strengthen programs to prepare individuals to work in non-course-based and other non-traditional settings. This is clearly a long-term need and investment – in achieving our goal of making formal licensure an option for large numbers of teachers working in such settings. Such a program existed at the University of Minnesota in the 1950/60s and was recognized by the State Department's (then) Teacher Licensure Division.

• Promoting creation of high quality non-course-based learning environments

The organizations that are part of this Coalition are committed to working with the Minnesota Department of Education and charter school sponsors, districts and others to not only help create more schools using non-course-based learning methods, but also to ensure that new entrants are of high quality. This includes working with existing alternative programs, charters and rural and other district high schools to inform them of the options, to connect with technical assistance resources and to help match them with qualified personnel.

• Supporting long-term research on student life-long learning outcomes

Finally, we are committed to supporting the long-term research that is needed to rigorously evaluate the impacts of various teaching/learning methods on student achievement over time, on attendance and performance in post-secondary education and on becoming productive and contributing members of society. Such research can be useful to policy makers and educators in evaluating, comparing and improving what we expect will be a growing variety of teaching/learning methods and schools and programs in which they are used.

Members and supporters of the Minnesota Quality Teaching Coalition

This proposal and rationale was developed by a broad Coalition of organizations that support innovative and often smaller teaching and learning environments. These organizations are associated with smaller and rural districts, charter schools, district and contract alternative schools and district and charter on-line schools and

programs. The Minnesota Quality Teaching Coalition also includes individuals associated with a growing number of innovative programs within larger traditional district high schools. The Coalition is chaired by Wayne Jennings, a highly respected Minnesota educator with extensive experience in the district, alternative and charter sectors. The four principal organizations making up the coalition are:

Minnesota Association of Alternative Programs – MAAP was organized by a small group of educators in alternative education in the early 1980's to provide a forum for networking, professional development and advocacy. Currently MAAP has over 800 members from over 300 ALC's and alternative programs in Minnesota, surrounding states and Canada. Alternative education has significantly grown in Minnesota over the past 15 years – from serving 4,000 students in 1988 to over 167,000 today.

Minnesota Association of Charter Schools – MACS is a membership organization representing Minnesota's 105 operating charter schools and their nearly 18,000 students, as well as dozens of schools approved for opening or in various stages of planning and development. MACS has a number of current initiatives designed to ensure the growth and success of high quality charter schools including those on leadership, governance and accountability, facilities, fiscal management and special education.

Minnesota On-line Learning Alliance – The Alliance is a broad coalition of school districts, charter and alternative schools and other innovative educators who make use of various on-line learning technologies and curricula. Founded in 2003, the Coalition has been working with state legislators and the state Department of Education to ensure fair and equitable funding for on-line learning programs and schools and to remove artificial financial and other limits on the growth of enrollment in these programs.

Minnesota Rural Education Association – MREA is an association of 150 school districts located in non-metropolitan Minnesota. MREA was founded in 1985 by a group of school board members and administrators who believed that non-metro school districts needed a clearer voice in St. Paul. MREA is an inclusive, grassroots organization that, in addition to school districts, includes education agencies or organizations and individuals. Its board includes teachers, school board members and administrators.

* * * * *

In addition, the Minnesota Quality Teaching Coalition includes a number of individuals in higher education, education policy and reform organizations and traditional school districts and district schools. They include:

Deb Andries, president, Minnesota Rural Education Association and Reading First Teacher, Willmar; Jon Bacal, director, SchoolStart; Tim Berg, teacher, Fisher High School; Mark Bezek, superintendent, Fergus Falls Public Schools; Don Blaeser, superintendent, Fertile-Beltrami Public Schools; Rhonda Bonnstetter, teacher, Murray County Central Public Schools; Shirley Buschenea, school board member, Fulda Public Schools; Dan Daley, secretary-treasurer, International Assn for Learning Alternatives; Bob DeBoer, director, New Visions School; Walter Enloe, professor, Hamline University Grad School of Education; Joe Graba, senior policy fellow, Education/Evolving; Ted Kolderie, senior associate, Center for Policy Studies; Vernae Hasbargen, legislative director, Minnesota Rural Education Association; Desta Hunt, at-large board member, Minnesota Rural Education Association, Fergus Falls community Leader; Wayne Jennings, board member, Minnesota Association of Alternative Programs; Jerry Jensen, superintendent, Lake City Public Schools; Jim Kielsmeier, president, National Youth Leadership Council; Valerie Kylo, interim co-director, Minnesota Association of Charter Schools; Terry Lydell, president-elect, Minnesota Association of Alternative Programs; Jay Martini, board chair, Minnesota Association of Charter Schools, director, Rochester Off-Campus; Ron Miller, school board member, Foley Public Schools; Synova Nelson, president, Minnesota Association of Alternative Programs, Riverbend ALC, New Ulm; Jerry Ness, executive director, Minnesota Rural Education Association; Cathy Nissen, charter coordinator, Project for Pride in Living; Aaron North, director, MN Charter Public School Resource Center; Holly Peterson, communications coordinator, Minnesota Association of Charter Schools; Tracy Quarnstrom, director, TRIO Wolf Creek Distance Learning Charter School; Jon Schroeder, coordinator, Minnesota Charter School Forum; Justin Testerman, Charter coordinator; Volunteers of America; Doug Thomas, Director EdVisions Schools; Chris Thompson, legislative chair, Minnesota Association of Alternative Programs, Mounds View Area Learning Center, Tess Tiernan, interim co-director, Minnesota Association of Charter Schools; Bob Wedl, director, Minnesota Sponsor Assistance Network; Scott Wurdinger, Coordinator, Experiential Education Graduate Program Minnesota State University, Mankato.

SF 1291
3/15/05



January 18, 2005

Dear Dee,

The faculty members in the Experiential Education Graduate Program here at MSU, Mankato have read through your proposal for an alternative teacher license are in full support of this proposal.

Many students come to our program wanting an alternative teaching license because they want to teach in non-traditional settings, but are unable to obtain such a license. This would provide such individuals with another option other than the traditional teacher license.

The number of schools using experiential approaches to learning continue to grow, and with this growth comes the need for qualified individuals that are well versed in using a variety of learner centered experiential approaches. This licensure can only enhance the preparation of future teachers in non-traditional settings. Please keep me informed with the progress of this proposal and let me know how I can be of assistance in making this come to fruition.

Sincerely,

A handwritten signature in cursive script that reads "Scott Wurdinger".

Scott Wurdinger, Ph.D.
Coordinator, Experiential Education Graduate Program

**Senate Counsel, Research,
and Fiscal Analysis**

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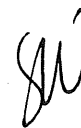
State of Minnesota

**S.F. No. 784 -School World Languages Programs Coordinator and
Grants**

Author: Senator Sandra Pappas

Prepared by: Shelby Winiecki, Senate Research (651/296-5259)

Date: March 8, 2005



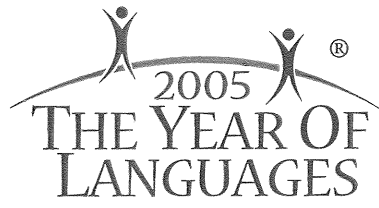
Section 1. [127A.21] [State Coordinator for World Languages.] requires the commissioner to designate a full-time state coordinator for world languages education within the Department of Education. The duties of the coordinator include: surveying school districts to identify types of programs and staff development needs, awarding grants for model programs, establishing guidelines for extended world languages programs, researching funding for extended world languages programs, and supporting and monitoring current world language programs. An "extended world languages program" is a world languages program given in a sequence (i.e., grades K-12, 5-12, or 7-12).

Section 2. [Model Extended World Language Program Grants.] requires the commissioner to award three-year grants to develop model extended world languages programs. Within the seven-county metropolitan, Rochester, and Duluth areas, two grants will be awarded to urban school districts or charter schools and two grants will be awarded to suburban school districts or charter schools; two grants will be awarded to school districts or charter schools outside of that area.

Section 3. [Appropriation.] appropriates a blank amount in fiscal years 2006 and 2007 for grants for model extended world languages programs.

SW:vs

3/15/05



Celebrate...

Educate...

Communicate...

The Power of Language Learning!



2005: The Year of Languages **Celebrate ...**

Educate ...

Communicate ...

The Power of Language Learning!

The need for Americans to communicate with, understand and be understood by others has never been greater for the future of our nation, our economy and our international relationships. That's why the American Council on the Teaching of Foreign Languages (ACTFL) and its affiliated organizations are spearheading a year-long celebration to make all Americans aware of the importance of language education.

The goals of our *Year of Languages* initiative are simple, clear and designed to be meaningful to each and every member of our target audiences:

- To expand the public's understanding of the role played by languages in all aspects of people's lives, in society and in the future of human and international relations.
- To promote the importance of language learning and language proficiency, urging every American to commit to learning other languages.
- To build awareness of the diversity of languages that now play an integral part of everyday life in our country, from the people we live with, the people we work with and for, and the people with whom we do business.
- To promote the formation of a national task force to study and strengthen policies affecting the availability and quality of language learning and teaching and to make recommendations to strengthen U.S. policy.

ACTFL is coordinating activities and materials at the national, state and local levels in order to ensure the success and long-term impact of this initiative:

- National media events supported by press relations and print and broadcast promotion
- State and local events, competitions and programs targeting students, parents and adult learners
- Informational brochures to reach students, adults and community leaders
- Promotional items (posters, bookmarks, note pads, etc.) to deliver year-long awareness

Please Get Involved Today!
For more information, visit
www.yearoflanguages.org

**Plan for World Languages Learning in Minnesota
Revised 2005**

Summary

(SF 0784, HF 0827)

Legislation this session would provide:

Restoration of the full time position of a State Coordinator of World Languages, within the Department of Education.

and

Six model programs to be developed, three new programs and three in existing programs. One of each type in an urban area, a suburban area, an outstate area. One of the criteria for this round of model programs could be that it is designed to address the achievement gap between groups of students.

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Minnesota New Visions, Languages for Life
in partnership with
the Minnesota Council on the Teaching of Languages
and Cultures (MCTLC)
www.mctlc.org/newvisions

World Languages Learning in Minnesota

An integral part of a global education for the 21st century

2005: Year of Languages

2005-2006

- Current programs will be supported and monitored.
- The Quality Teaching Network for World Languages will be continued
- State coordinator for World Languages will be hired, or the existing position of state support person for world languages will be augmented. The state coordinator would be selected with input from the Quality Teaching Network for World Languages. The responsibilities of this coordinator would include:
 - surveying all current world languages programs in the state in order to
 - 1) determine the types of existing world languages programs in Minnesota.
 - 2) identify exemplary model programs for replication;
 - 3) determine staff development needs of current and pre-service world languages teachers.
 - 4) address the identified professional development needs of teachers and pre-service teachers, working with post-secondary institutions across the state
 - researching and identifying successful extended World Language programs on a variety of models from other states, i.e., K-12, 5-12, and 7-12
 - researching and recommending levels of funding required for implementing various models of extended World Language pilot programs in several different languages.
 - setting guidelines for a variety of model pilot programs at various levels, i.e., K-12, 5-12, 7-12.
 - developing and publishing a process for awarding grants for model programs in the state, using the following categories:
 - 1) schools develop an extended program where none has previously existed, and
 - 2) schools extend an existing program according to new guidelines.

There should be one model program of each type for urban schools, one for suburban schools, and one for schools in out state, for a total of 6 pilot programs. A variety of languages should be represented among the pilot programs. Programs will also address the achievement gap among student groups.

2006-2007 school year

- State coordinator continues to facilitate initiatives from 2005-2006.
- First round of grants is awarded and model programs begin.
- State coordinator works with teacher preparation institutions to recruit and prepare teachers with a background suitable for the new extended programs.

World Languages in Minnesota The Need is Now

For Children

Cognitive Benefits

Children in foreign language programs have tended to demonstrate greater cognitive development, creativity, and divergent thinking than monolingual children.

Marcos, Kathleen, "Second Language Learning: Everyone Can Benefit."

Academic Benefits

Studies also show that learning another language enhances the academic skills of students by increasing their abilities in reading, writing, and mathematics.

Eaton, Susan "Money, Choice and Equity in Kansas City."

A recent study from Louisiana showed students receiving foreign language study out scored their counterparts in standardized tests in math, language arts, science and social studies.

Not only does the omission of language and cultural education leave U.S. students behind their peers in other countries, but also it exacerbates the gap within the United States.

Met, Myriam. "Why Language Learning Matters". Educational Leadership, October 2001

Societal Benefits

People who communicate in at least two languages are an asset to the communities in which they live and work.

NO Child Left Behind Legislation

Includes foreign languages as a core subject

<http://www.ed.gov/legislation/ESEA02/pg107.html#sec901>

BUSINESS

In Minnesota, and in the U.S., exports are the fastest growing segment of the economy. In Minnesota alone, exports surged to \$2.9 billion, growing by 21.9 percent between the second quarters of 2003 and 2004.

Minnesota Quarterly Export Statistics www.deed.state.mn.us

ONLY 10% OF COMPANIES CAPABLE OF EXPORTING DO, AND CITE LACK OF LANGUAGE AND CULTURAL SKILLS AS THE PRIMARY REASON THEY DO NOT.

Thane Peterson, contributing editor at Business Week Online, in his Sept. 4, 2002 column, "Moveable Feast" titled "The Importance of Being Multilingual" cited Commerce Dept. statistics showing that 97% of U.S. export growth in the '90s came from small to midsize businesses. But the statistics also showed that only 10% of such companies were exporting their products. The most frequent reason cited by the others for not exporting was a lack of the background knowledge and language skills required to understand foreign markets. "

Businesses need a level of proficiency that can only be obtained from a long sequence of language learning. Students in other countries routinely begin world language learning in the elementary grades, including "third world" countries. We need to do the same to meet the need and potential of our businesses.

NATIONAL SECURITY

Department of Defense hosted national conference on foreign language learning in June, 2004. " Language ability and regional area expertise in the Department of Defense have not kept pace with the transformation of warfighting and the changes in world events. Recent operations in Afghanistan and Iraq have dramatically illustrated the necessity for a transformed language capability. Further, the need for expanded language capability is evident in other federal agencies (e.g., the State Department, Federal Bureau of Investigation, Central Intelligence Agency, Department of Homeland Security), as well as state agencies and U.S. industry. Because of the increased demand, competition for language skills will intensify. A focused, needs-based research effort to understand and expedite the acquisition of advanced foreign language is just beginning. Only by pursuing a nation-wide resolution to the growing demand for language skills will the United States be able to meet the complex needs of a changing world.

The Department of Defense and the Center for Advanced Study of Language at the University of Maryland convened The National Language Conference June 22-24, 2004. Dr. David S. C. Chu, Under Secretary of Defense for Personnel and Readiness, hosted the event. The Conference brought together leaders of federal and state government agencies, industry, and academia, as well as international language experts and language researchers to discuss foreign language issues and lay the foundation for a strategic approach to meeting the nation's language needs in the 21st century. *Preface, "THE NATIONAL LANGUAGE CONFERENCE: A CALL FOR ACTION." June 2004, <http://www.nlconference.org>*

Rep. Rush Holt

"Is American Security Being Lost in Translation?" National Language Conference June 22, 2004 <http://www.nlconference.org>

The current shortage of language professionals is well documented throughout the federal government. In January 2002, the Government Accounting Office (GAO) reported that "diplomatic and intelligence officials have stated that lack of staff with foreign language skills has weakened the fight against international terrorism," while at the FBI "shortages of language-proficient staff have resulted in the accumulation of thousands of hours of audiotapes and pages of written material that have not been reviewed or translated."

U.S. Secretary of Labor Elaine Chao said, "The ability to communicate across languages is vital to the twin pillars of America's strength: national security and economic prosperity."

**(DRAFT)
A CALL TO ACTION**

FOR

NATIONAL FOREIGN LANGUAGE CAPABILITIES



17 August 2004

**Office of the Secretary of Defense,
in partnership with the
Center for Advanced Study of Language
Department of State
Department of Education
Intelligence Community**

EXECUTIVE SUMMARY

A CALL TO ACTION AND LEADERSHIP

Vision

Our vision is a world in which the United States is a stronger global leader through proficiency in foreign languages and understanding of the cultures of the world. These abilities are strengths of our public and private sectors and pillars of our educational system. The government, academic, and private sectors contribute to, and mutually benefit from, these national capabilities.

The terrorist attacks of September 11th, the Global War on Terrorism, and the continued threat to our Homeland have defined the critical need to take action to improve the foreign language and cultural capabilities of the Nation. We must act now to improve the gathering and analysis of information, advance international diplomacy, and support military operations. We must act to retain our global market leadership and succeed against increasingly sophisticated competitors whose workforces possess potent combinations of professional skills, knowledge of other cultures, and multiple language proficiencies. Our domestic well-being demands action to provide opportunities for all students to learn foreign languages important for the Nation, develop the capabilities of our heritage communities, and ensure services that are core to our quality of life.

Success in this crucial undertaking will depend on leadership strong enough to:

- Implement policies, programs, and legislation that build the national language and cultural understanding capability;
- Engage Federal, state, and local agencies and the private sector in solutions;
- Develop language and cultural competency across public and private sectors;
- Develop language skills in a wide range of critical languages;
- Strengthen our education system, programs, and tools in foreign languages and cultures; and
- Integrate language training into career fields and increase the number of language professionals, especially in the less commonly taught languages.

Leadership must be comprehensive, as no one sector – government, industry, or academia – has all of the needs for language and cultural competency, or all of the solutions. Some actions must be initiated immediately by specific agencies and Federal Departments should organize to work on proposed recommendations. Other necessary solutions must be long-term, strategic, and involve multiple organizations in all levels. To accomplish this agenda, the Nation needs:

- A National Language Authority appointed by the President to develop and implement a national foreign language strategy; and
- A National Foreign Language Coordination Council to coordinate implementation of the national foreign language strategy.

This is the Call to Action to move the Nation toward a 21st century vision.

Full "Draft White Paper" is available at the website below, click on "Draft White Paper"
<http://www.nlconference.org/papers.cfm?CFID=&CFTOKEN=>

Proficiency Levels Needed in the Work World

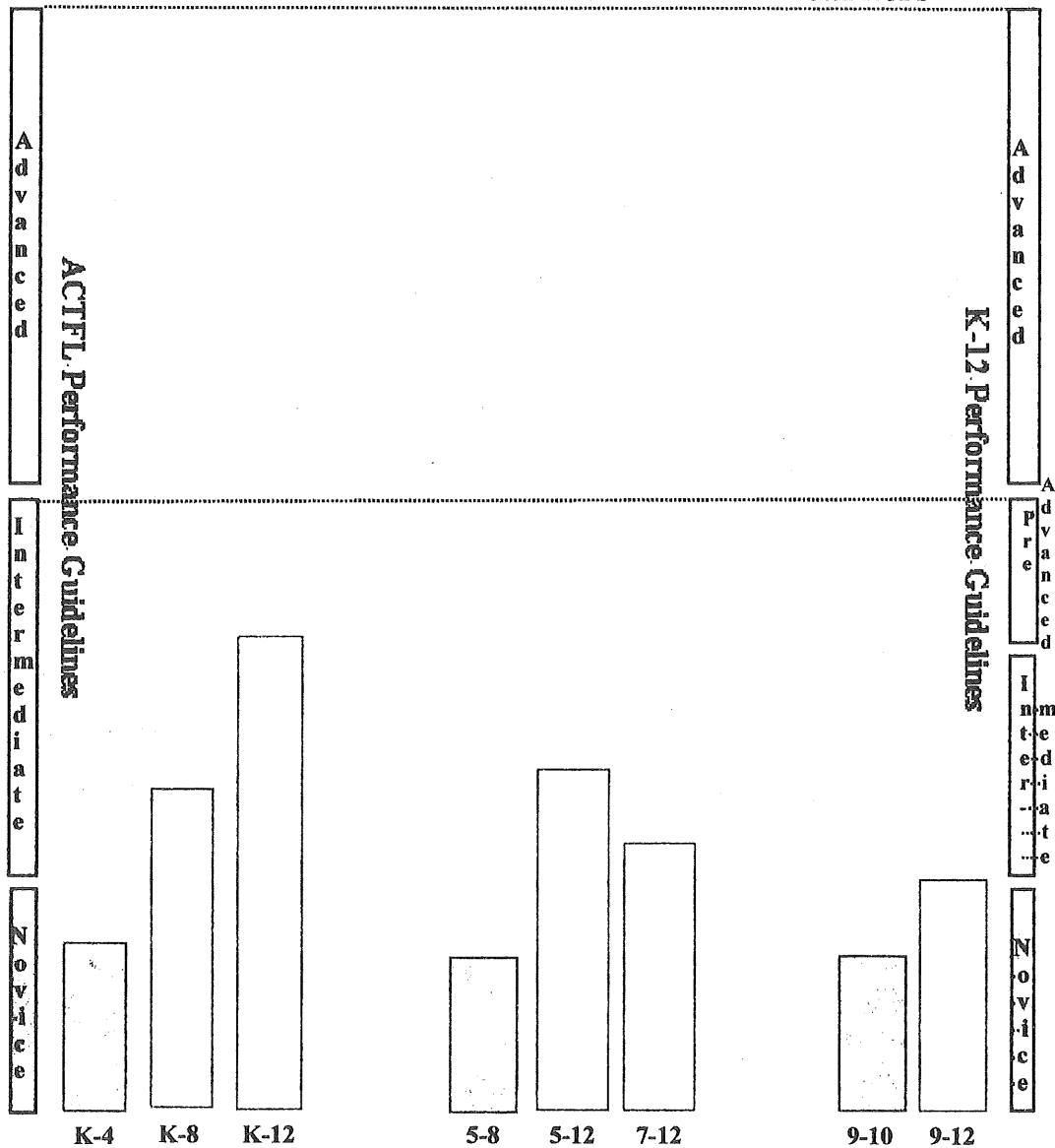
Proficiency Level	Functions	Corresponding Jobs/Professions	Who has this level of proficiency?
Superior	<i>Discuss topics extensively, support opinions and hypothesize. Deal with a linguistically unfamiliar situation</i>	Interpreter, Accountant Executive, Lawyer, Judge, Financial Advisor	Educated native speakers; students from abroad after a number of years working in a professional environment
Advanced High	<i>Narrate and describe in past, present and future and deal effectively with an unanticipated complication</i>	University professor of foreign languages	Students with masters degrees or doctorates
Advanced Mid		Doctor, Sales representative, Social worker	Native speakers who learned Spanish in the home environment
Advanced Low		Customer service representatives, Police officers, school teachers	Graduates with Spanish degrees who have lived in Spanish-speaking countries
Intermediate High	<i>Create with language, initiate, maintain and bring to a close simple conversations by asking and responding to simple questions</i>	Aviation personnel, telephone operator, receptionist	Graduates with Spanish degrees who have not lived in Spanish-speaking countries
Intermediate Mid		Tour guide, cashier	After 6 years of middle/high school, AP
Intermediate Low			After 4 years of high school
Novice High	<i>Communicate minimally with formulaic and rote utterances, lists and phrases</i>		
Novice Mid			After 2 years of high school
Novice Low			

From the paper *La Enseñanza de Español y Otras Lenguas Extranjeras en los Estados Unidos: Cantidad y Calidad* (*The Teaching of Spanish and Other Foreign Languages in the United States: Quantity and Quality*) presented at the II Congreso de la Lengua Española in Valladolid, Spain, October 18, 2001 by Dr. Elvira Swender of the American Council on the Teaching of Foreign Languages (ACTFL)

NOTES:

1. The levels indicated are minimal proficiency levels for specific job descriptions and have been established by subject matter experts from a variety of agencies, organizations and companies for whom ACTFL provides oral proficiency testing following an analysis of the linguistic tasks and the responsibilities of the positions.
2. The references to how long it takes to reach certain levels of proficiency were written specifically for the study of Spanish, a Category I language. Other Category I languages include Afrikaans, Danish, Dutch, French, Haitian Creole, Italian, Norwegian, Portuguese, Romanian, Swahili and Swedish. For Category II, III and IV languages, one can expect that it will take longer to reach the same levels of proficiency.

**Visual Representation of Anticipated Performance Outcomes
As Described in the
ACTFL Performance Guidelines for K-12 Learners**



Descriptors are based on information gathered from foreign language professionals representing a variety of program models and articulation sequences.

Descriptors are appropriate for languages most commonly taught in the U. S.

Descriptors assume a sustained sequence of Standards-based, performance-outcome language instruction.

© ACTFL 1998

From *Foreign Language Annals* 31:4 (Winter 1998), p. 484

American Council on the Teaching of Languages and Cultures

ACTFL
www.actfl.org

FOREIGN LANGUAGES OFFERED AND AGE OF INTRODUCTION

Country	First Foreign Language	Starting Age	Compulsory*	Widely Available	Additional Foreign Languages
Australia	French	6		X	German, Greek, Italian, Japanese
Austria	English	6	X		French, Italian
Brazil	English	11 or 12	X		Spanish, French, German
Canada	French	10	X		German, Spanish, Italian, Japanese, Mandarin Chinese, Punjabi
Chile	English	>12	?		French, German, Italian
Czech Republic	English and German	9	2X		French, Russian, Spanish
Denmark	English	10	2X		German, French, Spanish
Finland	English or other	9	2X		Swedish, Finish, German, French, Russian, Spanish, Italian
Germany	English or other	8	2X		French, Spanish, Russian, Italian, Turkish
Israel	English	10	X		Hebrew, French, Arabic
Italy	English	8	X		French, German, Spanish, Russian
Kazakhstan	English	10	X		German, French
Luxembourg	German and French	6 and 7	2X		English, Italian, Spanish
Morocco	French	9	X		English, Spanish, German
Netherlands	English	10 or 11	2X		German, French
New Zealand	French	>12		X	Japanese, Maori, German, Spanish
Peru	English	>12	?		French, German
Spain	English	8	X		French, German, Italian, Portuguese
Thailand	English	6	X		French, German, Chinese, Japanese, Arabic
United States	Spanish	14		X	French, German, Japanese

Japan

English

German

* 2X means that two languages are compulsory.

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 "What the U.S. Can Learn from Other Countries"

The full report is available at:
<http://www.cal.org/ericcll/countries.html>

Louisiana Elementary School Foreign Language Study - 2004

Executive Summary

The Relationship between Elementary School Foreign Language Study in Grades Three through Five and Louisiana Students' Academic Achievement on Standardized Tests

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The passage of the federal No Child Left Behind Act of 2001 established foreign languages as a core curricular content area. Nonetheless, educational policy makers at the state and local levels often opt to allocate greater resources and give instructional priority to content areas in which students, and ultimately the school systems themselves, are held accountable through high-stakes testing. Although foreign languages are designated as a core content area, instructional emphasis continues to be placed on curricular areas that are included in state educational accountability programs.

This feature highlights a study designed to explore quantitatively whether foreign language study on the part of first-year 3rd grade foreign language students who continue their foreign language study through and including the fifth grade in Louisiana public schools contributes to their academic achievement in curricular areas tested on the Iowa Tests of Basic Skills (ITBS) and the Louisiana Educational Assessment Program for the 21st Century (LEAP 21) test. Concurrently, a qualitative aim, assessed using a survey and interviews, examined how foreign language teachers of the students tested in this study perceive that they link instruction to the reinforcement of English language arts, mathematics, science, and social studies content standard skills.

Selection of Participants

Louisiana is divided into eight geographical/educational regions composed of five to 14 parishes per region. In order to select the treatment groups, it was necessary to determine in which Louisiana schools the Foreign Language in the Elementary School (FLES) foreign language instruction begins. In Louisiana, the schools that offer foreign language instruction beginning in 3rd grade and continuing through and including at least the fifth-grade were the schools chosen for the treatment group. The classes meet for an average of 30 minutes, five days per week. To identify schools fitting this profile, 1999-2002 parish foreign language enrollment data provided by the Louisiana Department of Education was examined. Once the schools were identified, they were organized by parish and by educational region. By process of elimination, all schools not offering foreign language programs

within parishes that comprise the treatment group were identified. These schools that do not offer foreign languages were matched for socio-economic status, urbanicity, locality and school enrollment with the foreign language treatment group. It is important to note that the control group schools have been granted waivers from the Louisiana Board of Elementary and Secondary Education releasing them from the Louisiana mandated required fourth through 8th grade program of foreign language study. Typically, waivers are granted to parishes because they demonstrate to the Board of Elementary and Secondary Education that they lack funding to employ foreign language teachers.

The Treatment Group

Schools beginning foreign language instruction in the third grade and continuing through and including at least the fifth grade were selected to be included in the treatment group since the students in these schools receive similar length of exposure to the target language. It is important to note that schools whose students learn foreign languages in immersion settings were not included in the treatment group, as their language-learning environment differs markedly from that of the FLES 3rd grade through 5th grade model.

Of the 16 identified schools that offered foreign languages, eight offered French and eight Spanish. Each of the schools comprising the treatment group employed one or two foreign language teachers responsible for teaching either French or Spanish to students in grades three through at least grade five continuously. The present research examined the academic performance on standardized test measures of these children as third-graders, and those who remained enrolled in the program as fourth-graders in 2001-2002 as well as those who continued program participation as fifth-graders in 1999-2002. Although the present study employed purposive sampling of intact groups in identifying the treatment and control groups, student-level data was used to compare achievement of students in these groups at and across grade levels.

The treatment group consisted of all students who were in the third grade during the 1999-2000 school year (n=1050), in the fourth grade during the 2000-2001 school year (n=849), in the fifth grade during the 2001-2002 school year (n=609) and who, during this three-year period, were enrolled in Louisiana public schools offering FLES-type programs commencing in the third grade and continuing through at least the fifth grade. Moreover, after beginning their foreign language study during the 1999-2000 school year, students in the treatment group remained enrolled in these FLES-type programs for second and third consecutive years.

The Control Group

The control group consisted of students in Louisiana public elementary schools not offering a foreign language within parishes that do offer foreign language in some public elementary schools, with the exception of Lafourche, St. John the Baptist and Acadia Parishes since all elementary schools in these three parishes have foreign language programs. Therefore, treatment group schools in these parishes were matched to schools in adjacent parishes within the regions in which they are located. The control group students were in the third grade during the 1999-2000 school year (n=802), in the fourth grade during the 2000-2001 school year (n=636), and in the fifth grade during the 2001-2002 school year (n=399).

Research Design

Students in the schools comprising the treatment and control groups were first matched with regard to the socio-economic status of the schools' student body, as evidenced by the number of students eligible for free or reduced lunch. The mean percentage of treatment group students eligible for free and reduced lunch was 70.9% and the mean percentage for the control group was 73.7%. The schools were further matched according to locality and total enrollment figures. The final factor was the schools' urbanicity. Schools were categorized either as urban, suburban, or rural for purposes of matching. In terms of finding the attributes upon which treatment and control groups were matched (figures of students eligible for free and reduced lunch, total school enrollment figures, and urbanicity), the National Center for Education Statistics' Web site was consulted in order to obtain accurate information for all schools in the control and treatment groups. Students in both groups completed three standardized tests by the time they entered the fifth-grade:

- ITBS as third-graders in 2000. Skills tested included reading (vocabulary and reading comprehension) and language (spelling, capitalization, punctuation, usage and expression);

- LEAP as fourth-graders in 2001. (Skills tested included read, comprehend, and respond to a range of materials; write competently, use conventions of language, locate, select, and synthesize information; read, analyze, and respond to literature; and apply reasoning and problem-solving skills);

- ITBS as fifth-graders in 2002. Skills tested included reading (vocabulary and reading comprehension) and language (spelling, capitalization, punctuation, usage and expression).

Therefore, it was possible to examine a fairly broad scope of the effect of foreign language study on individual student academic achievement in other subject areas. This three-year window of investigation also allowed any potential difference in outcomes on broad-based academic achievement to be evidenced as students in the treatment group were exposed to subsequent years of foreign language study.

Results

Several important findings of this study emerged. First, and most strikingly, foreign language students significantly outperformed their non-foreign language peers on every test (English language arts, mathematics, science, and social studies) of the fourth-grade LEAP 21. Secondly, the present research suggested that regardless of the test, whether the fourth-grade criterion-referenced LEAP 21, or the 3rd and 5th grade norm-referenced ITBS, at each grade-level foreign language students significantly outperformed their non-language counterparts on tests of English language achievement. A third notable finding is that the foreign language students significantly outperformed their monolingual peers after sustained enrollment in the Louisiana Elementary Foreign Language Program. Even when significant differences in LEAP 21 and ITBS performance between language and non-foreign language groups were not detected, the foreign language students have lost nothing academically and have gained the ability to understand and use French or Spanish.

Foreign language teachers of student participants in the present study reported that the amount of instructional time they spend reinforcing other content skills was allocated on average as follows: English language arts (57%), mathematics (31%), geography (31%), and science (7%). Table 1 below indicates the percentage of weekly instructional time teachers reported spending on reinforcing English language arts, mathematics, history, geography, and science skills through foreign language instruction.

“Even when significant differences in LEAP 21 and ITBS performance between language and non-foreign language groups were not detected, the foreign language students have lost nothing academically and have gained the ability to understand and use French or Spanish.”

Table 1

Reinforcing Content Area Skills through Foreign Language Lessons

Factor % of weekly instructional time teachers estimate spending reinforcing content areas through foreign language study	Data Reported for Population	
	Mean %	Standard Deviation
reinforcing English language arts content area skills through foreign language instruction	57	18.81
reinforcing mathematics skills through foreign language instruction	32	9.19
reinforcing history skills through foreign language instruction	29	14.35
reinforcing geography skills through foreign language instruction	31	7.35
science skills through foreign language instruction	7	7.57

Teachers reported utilizing a mean of 57% (SD=18.81) of their weekly foreign language instructional time reinforcing English language arts skills. Weekly instructional time for mathematics skills reinforcement reportedly received a mean of 31% (SD=9.19). A mean of 29% (SD=14.35) of weekly instructional time was used to reinforce history skills. Geography skills were reported to have received a mean of 31% (SD=7.35) weekly instructional time. Finally, a mean of 7% (SD=7.57) of weekly foreign language instructional time targeted science skills.

The fact that a great deal of the average allocated time (57%) was devoted to building English language arts skills was reflected in the foreign language students' significantly higher language scores during the second and third years of foreign language study compared to non-foreign language students.

Conclusion

These findings underscore the positive effect continued foreign language study has on academic achievement and helps substantiate the view that foreign language study should commence during the early elementary grades and continue in an uninterrupted sequence throughout the course of elementary study. The findings also suggest that policies diminishing children's access to foreign language study should be reconsidered based on the findings of this and other studies indicating that foreign language study promotes academic achievement.

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Why Language Learning Matters

live in a global economy and a multicultural society, U.S. students need fluency in at least one language other than English.

Myriam Met

Current U.S. education policy focuses on a singularly important goal: to leave no child behind as we raise the achievement bar for all students and close the persistent achievement gap among groups of students. That policy, however, will neither close the achievement gap nor offer students a world-class education because it ignores the importance of communication in languages other than English.

Even schools in third-world countries are more effective than U.S. schools at producing students who demonstrate foreign language proficiency. A world-class education includes foreign language learning—a subject that many U.S. schools neglect. Moreover, among schools in the United States, there are disparities of equity and access to language learning that produce a language-proficiency gap. Yet, competence in languages and cultures is conspicuously absent from the U.S. education agenda.

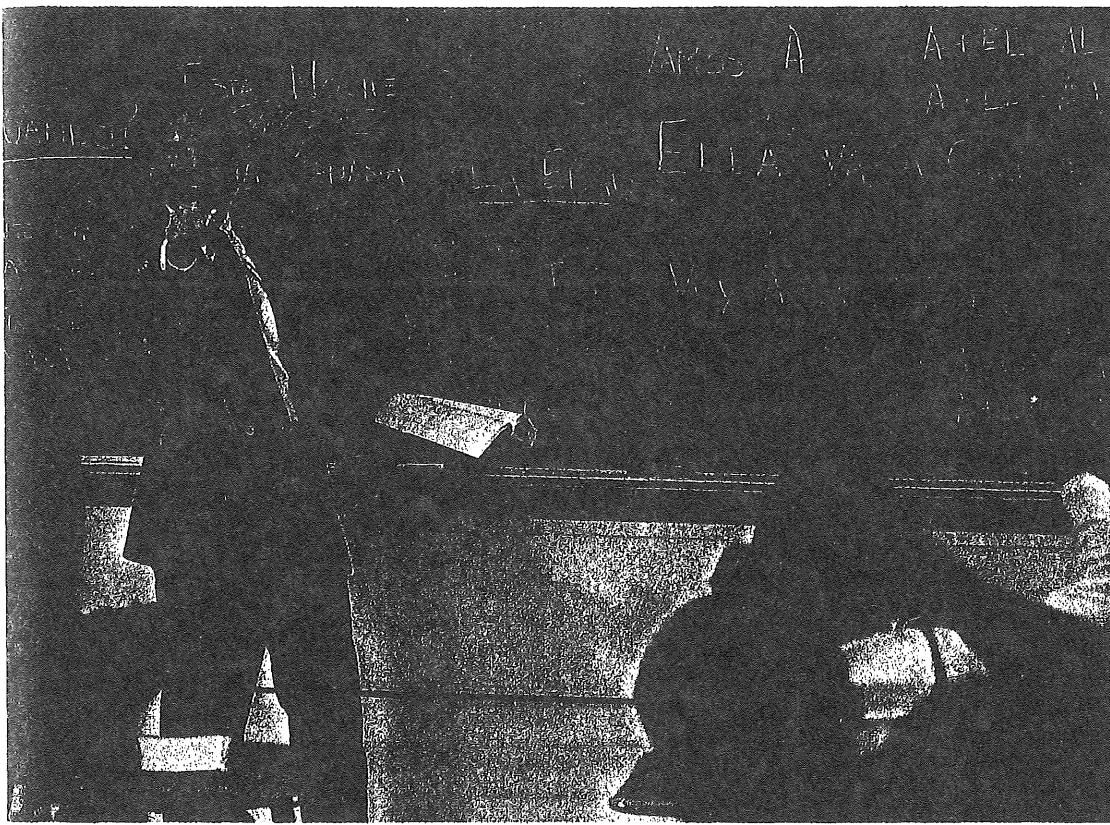
Beyond Proficiency in English

All U.S. students need to be proficient and literate in English. In addition, students will need competence in at least one additional language and skills in cross-cultural interaction. The need for such competence, both in our current economy and in the one in which today's students will live and work, has been well documented. Research shows that multilingual societies have a competitive advantage over monolingual societies in international trade (Halliwell, 1999). Economic success and security in the United States depend on our ability to understand the information we gather about the current status of or coming changes in foreign economies, about research and develop-

ment efforts elsewhere, or about threats to security—information that is unlikely to be in English. More than 70 agencies and offices of the U.S. government currently require language-proficient professionals, including the State Department, the Central Intelligence Agency, and the National Security Agency.

In an international service-sector economy, many Americans need to interact regularly with people who are unlikely to know English. Research shows that in the service industries, more than half of U.S. professionals working in a multicultural environment—whether in the U.S. or abroad—are linguistically unprepared to do so (Lena & Reason Moll, 2000). Language competence is important because, contrary to popular myth, everyone in the world does not speak English. In fact, a recent survey found that only 41 percent of Europeans speak English in addition to their native language (International Research Associates and the European Union, 2001). Despite the early dominance of English on the Internet, the majority of electronic communications, such as Web sites and e-mail, are now carried out in languages other than English. Within the United States, increasing linguistic diversity means that knowing languages other than English is helpful to service providers, marketers, and workers in diverse businesses.

Unlike in the United States, most education systems around the globe prepare their students to function in their national language and at least one additional language. A survey of 19 countries found that 16 provide widespread or compulsory foreign language instruction to students by the upper elementary grades (Pufahl, Rhodes, & Christian, 2001). In many of these countries, students may elect or



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pronounced in urban schools. About 25 percent of urban public elementary schools teach a foreign language compared with 65 percent of suburban private elementary schools. At the secondary level, the pattern is similar. Although 96 percent of suburban private secondary schools and 91 percent of urban private secondary schools teach foreign languages, only 81 percent of urban public secondary schools do. Within schools that teach languages, there are differences as well: 78 percent of private secondary schools report that half or more of their students are enrolled in foreign language courses, yet only 51 percent of public secondary schools report that at least half their students are taking a foreign

be required to take an additional foreign language during the elementary school years. Europeans are paying substantial attention to multilingualism and the schools' role in developing a populace capable of communicating across multiple linguistic borders. But although European students are expected to be skilled in several languages, U.S. schools are barely able to produce students who have enough fluency in a language other than English to be polite tourists.

A Widening Gap

Not only does the omission of language and cultural education leave U.S. students behind their peers in other countries, but also it exacerbates the achievement gap within the United States. Many students come to school well prepared for the challenges of a rigorous academic program. Other students who are less prepared enter school already behind their peers. Educators have found that the knowledge and performance gap in evidence upon school entry has been difficult to close.

Languages should be part of the core curriculum in elementary, middle, and high school.

In fact, the gap frequently widens in reading and mathematics achievement.

The gap is also evident in language learning. Across the United States, only about one in three elementary schools offers its students the opportunity to gain some measure of skill in another language. More than two-thirds of elementary schools offer their students no language learning opportunities at all. Even more disturbing is the disparity among the schools that do teach languages; more than half of private elementary schools offer a foreign language, but only about one-fourth of public elementary schools do. The inequities of access are even more

language (Branaman & Rhodes, 1999).

Clearly, money matters. Even when schools have equal financial resources, disparities exist. Schools that serve students from high-poverty backgrounds need to devote more of their resources to addressing basic academic needs. In contrast, schools in low-poverty areas can use their resources to expand and enrich their offerings. The digital divide that separates poor and affluent communities has been well documented. Although much less has been said about the linguistic divide, it exists—and for many of the same reasons. Because the U.S. education agenda fails to address access to opportunities to develop high-level skills in languages other than English, the linguistic divide in our schools will likely be maintained or will expand.

The U.S. education agenda also ignores the inequities of access to the language competencies that students need. It will leave children in urban public schools trailing their peers in the suburbs, private schools, or other

havens for those with choices. Whereas some students will have access to quality opportunities to develop competence in languages other than

English, many will not. At present, most native speakers of English do not have the option of enrolling in a foreign language course until they enter high school, and the current education agenda is unlikely to change that. Even those students who already know other languages will be left behind those in other countries. In the United States, native speakers of languages other than English are rarely encouraged to maintain and extend their proficiency. Instead, schools work toward substituting proficiency in English for

proficiency in students' native languages. This unwritten policy in our schools fosters monolingualism in English, even when bilingualism could be easily and inexpensively attained.

Enhancing Academic Performance

No one would seriously argue with the goal that all students should be proficient at reading and successful at mathematics. Fortunately, languages in the school curriculum can contribute to producing academically successful students. A significant body of research has documented the academic and cognitive benefits of knowing more than one language:

- Bilingual students with strong competence in both languages are more likely to be successful readers (Lindholm-Leary, 2000);
- Bilingualism enhances cognitive functioning, such as metalinguistic skills and divergent thinking (Robinson, 1998);
- Study of a foreign language in the elementary grades has been associated with higher scores on standardized



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measures of reading and mathematics, even for students from high-poverty backgrounds (Caldas & Bourdeaux, 1999; Robinson, 1998).

Rather than diverting energy and attention from high-priority academic goals, inclusion of languages in the school curriculum furthers the education agenda.

Expanding the Agenda

As the U.S. Department of Education formulates plans to implement the national education agenda, the federal government, the states, and our schools should consider the following actions:

- *Create a language education policy that addresses the serious needs of our schools.* We can trace the success of language education programs outside the United States directly to strong policies at the national or regional levels. These policies determine who studies foreign languages (frequently, everyone); when they begin (generally, at an early age); and for how long (usually, for a long sequence of study). In many countries, foreign

languages are part of the core curriculum. Additionally, some countries or regions have policies that focus on the maintenance of native languages.

Not only have education systems around the world been proactive in developing language education policy, but they also have actively promoted such policies. Major initiatives by the Council of Europe have made substantial improvements in the quality of language learning and the extent of multilingualism among member nations. The Australian National Policy on Languages has been responsible for initiating, expanding, and supporting significantly more and better language programs for more than a decade. In England, the government has announced a major initiative to address the inadequacy of its education system in preparing its students to live in the modern world. The United States should do the same.

Only a small number of U.S. states mandate or provide financial incentives for early language learning. And of the states that do, only a handful actually require the development of some

degree of proficiency. Some enlightened districts and schools involve all students in language learning. These are sound first steps on the long road to parity with schools abroad.

■ *Build on the assets that language minority students bring to school.* The languages children learn at home are a valuable national resource. The federal government invests hundreds of millions of dollars annually to teach languages to adults who work in commerce, agriculture, public health, diplomacy, and national defense. At the same time, U.S. schools do little to capitalize on the skills that many of their students, already fluent speakers of other languages, have mastered by the early grades. Unfortunately, the education system has a questionable policy regarding the maintenance of heritage or indigenous languages for those who have developed their skills outside the school. By building on the heritage that speakers bring to school, however, we can help all students become highly proficient in both English and one additional language.

■ *Respond to parent interest.* Public surveys indicate parent interest in language learning opportunities (Brecht, Robinson, Robinson, & Rivers, unpublished), as do enrollments in magnet programs that feature foreign languages and the significant number of parents who pay out-of-pocket for their children to participate in language learning programs outside the regular school day.

Public demand for language magnet schools usually exceeds the seats available. Media reports have documented the extremes to which parents will go to ensure a place for their child in many of these schools.

Much has been discussed about the rights of parents to choose the kind of education program most appropriate for their children. For some time, public schools of choice, such as public charter schools and magnet programs, have flourished when languages have been included in the curriculum. Excellent language magnet programs can be

found in Cincinnati, Ohio; Montgomery County, Maryland; Portland, Oregon; Lexington, Kentucky; and San Diego, California. Among the nation's most successful programs to promote desegregation have been immersion programs in which students can attain very high levels of foreign language proficiency (Met, 1992). Montgomery County's (Md.) total immersion magnet programs began in the 1970s and are currently housed at Maryvale, Sligo Creek, and Rock Forest elementary schools. Students in the French immersion program at Sligo Creek, for example, receive their subject matter instruction in French. In grades K-3,

increasing appeal of school choice, the U.S. Department of Education should encourage and expand public schools of choice that include or focus on languages.

■ *Hold schools accountable for producing language-competent graduates.* In large part, dollars tend to accompany accountability initiatives. With few exceptions, schools are not accountable for producing graduates with foreign language competence. Because high-stakes accountability and the national and state assessments that go with them have focused on reading, mathematics, social studies, and science, other subjects that are not

About 25 percent of urban public elementary schools teach a foreign language compared with 65 percent of suburban private elementary schools.

French is the only language used in the classrooms. In 4th grade, students receive instruction in English twice a week for 45 minutes during the second half of the school year. In 5th grade, students are given instruction in English for approximately three and a half hours each week. Art, music, and physical education are conducted in English. A 1996 internal study found that the immersion students in the district performed academically (in English) as well as or better than comparison students. Immersion students also demonstrated high levels of proficiency in French or Spanish.

In addition to magnet programs, numerous public charter schools offer foreign languages in their curriculum. Private schools are far more likely than public schools to offer languages, presumably because such offerings appeal to those seeking a high-quality school. Private school management companies, such as Edison Schools, include foreign language instruction in their core curriculum. Given the public interest in language learning and the

tested have received little attention and few resources. For example, dollar investments in teacher professional development have been far greater in reading, science, and mathematics than in languages. Our schools should not only produce language-competent graduates—they should receive support to do so and be held accountable for the outcomes of the resulting programs.

■ *Acknowledge the vital role that languages play in an information-based economy.* No one doubts that students must attain the highest levels of competence in mathematics and the sciences to thrive in a global economy. Language competence is also vitally important in a globalized economy that depends on easy access to information, in whichever language it may be available. Languages should be part of the core curriculum in elementary, middle, and high school.

Preparing for the 21st Century

It is almost a cliché to point out that education must prepare our students to lead and work in tomorrow's world. The

past decades have brought technological advances and changes in the political landscape, and we can only assume that the world our students will inhabit will be unimaginably different from what teachers and parents have known. We can predict with some certainty, however, that communication across different linguistic and national borders will continue to increase as a matter of political and economic necessity. Of course, we cannot predict with precision which languages our students will need to know. We can, however, be sure that unless U.S. students are prepared with an education comparable to the best that schools around the world offer—one that includes foreign language study—we will have failed to achieve our goal to leave no child behind. ■

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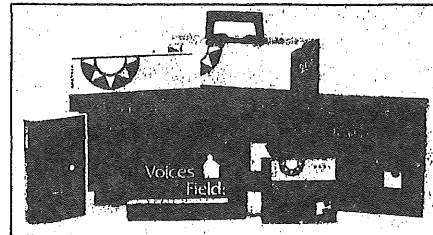
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World Languages for Global Economic Strength

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Career Education

for a Global Economy

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The "new economic order" is a global one. Policymakers, educators, business, and industry are all concerned with strengthening the United States for competition in this new arena. National Education Goals 3 and 5 both mention preparing people for further learning and productive employment in the modern global economy. Career education has generally focused on helping people understand the relationship between education and work and acquire employability skills. Now people need assistance in realizing the opportunities and meeting the challenges of the international workplace.

What is the global economy? What skills will people need to participate in it? How can a refocused career education contribute to educational reform and competitiveness? These questions are explored in this ERIC DIGEST.

THE GLOBAL SCENE

The evolving global economy is based on a number of factors (Herr 1990): decreasing transportation and communications costs, new political structures and economic alliances (such as the European Community, North American Free Trade Agreement), and homogenization of tastes influenced by media and travel. The most important influence is the emergence of flexible, information-based technologies (Carnevale 1991). Profound economic and social changes are creating new market standards (productivity, quality, variety, customization, convenience, timeliness) and integrating producers and consumers into networks for delivering goods and services globally or locally. Meeting these standards requires great changes in organizational structures, skill needs, and jobs.

According to Carnevale, competitive organizations will be characterized by productivity, flexibility, speed, affordable quality, and customer focus. Many organizations will emphasize closely integrated work groups, teamwork, and shared information. The need for certain types of workers is being reduced or eliminated. At the same time, freer movement of some workers across national borders is escalating (Herr 1990); other workers may engage in "electronic immigration," interacting through telecommunications with their employers in other countries.

The global economy will influence people's lives whether or not they are employed in international firms. In the new economy, nations compete not only with each other's economic systems, but also with each other's research and development and educational systems. Global events affect domestic economies.

Other characteristics of work in the new economy also have implications for career development (Carnevale 1991). Managers will become brokers/facilitators; there will be more technical specialists, more lateral entry, and shorter, flatter career ladders. Instead of the old-style division of labor into discrete tasks, job functions will converge, and work teams will consist of individuals who alternate expert, brokering, and leadership roles. Rewards will be based more on the performance of teams and networks.

SKILLS FOR THE NEW ECONOMY

The new competitive framework requires a broader set of skills; "hard" (technical) and "soft" (interpersonal and communication) skills are equally important (Carnevale 1991). The skills identified by a number of authors (Carnevale 1991; Herr 1990; Rhinesmith 1991a,b, 1992) include managing information, resources, and relationships with people as well as self-management. The starting point, of course, is basic skills: reading, writing, computation, and, most important, ability to learn continuously throughout life. In addition, "global" workers need flexibility, problem-solving and decision-making ability, adaptability, creative thinking, self-motivation, and the capacity for reflection. Even if they do not themselves relocate, workers will likely deal with people from other nations in their own workplaces or electronically. Dealing with other people in a diverse local as well as international context requires intercultural communication, teamwork, negotiation, conflict resolution, as well as complementarity--the ability to facilitate the work of others (Herr 1990). In order to work with or supervise people from different cultures, workers need awareness of different values, cultural norms, and world views. Foreign language skills are becoming essential career skills (Rodamar 1991). Knowledge of the culture, history, politics, and legal and economic systems of other nations will be important for many jobs. Workers will also need to adjust attitudes, such as reassessing standards of success as career paths change and career ladders flatten or disappear (Walker 1992).

As companies recruit, select, train, and promote on a global scale from a global labor pool, workers need, in addition to a set of skills, a global mindset (Rhinesmith 1992). People with global mindsets have the ability to look at the broader context, accept contradiction and ambiguity, trust processes rather than structure, value diversity and teamwork, view change as opportunity, and strive for continuous self-development.

THE ROLE OF CAREER EDUCATION AND DEVELOPMENT

Until now, issues of career choice, work preparation, and occupational information have been addressed in a national context (Herr 1990). The shift to a global context changes the content and focus of career education and development. Employment security is becoming "employability security" (Kanter 1991, p. 9)--the knowledge that one has the competencies demanded in the new economy and the ability to expand and adjust those competencies as requirements change.

To some extent, the familiar content of career education is still important: self-knowledge, educational and occupational exploration, goal development, job search competencies such as resume writing and interviewing skills, career and personal development planning. More than ever, however, the ability to take personal responsibility for one's career development is essential. In addition, career educators must help people set these career competencies within the wider global context.

Because traditional assumptions about career development will pertain only to a few workers, Zwerling (1992) advocates a curriculum that centers on the generic skills needed at different career stages. He outlines a comprehensive program that identifies the psychic tasks, events, and preferred learning styles and formats of each life stage and suggests programming related to the life and career planning needs of each stage. Occupational information, a vital component of career education, can be bewildering as the quantity, distribution, and quality of jobs change continuously in the new economy. In an information age, the ability to locate information is necessary both to find a job and to

do a job. People must be equipped with mental maps of how the new labor market works (Wegmann et al. 1989). Skill in processing the information acquired, including critical reasoning skills to select and evaluate the most relevant information, is also essential (Jarvis 1990). The questions Ettinger (1991) suggests to guide career decision making need to be reconsidered in a global context:

- * How will consumer behavior affect opportunities in this field?
- * What public policies will affect this career?
- * How many already work in this field and how many will be needed in the future?
- * Where are these opportunities located?
- * What will the work environment be like?
- * How will technology change this field?

According to Bailyn (1992), "the traditional system is geared to matching an individual to a job that has been carefully defined independently of the person filling it" (p. 381). In the global economy, jobs may be shaped more by the qualities of those performing them and status and compensation may be attached to people, not positions. Therefore, career educators need to help people become individual career negotiators and to rethink work and career to identify how they can contribute to an organization according to their abilities and personal circumstances (ibid.).

Herr (1990) recognizes a number of psychological issues for which workers must be prepared in the face of potential mergers, downsizing, relocation, and constant change. Adjustment is the key word: helping people assess the meaning of work, prepare for retraining, cope with uncertainty, and possibly deal with a move to "a less satisfying and less well-paying job for which life satisfactions and rewards will need to be found in roles and opportunities outside the work force" (p. 157). Those who relocate will need help in adjusting to living and working in a different culture, as well as helping their families make the transition, a new dimension of the work-family issue.

A number of the skills needed for work in the global economy are reflected in current curricular emphases such as development of critical thinking skills, tech prep, the integration of vocational and academic education, and the competencies of the Secretary's Commission on Achieving Necessary Skills. Career educators can collaborate with vocational and academic educators and employers in documenting the need for these skills and infusing them in a multidisciplinary approach. As Zwerling (1992) puts it, "the best liberal education may come to be seen as career education; the best career education may be seen to be liberal education" (p. 108). The challenges of the global economy are an opportunity not only for work organizations to redesign themselves across national borders, but also for education to transcend its traditional boundaries and envision ways to prepare people for life and for work.

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Planning for Success: Common Pitfalls in the Planning of Early Foreign Language Programs

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There has been a significant increase in new foreign language programs at the elementary school level in recent years. Many of these programs, often referred to as foreign language in the elementary school or FLES programs, have been implemented to comply with state mandates, while others have been developed in response to parental pressure for early language learning opportunities for their children. The growing body of information about the cognitive and academic benefits of early bilingualism will no doubt fuel the continued development and expansion of these programs. Unfortunately, many will not succeed over an extended period of time because of planning decisions that were not carefully thought out or that were based on inaccurate assumptions about foreign language learning. The purpose of this digest is to identify some common pitfalls in program planning and to focus attention on issues that must be considered in the planning stages if early foreign language programs are to succeed.

Pitfall: Scheduling foreign language classes too infrequently or in sessions that are too short.

There is a widespread misperception that children learn foreign languages easily even with very limited exposure. As a result, some programs operate on the assumption that a little bit of language instruction is better than no language instruction at all. This perception contradicts the recommendations of foreign language professionals and the experience of successful programs (Gilzow & Branaman, 2000). A sequence of instruction that includes sufficient instructional time is needed for students to achieve proficiency in another language. Met and Rhodes (1990) suggest that "foreign language instruction should be scheduled daily, and for no less than 30 minutes" (p. 438). A national group of experts, convened by Goethe House New York, recommended a minimum of 75 minutes per week for any program designated as FLES; they agreed that these classes should meet all year, during the school day, at least every other day (Rosenbusch, 1992). More recently, the *ACTFL Performance Guidelines for K-12 Learners* (Swender & Duncan, 1998) proposed a

higher standard: elementary programs that meet from 3 to 5 days per week for no less than 30-40 minutes per class; middle school programs that meet daily for no less than 40-50 minutes; and high school programs that equal four units of credit.

Pitfall: Treating foreign languages differently from other academic subjects.

In most countries around the world, languages have the same status as other academic subjects and are a regular part of the curriculum of every school. Instruction usually starts no later than Grade 5, and often earlier. Given that most of these countries are much more successful than the United States at producing adults who can speak more than one language, we would do well to follow their example. Foreign languages should be recognized as valid academic subjects and be accorded the same status and priority for instructional time as other school subjects.

Pitfall: Offering only commonly taught languages, without considering other important world languages.

Spanish is by far the most commonly taught language in the United States, followed by French (Rhodes & Branaman, 1999). While there is no denying the importance of these two languages both domestically and globally, there is a tremendous need for individuals who speak many other world languages. The United States interacts with virtually every nation in the world; the need for proficiency in the languages of these countries has never been higher (Brecht & Ingold, 1999). It is impossible to know which language will be most useful to any given elementary school student or which will be most important for our country in the future. It is important, therefore, to offer a variety of languages in order to provide choices for individual students and to broaden the range of languages spoken by U.S. citizens.

Pitfall: Implementing a new program in all grades at the same time.

There are many stresses in launching a new foreign language program at the elementary school level. Unlike teachers in other curriculum areas, foreign language teachers cannot turn to existing textbook series and standardized materials as they plan a program. This is partly because elementary school programs differ markedly from one place to another. Locating and adapting appropriate materials is a formidable task even when the language is introduced in only one or two grades at a time. If a new program is introduced in all grades at once, the task is much greater. Although all students are beginners in the first year, even introductory lessons need to be adapted to the different developmental levels of students in different grades. In the second year of the program, curriculum for every grade level after the first one needs to be written. This process continues yearly until the entire program is in place. It is much more effective to implement a new program in only one or two grades during the first year, then add another grade each year until it is in place at all levels.

Pitfall: Ignoring the needs of students who enter the program in later grades.

Students who enter the program after the second year require significant support to catch up with classmates who have already had 2 or more years of foreign language instruction. This support may be provided in the

form of supplementary materials and additional instructional time. Without such support, newcomers are likely to experience considerable frustration and may never reach the level of language proficiency of their peers. If the proportion of newcomers to a program becomes too great, especially at more advanced levels, the language experience for all students may be diluted in a misguided attempt to make it comprehensible for the new students. Specific plans must be in place to provide appropriate support for newcomers before the language program enters its second year of operation.

Pitfall: Failing to plan for appropriate articulation from elementary to secondary school programs.

Articulation issues, when postponed, can lead to the eventual disintegration of an early language program (Abbott, 1998). No child who has already studied a language for several years should be treated as a beginner after moving on to middle school. Admittedly, bridging the middle school years is a difficult challenge. Because middle schools typically receive students from several elementary schools, they may have some incoming students with extensive language experience in elementary school and others who have had no prior language instruction. This presents a significant scheduling challenge. Courses for students with prior language learning experience must be designed to build on the learning that has taken place in elementary school. If elementary school program planners involve secondary school teachers and administrators in addressing these issues in the early planning stages of their program, the potential for long-term success is much greater.

Pitfall: Hiring teachers who do not have both language and teaching skills.

There are two misconceptions that sometimes influence the hiring of foreign language teachers: that a native speaker is always a better choice than a teacher who has learned the language as a second language, and that teachers at beginning levels of instruction do not need the same degree of language proficiency as those who teach at more advanced levels. In reality, teachers at all levels need to be fully proficient in the language they teach. But native or near-native language proficiency is not the only requirement. Language teachers also need to be knowledgeable about second language acquisition, especially in children, and about appropriate second language teaching strategies and practices.

Teachers who cannot comfortably use the target language for classroom purposes will not be able to surround learners with language, an essential component of an effective language learning environment. They will also find it difficult to develop and create curricula and activities in the target language. Even fluent speakers of the language may be ineffective in the classroom if they are not knowledgeable about second language acquisition, child development, and teaching strategies for American elementary school students.

Pitfall: Planning and scheduling the foreign language program in isolation from the general curriculum.

An isolated foreign language program can justifiably be perceived as an intrusion on precious time in the elementary school day. By contrast, a content-related program can reinforce the goals of the general curriculum, provide additional practice with significant concepts, and give learners a second chance at understanding material from other curricular areas. A common characteristic of seven model early foreign language programs examined in Gilzow and Branaman (2000) is a close connection with the general elementary school curriculum.

Effective language instruction is thematic and builds on topics and contexts that are relevant to the students. These topics or contexts can vary greatly, from activities based on the regular school curriculum, such as those found in content-based or content-related instruction, to other activities typically found in early language programs, such as drama, role-play, games, songs, children's literature, folk and fairy tales, storytelling, and puppetry. All of these activities contribute to the other content areas and to the basic mission of the school, because they all contribute to the child's learning.

Pitfall: Planning schedules and workloads that lead to teacher burnout.

There is currently a shortage of qualified teachers for early language programs. To rectify this situation, it is imperative to build programs that are good for children and also good for teachers. With this in mind, the Georgia Department of Education stipulated that FLES teachers in state-supported model programs should teach no more than eight classes per day, leaving time for the many additional responsibilities of a FLES teacher: interacting with numerous classroom teachers, developing curriculum and materials, communicating with parents and community, and building public relations for the program.

If language teachers work under unfavorable conditions, they are likely to burn out and leave the profession or opt for regular classrooms. There are dangers in the proliferation of early language programs when attention is not given to the stress factors involved in typical teacher workloads. Elementary school language teachers may find themselves teaching as many as 14 classes in a single day, seeing as many as 600 students in a week. Their classes are often scheduled back to back, and they rarely have their own classrooms. They often lack professional support and opportunities for inservice training, and their schedules rarely allow them time to collaborate with other language teachers.

Conclusion

While it is not possible in this short space to address every issue involved in planning an early language program, this digest identifies a number of important considerations that program planners need to address. Many of the issues discussed here may sound familiar -- they are similar to the obstacles that plagued the early language learning movement 40 years ago: a shortage of qualified teachers, a tendency to establish programs without sufficient planning or careful selection of teachers and materials, a lack of clarity about the connection between program goals and the amount of time allocated to the program, and a willingness to promise whatever the public wants to hear. In order to avoid the mistakes of the past, it is critical that program planners have a clear understanding of all of the components necessary to create a positive environment for early language teaching and learning.

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3/15/05
SF 784

109TH CONGRESS
1ST SESSION

H. RES. 122

Expressing the sense of the House of Representatives regarding the study of languages and supporting the designation of a Year of Languages.

IN THE HOUSE OF REPRESENTATIVES

FEBRUARY 17, 2005

Mr. HOLT (for himself and Mr. TIBERI) submitted the following resolution; which was referred to the Committee on Education and the Workforce

RESOLUTION

Expressing the sense of the House of Representatives regarding the study of languages and supporting the designation of a Year of Languages.

Whereas the people of the United States have growing social, cultural, and economic ties to the international community that present new challenges as the United States seeks to communicate with and understand international partners from different language and cultural backgrounds;

Whereas communities across the United States are welcoming many new neighbors, friends, employees, and citizens from many countries throughout the world;

Whereas increased language learning is a critical national interest and is necessary to maintain the economic edge the United States has in the worldwide marketplace;

Whereas developing a workforce that is skilled in languages and cultural understanding is vital for conducting international commerce;

Whereas both the 2000 Cox Commission and the National Intelligence Council have reported that a shortfall of experts in foreign languages, particularly the languages of Asia and the Middle East, has seriously hampered information gathering and analysis within the intelligence community of the United States;

Whereas studying other languages has been shown to contribute to increased cognitive skills, better academic performance, and a greater understanding of others, while also providing life-long learning opportunities;

Whereas language education in the 21st century includes a commitment to the study of long sequences of world languages, beginning in early grades and continuing throughout the academic career of an individual, in order to develop the levels of proficiency needed to effectively communicate with people from other cultures at home and abroad; and

Whereas the American Council on the Teaching of Foreign Languages, along with its affiliate organizations, is urging the public to support increased language education for students, which will expand the cultural and literary horizons of adult learners and strengthen the position and security of the United States throughout the world: Now, therefore, be it

- 1 *Resolved*, That it is the sense of the House of Rep-
- 2 resentatives that—

1 (1) the study of languages contributes to the in-
2 tellectual and social development of a student and
3 the economy and security of the United States;

4 (2) there should be a Year of Languages in the
5 United States, during which language study is pro-
6 moted and expanded in elementary schools, sec-
7 ondary schools, institutions of higher education,
8 businesses, and government programs; and

9 (3) the President should issue a proclamation
10 calling upon the people of the United States to—

11 (A) encourage and support initiatives to
12 promote and expand the study of languages;
13 and

14 (B) observe a Year of Languages with ap-
15 propriate ceremonies, programs, and other ac-
16 tivities.

○

Passed the U.S. Senate on February 17, 2005

2005: Year of Languages

Resolution

109th CONGRESS

1st Session

S. RES. 28

SF 784

3/15/05

IN THE SENATE OF THE UNITED STATES

February 1, 2005

Mr. DODD (for himself, Mr. COCHRAN, Mr. AKAKA, Mr. BAUCUS, Mr. BINGAMAN, Mr. DURBIN, Mr. FEINGOLD, Mr. HAGEL, Mr. KENNEDY, Mr. LAUTENBERG, Mr. LIEBERMAN, and Mr. LUGAR) submitted the following resolution; which was referred to the Committee on the Judiciary

RESOLUTION

Designating the year 2005 as the 'Year of Foreign Language Study'.

Whereas according to the 2000 decennial census of the population, 9.3 percent of Americans speak both their native language and another language fluently;

Whereas according to the European Commission Directorate General for Education and Culture, 52.7 percent of Europeans speak both their native language and another language fluently;

Whereas the Elementary and Secondary Education Act of 1965 names foreign language study as part of a core curriculum that includes English, mathematics, science, civics, economics, arts, history, and geography;

Whereas according to the Joint Center for International Language, foreign language study increases a student's cognitive and critical thinking abilities;

Whereas according to the American Council on the Teaching of Foreign Languages, foreign language study increases a student's ability to compare and contrast cultural concepts;

Whereas according to a 1992 report by the College Entrance Examination Board, students with 4 or more years in foreign language study scored higher on the verbal section of the Scholastic Aptitude Test (SAT) than students who did not;

Whereas the Higher Education Act of 1965 labels foreign language study as vital to secure the future economic welfare of the United States in a growing international economy;

Whereas the Higher Education Act of 1965 recommends encouraging businesses and foreign language study programs to work in a mutually productive relationship which benefits the Nation's future economic interest;

Whereas according to the Centers for International Business, Education and Research program, foreign language study provides the ability both to gain a comprehensive

understanding of and to interact with the cultures of United States trading partners, and thus establishes a solid foundation for successful economic relationships;

Whereas Report 107-592 of the Permanent Select Committee on Intelligence of the House of Representatives concludes that American multinational corporations and nongovernmental organizations do not have the people with the foreign language abilities and cultural exposure that are needed;

Whereas the 2001 Hart-Rudman Report on National Security in the 21st Century names foreign language study and requisite knowledge in languages as vital for the Federal Government to meet 21st century security challenges properly and effectively;

Whereas the American intelligence community stresses that individuals with proper foreign language expertise are greatly needed to work on important national security and foreign policy issues, especially in light of the terrorist attacks on September 11, 2001;

Whereas a 1998 study conducted by the National Foreign Language Center concludes that inadequate resources existed for the development, publication, distribution, and teaching of critical foreign languages (such as Arabic, Vietnamese, and Thai) because of low student enrollment in the United States; and

Whereas a shortfall of experts in foreign languages has seriously hampered information gathering and analysis within the American intelligence community as demonstrated by the 2000 Cox Commission noting shortfalls in Chinese proficiency, and the National Intelligence Council citing deficiencies in Central Eurasian, East Asian, and Middle Eastern languages: Now, therefore, be it

Resolved, That--

- (1) it is the sense of the Senate that foreign language study makes important contributions to a student's cognitive development, our national economy, and our national security;
- (2) the Senate--
 - (A) designates the year 2005 as the 'Year of Foreign Language Study', during which foreign language study is promoted and expanded in elementary schools, secondary schools, institutions of higher learning, businesses, and government programs; and
 - (B) requests that the President issue a proclamation calling upon the people of the United States to--
 - (i) encourage and support initiatives to promote and expand the study of foreign languages; and
 - (ii) observe the 'Year of Foreign Language Study' with appropriate ceremonies, programs, and other activities.

SF 784 3/15/05



Department of Employment and Economic Development



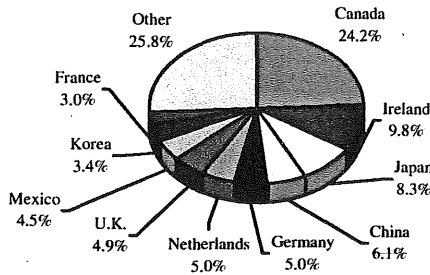
Quarterly Export Statistics

Data on Manufacturing Industries for Fourth Quarter 2004 - Published Mar. 2005
For More Information: Christopher Sprung (651-297-8930), Minnesota Trade Office

Fourth Quarter Export Sales Break All Records

Growth in Manufactured Exports, by Market Between Fourth Quarters of 2003 and 2004

Minnesota's Manufactured Exports
Total, Fourth Quarter, 2004: \$3.2 billion



Country	Exports (Millions)	4 th Qtr 2003 to 4 th Qtr 2004		MN Year-to-Date Growth
		MN	US	
Canada	\$ 770	15.3%	12.8%	11.6%
Ireland (excl. N. Ireland)	312	1.8%	17.8%	9.1%
Japan	264	11.6%	5.5%	2.6%
China (incl. Hong Kong)	193	12.5%	2.8%	5.7%
Germany	159	41.7%	6.0%	27.2%
Netherlands	158	8.1%	9.4%	17.7%
United Kingdom	156	2.1%	6.1%	3.7%
Mexico	144	35.5%	11.6%	41.6%
Korea	108	59.0%	1.2%	41.2%
France	94	23.4%	40.2%	25.9%
Other	819	-1.1%	13.4%	10.1%
Total	\$ 3,179	10.6%	11.4%	12.5%

In Minnesota, and in the U.S., exports are the fastest growing segment of the economy. In Minnesota alone, exports surged to over \$3.2 billion, growing by 10.6 percent between the fourth quarters of 2003 and 2004. *Minnesota Quarterly Export Statistics* www.deed.state.mn.us

US Trade deficit reaches record highs inspite of export growth

Exports have grown nationally also, but the U.S. trade deficit went up in January to the second highest level in history. In February the US State Department reported that for the year 2004 the deficit soared 24 percent to \$617.7 billion from \$496.5 billion in 2003 and \$421.7 billion in 2002. (Reported by the U.S. State Department on March 11, 2005, on their website, <http://usinfo.state.gov>) There is a great need and potential for the export trade to continue to grow.

ONLY 10% OF COMPANIES CAPABLE OF EXPORTING DO, AND CITE LACK OF LANGUAGE AND CULTURAL SKILLS AS THE PRIMARY REASON THEY DO NOT.

Thane Peterson, contributing editor at Business Week Online, in his Sept. 4, 2002 column, "Moveable Feast" titled "The Importance of Being Multilingual" cited Commerce Dept. statistics showing that 97% of U.S. export growth in the '90s came from small to midsize businesses. But the statistics also showed that only 10% of such companies were exporting their products. The most frequent reason cited by the others for not exporting was a lack of the background knowledge and language skills required to understand foreign markets. "

The most frequently cited reason for learning Chinese right now is the need to use it for business. Look at Minnesota's top ten trade partners. We need to be able to learn and speak these languages also. Right now in Minnesota we have the staff to start extended world language programs in German, French, Spanish, and to some extent Chinese. These are the languages of four of our top ten trade partners. We need to be doing that and to also train language teachers in other languages at the same time. Such programs need the stability that would be provided if the state would make a commitment to world languages learning. SF 0784, HF 0827 do that.



UNIVERSITY

CENTER

ROCHESTER



GREATER ROCHESTER AREA UNIVERSITY CENTER



ADVOCATES FOR HIGHER EDUCATION



**GRAUC is a leading advocate for
advancing the growth and excellence
of public higher education at
University Center Rochester
to serve the needs of students and
employers in the region.**

Greater Rochester Area University Center Board of Directors
is a nonprofit 501(c)(3) corporation established in 1987
exclusively for charitable and educational purposes.

GRAUC Accomplishments

Since 1987, GRAUC has worked on behalf of the greater Rochester community:

- to implement the recommendations of *FutureScan 2000* strategic plan
- to secure for the community a role in determining the future of higher education
- to expand higher education opportunities and stimulate economic growth
- To advocate for the needs of the business community

1987-1990: Assessed needs & set priorities

- Commissioned major studies to understand education needs and prioritize plans
- Supported marketing programs
- Developed the vision for a University Center

1991-1997: Supported UCR development

- Served as a catalyst for collaboration between the Minnesota State Colleges and Universities (MnSCU) and the University of Minnesota (U of M)
- Advised on academic & campus master plans

1998-2004: Positioned campus for growth

- Won local sales tax referendum earmarking \$20 million over 15 years for UCR campus development
- Advocated for U of M Rochester branch, which was established in 1999
- Drafted *Statement of Direction* to grow the U of M Rochester (UMR) branch in areas that contribute to the economic vitality and stability of the region and state
- Support Governor's proposal to create a 'new' university in Rochester to strategically align higher education with growth opportunities in Minnesota

GRAUC helped garner \$52,852,000 for UCR campus growth

Science and Technology Wing (1991)	\$17,825,000
Technology & Infrastructure Upgrade (1998)	\$ 9,320,000
UCR Regional Sports Center* (1998)	\$16,557,000
Horticulture Technology Center (2000)	\$ 4,500,000
Intercampus Roadways (2000)	\$ 1,200,000
23 rd Ave connects Hwy 14 & Cty 9 (2000)	\$ 2,000,000
Soccer / Football / Baseball Fields (2001)	\$ 1,450,000
TOTAL	\$52,852,000
State's Investment	\$37,845,000
City's Contribution (roads)	\$2,000,000
* City Sales Tax Contribution	\$11,557,000
Youth Sports Contribution	\$ 1,450,000

GRAUC Priorities 2003 - 2006

- Wise stewardship of resources
- Accelerate the growth of the University of Minnesota Rochester branch
- Use new technologies to deliver educational content, expand access, leverage resources, and improve services.
- Secure full funding for the UCR Health Sciences Renovation project
- Capitalize on emerging biotech opportunities
- Increase government and business commitment to quality public higher education as a long-term investment
- Promote academic industry partnerships
- Sustain GRAUC advocacy and influence
- Support Governor's proposal

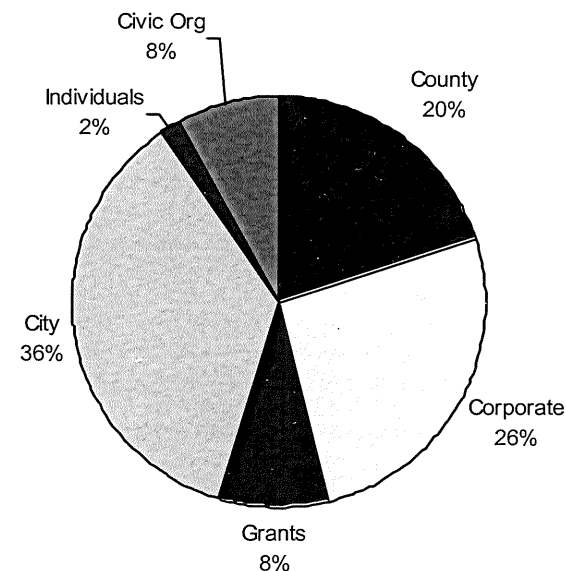
GRAUC is committed to creating an innovative and dynamically growing institution that capitalizes on the unique health and technology resources of our community.

Why support GRAUC?

Higher education is an economic engine

- An economic impact study of public and private colleges and universities in the Rochester area demonstrated an economic stimulus accounting for:
 - \$ 140.1 million in sales to area businesses
 - \$ 61.8 million in salaries to area residents
 - 4,100 jobs in the area
- GRAUC is recognized by MnSCU, the U of M and the Minnesota Legislature as a powerful

GRAUC Support 1987-2004



- Biotech represents major opportunities for our future. We must align our resources, including higher education, to position our region for success as the southern anchor for Minnesota's high tech corridor.

University Center Rochester
A Spectrum of Learning

University Center Rochester's (UCR) three-in-one partnership offers career pathways to meet the unique post-secondary education needs of young students, busy working adults and employers.

- Rochester Community & Technical College (RCTC)
- University of Minnesota Rochester (UMR)
- Winona State University - Rochester Center (WSU)

UCR offers 150 programs aligned with core industry needs in business, education and social services, technology and health sciences including:

- 70 Transfer, career and trade programs with diplomas, certificates, and associate degrees
- 11 Professional certificates
- 4 Licensures
- 18 Bachelors degrees
- 19 Masters programs
- 4 Doctoral degrees

Recent University of Minnesota Rochester programs added to expand upon the RCTC and WSU degrees:

Bachelor Degrees: Manufacturing Technology, Information Technology Infrastructure, Human Resources Development, Radiation Therapy, Nursing, Scientific and Technical Communication, and Respiratory Care

Masters Degrees: Business Administration (MBA), Public Health (MD / MPH / Executive MPH) and certificates, and Social Work

Doctoral Degrees: PhD and EdD in Adult Education, and Human Resource Development

Continuing Education: Ranges from aviation to interpreting, law, journalism, veterinary medicine, architecture, management of technology and more

UCR 2004 Annual Enrollments: 9,800 students in credit-based programs ... another 5,600 in noncredit, professional and workforce education, and many cultural offerings ... with hundreds of business, industry and regional institutions served.

UCR's Telecommunications & Distance Learning Hub extends access to a higher education network linking business, K-12 & regional sites, and provides an education and training foundation for the region's knowledge-based economy.

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2004-2005

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Rochester, Minnesota

MEDICINE • TECHNOLOGY • BIOLOGY



ROCKING THE CRADLE OF INVENTION

Tucked away between southeastern Minnesota's rolling farmlands and the dark waters of the Mississippi River, Rochester's midwestern charm belies its true nature as a cutting-edge center of technological, medical, and biological achievement. With the presence of such companies as IBM, Hitachi GST, Seneca Foods, Texas Instruments, and Mayo Clinic, Rochester carries the intellectual clout to attract some of the world's best and brightest minds.

Drawn by the opportunity to work at the forefront of medical and technological research, young professionals and seasoned veterans alike come for the jobs. But the area's affordable housing, quality schools, short commutes, strong community, and abundant natural beauty quickly turn visitors into residents. *Money* magazine recognized these alluring qualities by naming Rochester among the best places to live for three years running.

HAVEN FOR INNOVATION

Ever since the establishment of Mayo Clinic in the early 1900s, Rochester has been a haven for

innovative companies with the common mission to improve lives through invention. In fact, Rochester has the highest concentration of high-tech businesses in the United States, according to the Milken Institute's Study of America's High-Tech Economy. And the area

With 873.7 patents filed per 100,000 residents, Rochester has the third highest invention rate in the country.

just keeps growing—30 new companies opened up shop within the last 10 years.

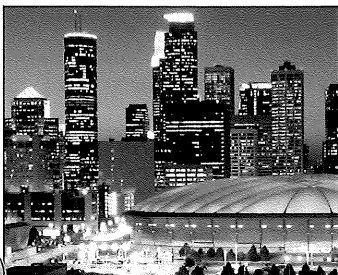
Fueled by the convergence of science and technology, Rochester's steady economic growth has created a ripe breeding ground for business development in the city itself and within the

growing communities of Austin, Byron, Chatfield, Eyota, Pine Island, St. Charles, and Stewartville. Central to this home-grown expansion is a strong community support system. One example of this is Rochester Area Economic Development, Inc. (RAEDI), which supplies emerging and expanding companies with the assistance they need to grow and flourish. Another example is Mayo Medical Ventures, which licenses medical products and treatments developed at Mayo to companies for manufacturing and marketing worldwide.

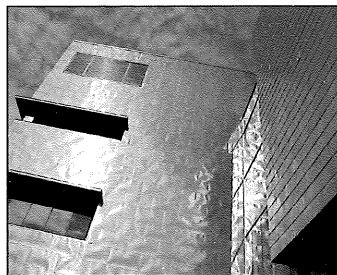
HOME SWEET HOME

The Rochester area's enticing blend of high-tech growth, cosmopolitan style, and small town sense of community make it a uniquely opportune location for business development. Perhaps that's why *Venture* magazine named Rochester one of the most hospitable cities anywhere for entrepreneurs. But whether you're moving here to start a business or start a family, you'll soon come to realize that Rochester's long history of innovation has translated into a future of possibilities.

ROCHESTER: A GREAT PLACE TO LIVE, WORK, INVEST



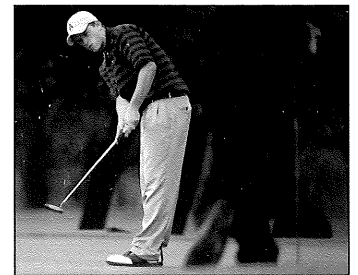
Rochester residents are a short 75-minute drive from the Twin Cities where they enjoy arts, world-class sporting events, and shopping at the Mall of America.



The Rochester Art Center features national and international art exhibits and provides a variety of hands-on studio classes for both kids and adults.



Rochester offers an array of dining choices from Indian buffets to California-style cuisine to down-home, award-winning barbecue.



For Rochester citizens, golf is not just a sport, it's a passion. The city plays host to over a dozen local golf courses.

PHOTOS: MINNESOTA OFFICE OF TOURISM (TWIN CITIES PHOTO), DEAN RIGGOTT (ART CENTER PHOTO), POST-BULLETIN (GOLF PHOTO)

Medicine, Technology, Biology Converge Here

Recent collaborations between IBM, Mayo Clinic, the University of Minnesota, and an impressive roster of local companies position Rochester at the forefront of innovation and industry convergence.

IBM and Mayo Clinic recently joined forces to create an information system that will allow the Clinic's 2,400 physicians to perform complex, cross-patient correlations across patient demographics, diagnostics, and laboratory results—for all of the 4.4 million patient histories in the Clinic's vast data warehouse. Specific queries that required months will be able to be completed in a matter of minutes.

IBM Rochester is also working on a \$100 million research initiative to build the world's fastest supercomputer. "Blue Gene" will initially be used to study the folding of human proteins—one of science's great unknowns. If Blue Gene unlocks the mystery of how proteins fold, the discovery promises to launch a new frontier of biological research, one that would enable researchers to better understand diseases and their potential cures and allow pharmaceutical companies to create a new class of high-tech, prescription drugs customized for individuals.

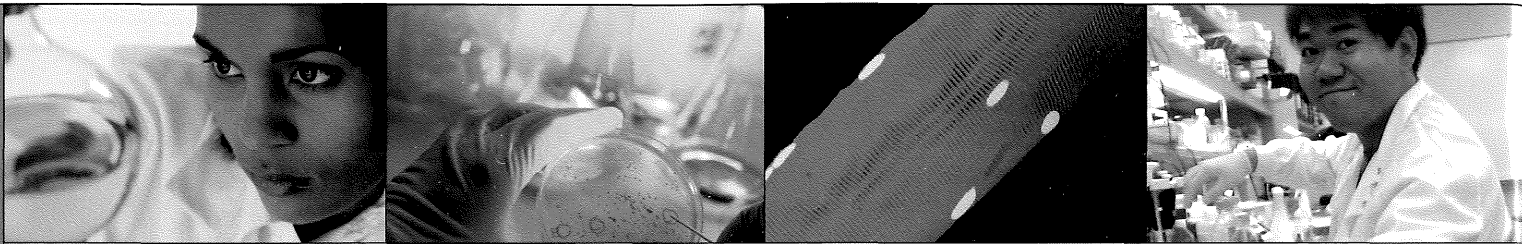
In 2004, Minnesota's two top research facilities—Mayo Clinic and the University of Minnesota—formed The Minnesota Partnership for Biotechnology and Medical Genomics. The \$4 million partnership is expected to expand biogenomic research into new realms of practical application.

But Rochester is more than just IBM and Mayo Clinic. It's an entire community of companies—many of which are featured in this brochure—working together to shape the future and make the world a better place for everyone.



MINNESOTA OFFICE OF TOURISM PHOTO

The Rochester area boasts all the amenities of a much larger community—without the hassles of the big city. Living in the Rochester area means clean air, low crime, and a strong sense of community and family values. According to a study by Northwestern National Life, Minnesota is one of the nation's two healthiest states.



MAYO CLINIC

With contributions to the Minnesota economy in 2000 totaling \$3.97 billion—or 1.3 percent of the total state economy—Mayo Clinic is not just the largest employer in Rochester, it's one of the largest employers in the state of Minnesota. Currently employing 26,000 people, Mayo has created about 800 new jobs a year over the past decade and shows no signs of slowing down.

A non-profit medical center with locations in Jacksonville, Florida and Scottsdale, Arizona, Mayo Clinic is world-renowned as a leading center of patient care and medical research and education. Since beginning to patent its inventions in the 1970s, Mayo researchers are credited with having more than 300 patents on file with the U.S. Patent Office. This might explain why *Demographics Daily* ranked Rochester as one of the most inventive places in the country with 873.7 patents filed per every 100,000 residents—the third highest invention rate in the country.

A TRADITION OF INNOVATION

Research and innovation have been a tradition at Mayo Clinic since William Worrall Mayo, M.D., started up his Rochester practice in the late 1800s and, with his two sons, William and

In 2004, Mayo joined forces with the University of Minnesota to create the Minnesota Partnership for Biotechnology and Medical Genomics.

Charles, created the country's first organized joint medical practice. One of their first hires, Dr. Henry Plummer, was instrumental in developing the systems that would make their vision of an integrated medical practice a reality.

In 1907, Dr. Plummer introduced the idea of keeping all of a patient's medical records in one file that would be stored in a central location. He also developed a diagnostic index for accessing the files and created a conveyor system to transfer them from department to department. Plummer also designed and built the building that currently bears his name.

MODERN DAY DEVELOPMENTS

Innovation did not stop with Dr. Plummer. In addition to treating over six million people since its founding, the Clinic has continued to draw trained physicians and scientists from all over the world to an environment that applies cutting-edge research directly to clinical practice. One of 40 cancer centers in the country to be listed as a Comprehensive Cancer Center by the National Cancer Institute, Mayo Clinic received about \$44 million in funding from the institute in 2001, placing it 10th among all funded institutions.

In 2000, Mayo Clinic established the Mayo Genomics Education Program, which trains medical professionals around the world on how to take advantage of new diagnoses, drugs, and lab tests that have resulted from genomic research. No other institution in the world has developed such a far-reaching program.

200 First Street SW, Rochester, MN 55905 • (507) 284-2511 • www.mayoclinic.org

HISTORY OF INVENTION

1892. First partner added to Mayo family practice, thus beginning the concept of medical teamwork. The team approach naturally leads to a division of labor with specialists in different fields working together.

1905. Dr. Louis Wilson develops a rapid way to diagnose surgical specimens (quick-frozen tissue sec-



Dr. Henry Plummer

tions stained with methylene blue), which allows Mayo surgeons to explore, diagnose, and repair, all in one operation.

1920. Mayo develops system for grading cancer numerically, which is adopted worldwide and is still in use today.

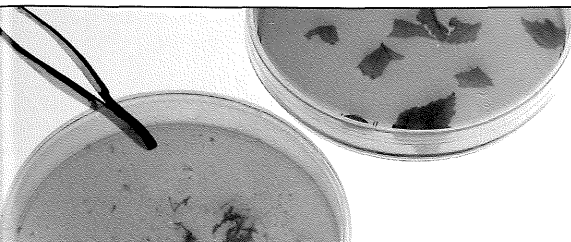
1938. Dr. Frederick Moersch first reports median thenar neuritis (carpal tunnel syndrome).

1944. First therapeutic application

of streptomycin to treat tuberculosis. Until then, the scientific community was convinced that nothing could ever kill tubercle bacilli in humans.

1950. Drs. Edward C. Kendall and Philip S. Hench are awarded the Nobel Prize for isolation and first clinical use of cortisone.

1955. Mayo is among the first to perform successful open heart surgery to repair congenital heart abnormalities after refining the



In 2002, Rochester became home to the Mayo Clinic Proteomics Research Center, which was created to study the body's hardest workers, proteins. Proteins perform such a key role in how the body functions that research is expected to result in a new era of personalized drug treatment therapies.

A HISTORIC PARTNERSHIP

In 2004, Mayo Clinic launched a new era of research with its foray into biotechnology through a joint partnership with the University of Minnesota. The Minnesota Partnership for Biotechnology and Medical Genomics brings together the state's two top research facilities, which have already invested nearly a half-billion dollars in their own biotechnology and genomic programs.

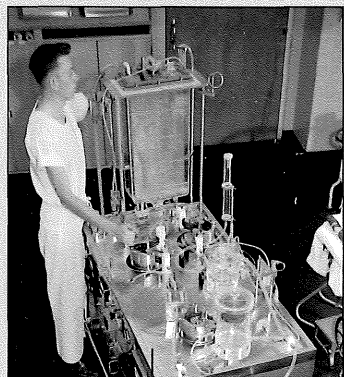
This historic collaboration will share \$4 million in funding from the University of Minnesota, Mayo Clinic, and the State of Minnesota to launch four initial research projects focusing on cardiovascular disease, prostate cancer, Alzheimer's disease, and obesity. The results of these efforts are expected to reduce medical costs through better health and medical care and produce new opportunities for drug development within the state.



Mayo Clinic Rochester

Mayo Clinic's Rochester campus comprises Mayo Clinic, Saint Marys Hospital, and Rochester Methodist Hospital, which together treated 319,687 unique patients and saw 1,427,913 outpatient visits in 2003.

- Mayo contributes more than \$2 million in free care to Minnesota residents.
- About 79 percent of patients come from Minnesota, Iowa, and Wisconsin.
- Mayo Clinic treats 3,550 patients and performs almost 30,000 laboratory tests every day.
- Mayo Clinic spends over \$300 million a year on medical research at the Rochester clinic alone with the majority of outside funding coming from the National Institutes of Health.



Mayo-Gibbon heart-lung bypass machine

Gibbon heart-lung bypass machine (thereafter known as the Mayo-Gibbon heart-lung bypass machine.)

1965. Dr. Leonard Kurland introduces the Rochester Epidemiology Project, a medical records-linkage system that has made Olmsted County one of the few places in the world where the occurrence and natural history of diseases can be accurately described.

1969. First FDA-approved total hip replacement in the United States.

1973. Mayo introduces the first CT scanner in North America.

1980. Mayo researchers are among first to propose intensive insulin therapy to reduce the complications of diabetes.

1990. Mayo researchers help identify the source of illness affecting people taking the health supplement, L-tryptophan.

2000. Mayo Clinic Transplant Center opens in Rochester providing a single setting where patients receive all of their transplant services—from evaluation to follow-up.

2002. Molecular medicine researchers developed a "cancer snitch," a genetically engineered, trackable virus that can keep doctors informed about the progress of viral treatment inside a tumor.

TIMELINE AND IMAGES COURTESY OF MAYO CLINIC

PEMSTAR

Successful companies have learned that outsourcing provides strategic advantages by fostering innovation and improving time-to-market. As a world leader in electronics manufacturing services (EMS), PEMSTAR transforms technology and concepts into innovative customer solutions.

From the genesis of an idea, until a product reaches the hands of a satisfied customer, PEMSTAR provides product development, engineering, manufacturing, automation and test, and fulfillment solutions.

PEMSTAR has received numerous performance awards from leading companies in the medical, communications, computing and data storage, and industrial business markets. But the highest vote of confidence is the business PEMSTAR continues to receive from customers in these industries.

As the bioscience industry comes of age, it will face many of the same issues as the med-

ical industry. Located within the Minnesota Bioscience Zone, close to world-renowned medical facilities and companies, PEMSTAR can provide assistance in achieving medical device regulation and clinical acceptance.

PEMSTAR has been involved in the design, development, and manufacture of Class I, Class II, and Class III medical devices, from FDA-approved drug coated stents to a pill-sized ingestible camera/transceiver.

PEMSTAR opened its first facility in Rochester in 1994. The company has grown to over a million square feet of manufacturing space within its 15 locations around the world. This global presence means cost-effective solutions and worldwide distribution. But PEMSTAR's roots remain grounded in Minnesota with the employees, customers, and shareholders who helped the company become one of the world's leading EMS companies.

Transplant Testimonial



NAME: Daniel Dion

AGE: 45

STATUS: Married, with one child.

TITLE: Industrial Designer

JOB DESCRIPTION: Delivers Industrial Design and Human Factors support for medical, industrial, communications, and computer and data storage projects.

ROCHESTER RAVES: Daniel moved to Rochester from Toronto, Canada to work at PEMSTAR in May 2001. He likes that Rochester has many of the positive features of urban living without the drawbacks. "Rochester offers excellent quality of life," he says. "It's easy to get around. There's very little traffic congestion, and the city has great parks, bike paths, and walking trails. My family and I love it here."



CENTERFIELD TECHNOLOGY

With such prestigious clients as J.P. Morgan/Chase, Baxter Healthcare, Royal Caribbean, and Tiffany & Co., privately-owned Centerfield Technology—a Rochester-based IT tools and services provider—knows the customer comes first. The result is customer loyalty and user testimonials like this one:

“Centerfield’s database assessment services provided us a window into our applications that wasn’t previously available,” said Northwest Natural Gas’s Ken Graap.

“Looking through this window we were able to see how our applications were running all the way down to a single SQL statement.

Using the information collected, we can now make our applications even more efficient. The process saved us countless hours of tedious manual work.”

Founded in 1997, Centerfield offers AS/400 - iSeries tools and utilities that ensure



**25 percent of
Centerfield’s customers
are international
companies.**

high availability, performance, and access to an organization’s critical business information. The company’s products address application performance management and tuning, user control and diagnostics, DASD management, and an assortment of application issues.

Centerfield helps companies deploy, enhance, and manage mission-critical applications and iSeries operations with a toolset focused on performance, security, user management, and control. The company has quickly grown to become the leading iSeries tools vendor providing solutions to the complex problem of managing query and database-intensive environments.

Centerfield maintains a strong relationship with IBM, is an IBM Business Partner, and a member of the IBM eServer Tools Network. For more information about Centerfield, visit the company’s Web site at www.centerfieldtechnology.com.

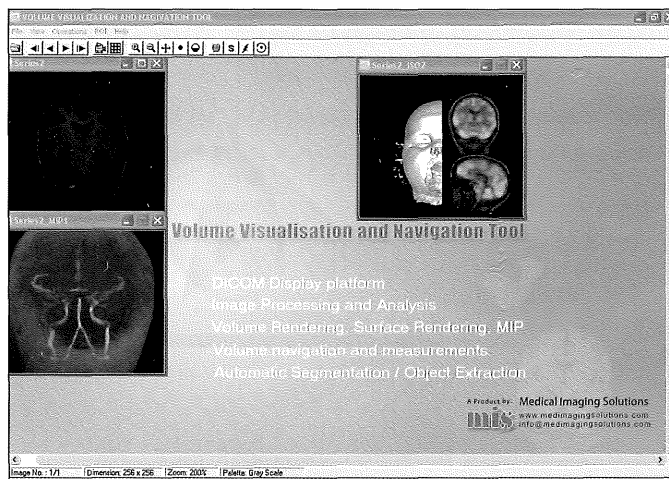
1312 1/2 7th Street NW • Rochester, MN 55901 • (888) 387-8119 • info@centerfieldtechnology.com • www.centerfieldtechnology.com

MEDICAL IMAGING SOLUTIONS

Former Mayo Clinic researcher, Medical Imaging Solutions Founder and President Ramesh Avula, Ph.D. obtained his first patent in 1999. A year later—with a doctorate degree in biomedical engineering and over 10 years of research and development in medical imaging under his belt— Avula struck out on his own to start Medical Imaging Solutions.

Best known for its advanced medical imaging research and applications development, Medical Imaging Solutions specializes in software applications used in medical research and clinical diagnosis. The company’s current focus is on creating software tools to better diagnose neurological disorders such as epilepsy, Alzheimer’s disease, and multiple sclerosis, as well as tools that detect and quantify tumors for radiation oncology.

Avula leverages his technical expertise and that of his staff to develop automated and semi-automated image analysis and visuali-



zation tool kits; advanced post-processing applications for multi-modality, multi-dimensional images; and Computer Aided Diagnosis (CAD) applications. The goal? To provide high quality, cost-effective solutions to industry and research institutions with a focus on long term customer satisfaction.

For more information on Medical Imaging Solutions, visit the Web site at www.MedImagingSolutions.com.

1500 Building, First Avenue NE • Suite 110E • Rochester MN 55906 • (507) 281-2117 • info@medimagingsolutions.com • www.medimagingsolutions.com

HITACHI GLOBAL STORAGE TECHNOLOGIES

The Rochester office of Hitachi Global Storage Technologies is home to some notable firsts: the company's first shipped thin film disk; the industry's first partial-response, maximum likelihood (PRML) recording channel; and the first volume shipment of MR heads in a disk drive.

Primarily responsible for hard disk drive (HDD) development, the Rochester office is also home to Hitachi GST's world-class Systems Integration Lab (SIT Lab), HDD Technical Support Center, and HDD Internal Sales and Customer Support. As one of Hitachi GST's core R&D centers, patents from the Rochester facility contribute significantly to Hitachi GST's overall IP portfolio of 3,500 storage patents—the industry's largest.

As a result of this ongoing innovation, servers and laptops—boasting roomy Hitachi GST hard disks—now offer the storage capacity of a minivan at economy car prices. Hitachi GST products have helped drive the production of smaller, faster hard drives with enormous storage capacities for use in everything from servers to digital video cameras to that tiny MP3 player

HITACHI
Inspire the Next

Innovative storage,
everywhere.

Practical Innovation

The industry's
broadest family
of hard drives.

- Broad family line for desktop, mobile, server, handheld, and automotive applications
- Deskstar™ family offers award-winning performance for the desktop and beyond
- Fractalstar™ 1.8-inch and 2.5-inch drives with speeds up to 7200 RPM and capacities up to 80GB
- Ultrastar™ drives with high reliability and performance for mission critical applications
- Microbrite™ digital media: a full 4GB of storage on the world's smallest hard drive
- Endurastar™ disk drives for temperature extremes

Purchase Hitachi Hard Drives from one of our Authorized Distributors

AVIATEC AVIATEC BALL BEARINGS HUSKAR MICRO SINNEX MCE MISHAWA

In addition to producing state-of-the-art hard disk drives for use in computers, Hitachi GST's hard disk drives are used in a wide assortment of popular MP3 players from Dell, Creative, Archos, and others.

you've got blasting away in your pocket.

Established in 1976 as the hard disk drive division of IBM, the Rochester office became part of Hitachi GST in 2003 as a result of the strategic combination of Hitachi's and IBM's storage technology businesses. As a new

company, Hitachi GST entered the world in January 2003 as the third largest hard disk drive supplier in terms of revenue. As a testament to its hard work and commitment to growth, the company finished the year as the second largest hard disk drive supplier with \$4.2 billion in revenue to back up the claim.

PRODUCT AND TECHNOLOGY DEVELOPMENT IN ROCHESTER

Hitachi GST spokesperson Maureen Gwynn says the California-based company—with over 24,000 employees worldwide—opened the development center in Rochester because of its rich base of technical talent and urban infrastructure.

“With proximity to the Twin Cities of Minneapolis and St. Paul, employees benefit from a smaller city while living in an agricultural setting with convenient access to large city cultural and sporting events, shopping, and resources,” she says. “Among Mayo, IBM, Hitachi GST, and other employers in the information technology sector, the people of Rochester form a culturally diverse, highly professional population.”

Many of the division's 200 employees have Midwestern roots, but Gwynn says those who have joined the team from outside the area find it easy to adapt to the strong work ethic, dedication to family values, and team-oriented work environment. “Outsiders are also pleasantly surprised at how willing Minnesotans are to drop what they are doing to help their neighbors,” she says.

Hitachi GST funded the top five awards at the Rochester Regional Science Fair. Employees served as judges in a local effort to encourage the type of research that has made Hitachi GST the industry leader in storage development.



TEXAS INSTRUMENTS INCORPORATED

While Texas Instruments (TI) is probably best known for its graphing calculators and digital light processing (DLP) technology, the bulk of its revenue comes from semiconductor products that are inside many products you use every day, including cell phones and base stations, computers, digital cameras, DVD players, and televisions.

The small band of experienced engineers in TI's Rochester office assist TI's customers in applying that semiconductor technology to their own products through demonstration systems and customer-specific designs. In addition to designing these systems, the Rochester team also helps develop a family of semiconductor devices used in disk drive products and evaluation test systems for those devices.

With seven patents issued and several more filed, it's obvious their main goal is innovation. Within the last year, the group architected a low data rate power line com-

munication system utilizing a technique called OFDM (orthogonal frequency division multiplexing) that had previously not been applied in the automated meter reading market. This technique promises to be more

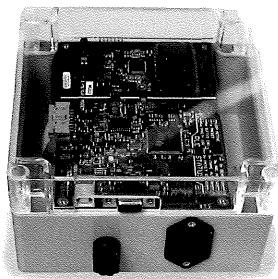
robust to communication impairments on the power line, allowing meter reading to be done reliably.

Over the last four years, TI engineers also introduced an optical wireless reference design that allows communication via directed laser beams at Ethernet speeds.

Their clients transformed this reference design into products

that addressed both in-the-building, point-to-point communication as well as point-to-point, building-to-building communication.

Texas Instruments Incorporated (NYSE: TXN) is a global semiconductor company and the world's leading designer and supplier of real-time signal processing solutions. The company's businesses also include sensors and controls, and educational and productivity solutions.



One of the demonstration units created by TI to read meters over the power line.

KINGLAND SYSTEMS

How do you stay competitive? Kingland Systems has the answer. Such pedigreed clients as Bank of America, Fidelity, AXA Advisors, KPMG, and RSM International use the company's software and Application Service Provider (ASP) solutions to stay competitive in today's uncertain world.

Founded in 1992, Kingland Systems provides mission-critical software and services to businesses and government entities. Kingland enables financial services and accounting firms to manage and demonstrate regulatory compliance; trading firms to route thousands of transactions daily to all the major U.S. exchanges; and clients to develop continuity plans in case of a disaster.



The company staffs its state-of-the-art data centers 24 hours a day, providing real-time system monitoring for its ASP, co-location, and disaster recovery clients. Kingland prides itself on its Midwest-based values and work ethic.

3535 40th Ave. NW • Suite 103 • Rochester, MN 55901 • (507) 529-1555 • www.ti.com

2900 43rd St. NW • Rochester, MN 55901
(507) 252-8855 • www.kingland.com

LOGICLIBRARY, INC.

LogicLibrary is the leading provider of software and services that make it possible for enterprises to manage and reuse software development assets (SDAs). Gartner, Inc., an influential analyst firm for technology buyers, recently positioned LogicLibrary as a "Leader" in its Magic Quadrant for Metadata Repositories in 2004.

LogicLibrary's flagship product, Logidex, is a mapping and discovery engine that allows application developers, business analysts, and architects to quickly identify software assets that best match business and technical requirements for new application development and integration.

LogicLibrary has experienced outstanding success—in the past year, the company tripled its customer base by adding some of the world's largest enterprise organizations.



Brent Carlson, co-founder and vice president of technology at LogicLibrary, is one of *InfoWorld's* "CTOs to Watch in 2004." Carlson, who lives and works in Rochester, also holds 17 software patents, with eight more currently under evaluation.

2717 Highway 14 W • Suite M • Rochester, MN 55901 • (507) 529-5700 • www.logiclibrary.com

IBM

A major development and manufacturing facility for the world's largest information technology company, IBM Rochester is best known as the main developer and manufacturer for the IBM eServer iSeries and its predecessors—highly popular, reliable, easy-to-use computing systems for medium-sized businesses. In fact, since 1988, IBM has shipped more than 750,000 Rochester-developed and -manufactured eServer iSeries and AS/400 business computing systems to customers worldwide.

But IBM Rochester is more than just a computer manufacturer. Over the years, IBM Rochester has grown into a leading research and development facility that's also responsible for advancements in engineering design, gaming technology, life sciences technology, and software and supercomputing development.

The push toward new areas of research fits in with IBM's overall strategy. The company's 2003 annual report cited that, in just the last three years, life sciences has become a \$1 billion business for IBM, more than doubling revenue

each year since its formation in 2000. New clients include 25 of the top pharmaceutical and biotechnology companies.

THE MAYO CONNECTION

IBM Rochester opened its doors in 1956 with 174 employees working in a 50,000 square foot leased facility. Today IBM occupies 510 acres with about 3.5 million square feet of owned and leased space in Rochester—the largest IBM facility in the world under one contiguous roof. With 4,500 regular employees, IBM Rochester is also the second largest employer in Rochester after Mayo Clinic and the largest information technology employer in Minnesota.

But IBM and Mayo Clinic have more in common than serving as two of the state's largest employers. The two companies are working together to develop the Mayo Clinic Life Sciences System—information technology that will provide the Clinic's 2,400 physicians with on demand access to medical data that would support diagnoses and treatment decisions based on information collected from millions of informed, consenting patients.

The new system will be able to perform complex, cross-patient correlations across patient demographics, diagnostics, and laboratory results—for all of the 4.4 million patient histories in the Clinic's vast data warehouse. Medical searches by symptom, patient age,



IBM eServer i5 servers, developed and manufactured in Rochester, are the first IBM servers to use the powerful, new POWER5 processor.

laboratory result, drugs prescribed, and other factors—searches that once took months—will be able to be completed in a matter of minutes.

MEDICAL DEVICE INDUSTRY

IBM engineers in Rochester also collaborated with Mayo Clinic to develop and manufacture a series of magnetic resonance imaging (MRI) devices that work in conjunction with MRI scanning systems to make it easier to diagnose injuries and diseases that affect wrists, forearms, elbows, hands and fingers. Mayo has obtained FDA approval to market and commercialize these devices, making them available to other medical centers nationwide. Named Mayo Clinic BC-10 MRI Coils, these devices take detailed pictures of a particular part of the body, making it possible to more accurately diagnose injuries and diseases



IBM Rochester, a major development and manufacturing facility for the world's largest information technology company, is the largest IBM facility in the world under one contiguous roof.

and, in some cases, eliminate the need for invasive diagnostic procedures.

IBM Rochester engineers worked with Minneapolis-based Medtronic to design its Medtronic CareLink™ programmer, a tool that enables clinicians to program and review data about implantable cardiac devices in real time. Rochester engineers also developed and demonstrated a small device, called a personal wireless gateway, that captures data from a heart rate monitor and can send an alert for help through a wireless signal when the monitored person's heart rate goes out of a set threshold range.

A WORLD LEADER IN INNOVATION

In addition to its collaboration with Mayo Clinic, IBM Rochester is the key development site for IBM's worldwide Healthcare and Life Sciences industry, working with leaders in Healthcare and Life Sciences initiatives such as Johns Hopkins University, Duke University, the University of California at San Francisco, Aventis Pharmaceutical, iCAPTURE Center for Genetic Research, and H. Lee Moffitt Cancer Center & Research Institute.

IBM engineers in Rochester also worked with Xybernaut to develop the Mobile Assistant, a mobile/wearable computer for kids with special needs. The Mobile Assistant is a versatile computer system—as powerful as a desktop—that is small enough to go anywhere a student needs to go. With specialized software for educational environments, especially voice recognition applications and touch-activated icons, the system becomes a highly effective learning tool for children who are autistic, have speech difficulties, or face other physical or learning challenges.

In addition, Microsoft Corp. has entered into a semiconductor technology agreement with IBM to license leading-edge semiconductor processor technology for use in future

Xbox® products and services.

Corroborating success stories like these, IBM earned 3,415 U.S. patents in 2003, breaking the record for patents received in a single year and extending its run as the world's most innovative company to 11 consecutive years. Since 1993, IBM innovations have generated more than 25,000 U.S. patents, nearly triple the total of any U.S. IT competitor during this time.

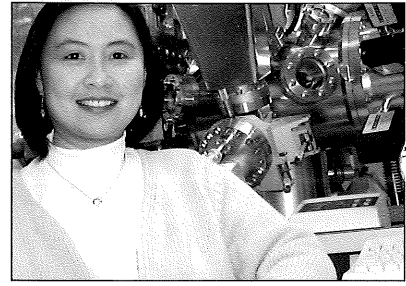
IBM inventors in Rochester have contributed some 2,500 patents to the company's portfolio. The company translates these advanced technologies into value for its clients around the world.

THE NEW, FORM-FITTING BLUE GENE

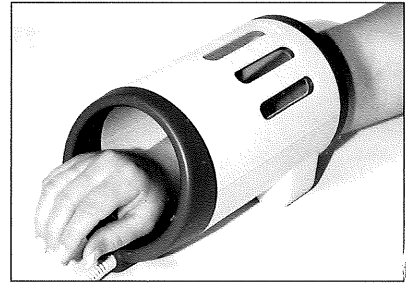
In one of its most ambitious research projects to date, IBM Rochester is playing a major role in the development of Blue Gene, a new family of supercomputers. Blue Gene can handle large amounts of data while consuming a fraction of the power and floor space required by today's fastest systems. Although currently a project with IBM's Research Division, Blue Gene/L is expected to be used worldwide by government and university researchers, as well as businesses, to tackle the most advanced challenges in several very different fields, including genomic research, automotive design, finance, weather forecasting, and fluid dynamics.

While Rochester's IBM engineers are working closely with their colleagues in IBM Research to develop and build Blue Gene/L systems, Rochester is the manufacturing and test focal point for delivering Blue Gene/L systems to Lawrence Livermore National Laboratory (LLNL) and ASTRON, a leading astronomy organization in the Netherlands. IBM and ASTRON will use IBM's Blue Gene/L supercomputer technology as the basis to develop a new type of radio telescope capable of looking back billions of years in time.

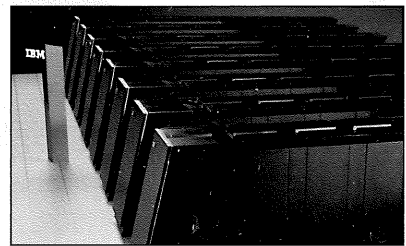
MORE THAN JUST SERVERS



Sophia Lau, Ph. D., an analytical chemist in IBM's Systems and Technology Group, is one of IBM Rochester's 4,500 employees. IBM is the second largest employer in Rochester and the largest information technology employer in Minnesota.



Rochester's IBM engineers collaborated with Mayo Clinic to develop and manufacture a series of magnetic resonance imaging (MRI) devices that make it easier to diagnose injuries and diseases that affect wrists, forearms, elbows, hands, and fingers.



IBM and ASTRON will use IBM's Blue Gene/L supercomputer technology as the basis to develop a new type of radio telescope capable of looking back billions of years in time. This photo shows what the ASTRON Blue Gene/L supercomputer will look like when installed.

IBM inventors in Rochester have contributed 2,500 patents to the company's portfolio.

ROCHESTER MEDICAL CORPORATION

About 100,000 people a day use one of Rochester Medical's products. Not a surprise, really, when you learn that about 13 million Americans presently suffer from incontinence. As baby boomers enter into old age, even more people will need the company's solutions. Rochester Medical Corporation, a global technology leader in latex-free urological catheters and incontinence devices, is determined to make sure that people are able to manage their incontinence with dignity and avoid dangerous infections.

Rochester Medical sells male external catheters for the management of urinary leakage, intermittent catheters for the management of urinary retention, and Foley catheters for indwelling bladder drainage, as well as the FemSoft Insert, a disposable device for the management of female stress incontinence, to more than 70 countries around the world. The demand is there. Urinary dysfunction affects approximately 11 million women in the United States and an estimated equivalent number in Europe.

With 20 patents related to medical devices for bladder drainage and continence care filed in the United States—and numerous corresponding foreign patents—the company is probably best-known for its anti-infection catheters. Rochester Medical has the only drug-eluting Foley and intermittent catheter in the world marketplace. For the average consumer, this can mean significantly less risk of acquiring an infection when hospitalized.

Rochester Medical's administrative



offices and primary manufacturing facility occupy a 52,000 square foot facility on a 28-acre site located in Stewartville, Minnesota—just outside of Rochester. The company, which employs over 150 people, has a second 34,000 square foot facility located on a nearby 3.5-acre site. With about \$15 million in sales in 2003, Rochester Medical is one of the key players driving medical innovation in the field of urinary and incontinence devices both domestically and abroad.

Transplant Testimonial



NAME: Martyn R. Sholtis
AGE: 45
STATUS: Married
TITLE: Corporate Vice President

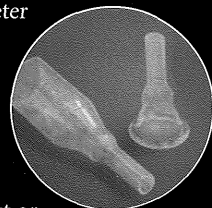
JOB DESCRIPTION: Directs and manages business development activities and worldwide sales to over 70 countries. Martyn also maintains Rochester Medical's key customer relations.

ROCHESTER RAVES: Martyn moved to Rochester from St. Louis to work at Rochester Medical in 1992. What does he like about the area? "Rochester is a unique blend of small town and big city," he says. "It has great neighborhoods to raise a family and is a well-educated professional community. Wide open spaces and outdoor recreation are only minutes from downtown and, even with the recent growth, the commute to work is minimal."

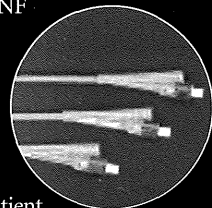
ROCHESTER MEDICAL PRODUCTS

Rochester Medical develops, manufactures, and markets a broad line of innovative, latex-free urological and urinary continence care products. Here's a look at a few of their key products.

The UltraFlex is a breathable, clear and odor-free catheter with standard adhesive width. The shorter sheath Pop-On is ideal for patients with a short or retracted penis or those who prefer a shorter sheath or a different adhesive location on their skin. Other male catheter brands from Rochester Medical include the WideBand and the Natural.

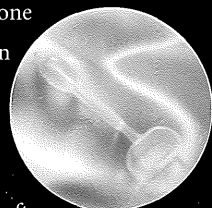


The RELEASE - NF catheter is an all silicone Foley catheter with a built-in anti-bacterial agent. When placed in a patient, the RELEASE-NF catheter provides a controlled release of the antibacterial agent nitrofurazone to the tissues of the urethral tract for the duration of catheterization.



Rochester Medical also offers a line of urinary leg bags and accessories for use with male external catheters, Foley catheters, and most urinary catheters.

The FemSoft Insert is a small, single-use, liquid and silicone device that a woman can easily insert into her urethra. As a woman inserts the thin device, its soft sleeve slides into and conforms to the urethra, creating an effective seal at the neck of the bladder to prevent unintended urine leakage.



OSBORN MEDICAL CORPORATION

If you've got sensitive feet, Osborn Medical has just the pair of socks you want to slip those aching toes into. The progressive Utica, Minnesota-based company has been manufacturing and selling vascular products and equipment for over 15 years. While best-known for its Rooke Vascular Boot, a device worn on your foot and leg to promote circulation, the company's latest product is being billed as the most comfortable socks you will ever wear.

After testing more than 20 different brands of socks said to be the best socks ever made for people with diabetes, and with input from podiatrists, nurses, wound care professionals, and diabetes educators, Osborn rolled out the SmoothToe seamless toe sock to broad acclaim from health care professionals across the country.

Osborn also manufactures and sells the Rooke Mitt, a device worn on your hand and lower arm to promote circulation, the Plebotest, a diagnostic piece of equipment designed to test venous blood flow in the lower extremity, and the ABI (Ankle Brachial Index) machine, a diagnostic device to detect peripheral arterial disease. To find out more about Osborn Medical and its products, visit the company's Web site at www.osbornmedical.com. To learn more about the SmoothToe brand of seamless socks, head to www.changeyoursocks.com.



SmoothToe socks are available in black and white colors, three styles, and a full range of sizes for men and women.

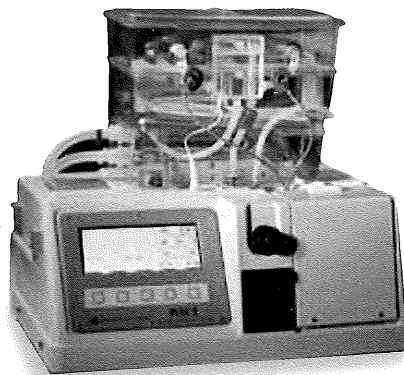
100 West Main St., P.O. Box 324 • Utica MN 55979 USA • (507) 932-5028
info@osbornmedical.com

WATERS MEDICAL SYSTEMS

For many people, Waters Medical Systems is a real lifesaver. The National United Network for Organ Sharing's waiting list includes over 55,000 patients in the United States registered to receive a kidney transplant—Waters products help ensure that those transplants, when they finally happen, are a success.

Waters Medical Systems, a division of Waters Instruments, Inc., manufactures devices that measure oxygen in whole blood as well as devices that improve kidneys for transplant. The company released its kidney preservation system in 1998, enabling surgeons to evaluate kidneys before they are transplanted and, as a result, greatly improving the success rate for kidney transplant recipients.

The company has called Minnesota home since 1960 when it was founded by Rochester native George Waters, who still lives in Rochester today. Waters is just one of a long-line of innovative Minnesotans. The actual concept for perfusing organs for transplant originated with another Minnesotan—Charles Lindbergh—and Noble-prize winning surgeon Alexis Carrel in 1938.



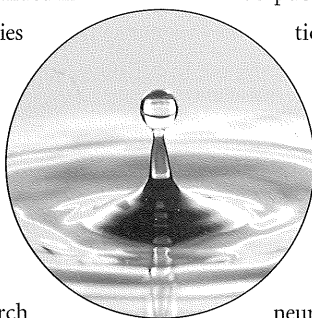
The RM3 is a pulsative perfusion device that improves the immediate function of the kidney, lowers transplantation costs, and expands the donor pool.

2112 15th Street NW, Suite A • Rochester, MN 55901 • (507) 288-7777
corpinfo@wtrs.com • www.watersmed.com

MEDCITY MEDICAL INNOVATIONS, INC.

MedCity Medical Innovations (MCMI) was founded in 2002 to develop emerging medical technologies using resources in the Rochester area and the surrounding Olmsted county community. MCMI is focused on innovation and rapid development of technologies in order to succeed in today's global market.

MedCity's co-founders bring years of scientific research and business management to the venture. Matthew Ogle, the company's vice president of research and development, has achieved international recognition with over



75 publications, patents, and presentations at major conventions. MedCity Medical President Robert Jacobson leads the company's business development efforts. His experience directing his own small companies, combined with a strong passion for medical research, has been instrumental into turning MedCity into a driver of local innovation.

Although currently focusing on cardiovascular and neurovascular projects, the company is investigating additional platforms to further the rapid development of new medical technologies.

1610 14th St. NW • Suite 100B • Rochester, MN 55901 • (507) 358-0190

HORMEL INSTITUTE, UNIVERSITY OF MINNESOTA

Anyone who has had the misfortune to undergo chemotherapy or who has been forced to watch a loved one suffer through that difficult treatment might find comfort in the knowledge that the Hormel Institute is looking for an alternative.

The Hormel Institute is an independent research branch of the Graduate School of the University of Minnesota located in Austin, Minnesota—a short 40-minute drive from Rochester. The Institute, which was founded in 1942 to conduct research and provide education in the biological sciences, continues breaking new ground in these areas today. In fact, researchers are currently looking at new ways to use discoveries in food biology to provide an alternative to chemotherapy for cancer patients.

FOCUS ON RESEARCH

Scientists at the Institute are currently focusing on six major areas of research: biophysics, cancer biology, cellular and molecular biology, cellular and developmental biology, membrane biochemistry, and nutrition and metabolism. As part of his research in cellular biology, Hormel Institute Executive Director Zigang Dong recently received a five-year \$1.2 million grant from the National Institutes of Health (NIH) to gain a better understanding of how solar radiation causes skin cancer.

Almost from the beginning, the Hormel Institute has received substantial financial support from the National Institutes of Health (NIH). Today, the major portion of the Institute's funding is provided by the Hormel Foundation and the National Institutes of Health. The introduction of molecular biology to the Institute's overall program has not only opened new funding sources—especially those supporting cancer



Hormel Institute Executive Director Zigang Dong recently received a five-year \$1.2 million grant from the National Institutes of Health (NIH) to study how the sun's UVB rays cause skin cancer—the most common type of human cancer.

research—but has stimulated and improved many other projects and led to enhanced collaboration among Institute faculty.

BUILDING A STRONG COMMUNITY

The positive impact of the Hormel Institute's continuing research extends beyond the laboratory and into the surrounding community. The Distance Outreach and Education (DOE) program, in cooperation with the Southern Minnesota Internet Group (SMIG), provides Internet service to a large area of the southern Minnesota region bringing technology to many rural citizens.

Also, area college students spend 10 weeks each summer at the Hormel Institute as participants in the Institute's Summer Undergraduate Research Experience (SURE) program. During that time, students work with internationally known scientists on research projects that expand their knowledge of basic research and provide them with the opportunity to work with equipment and techniques not generally available to undergraduate students.

The Institute also strives to keep local residents healthy and informed by providing information on recent developments in treatment and prevention of cancer and other diseases.

For more information, visit the Hormel Institute's Web site at www.hi.umn.edu.



OSEMI INC.

OSEMI (formerly Ovation Industries, Inc./DBA, Ovation Semiconductor) was formed in Rochester in the fall of 1994. The compound semiconductor company began producing high-quality wafers a year later and now sells a selection of semiconductor materials—as well as integrated circuits—to over 40 major semiconductor companies worldwide.

Committed to growth, OSEMI made a substantial investment in new equipment and CAD software in 2002 that allow it to also produce the devices, circuits, photodetectors, and lasers that are the building blocks of both wireless and optical communications equipment. In fact, OSEMI has already issued three

U.S. patents for wireless communications technologies, making for a total of 35 patents issued, pending, and provisional.



OSEMI's semiconductor manufacturing equipment

Part of OSEMI's success, says OSEMI President David Braddock, stems from its location. **“Rochester is the perfect place to start a high-tech company in semiconductors, software, or biomedicine,”** he says.

“Because large high-tech companies like IBM and Mayo Clinic have been in Rochester for decades, many vendors familiar with the infrastructure needs of high-tech companies exist in Rochester,” says Braddock. “Rochester is an excellent place to live—especially for young families—with good access to Minneapolis, St. Paul, Madison, and Chicago. Also, the cost of living is reasonable and commuting times are low.”

Analysts International is technically very strong and helped us maximize current Internet technology. Our research also showed that they have a reputation for staying within budget—and could count on their stability to be around for the long term.

—MINNESOTA HEALTHCARE NETWORK

ANALYSTS INTERNATIONAL

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Analysts International opened its branch in Rochester in 1986, largely because of its growing national business relationship with IBM—the company is a preferred vendor and core supplier to IBM nationally. But Analysts International representatives say Mayo Clinic was also a huge draw, as were the many companies that have opened offices in the Rochester area over the last 10 years.

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KERRY BIO-SCIENCE

Ever wonder why that ice cream tastes so good in your mouth? Or maybe you were curious as to how that tub of powdered lemonade survives for months in your pantry while your real lemons expire in just a few weeks?

Scientists and researchers at Kerry Bio-Science strive to create food ingredient products that not only make your food taste better, but last longer. Kerry Bio-Science is an arm of the Kerry Group, a leader in the

global food and ingredients market. The Kerry Group supplies over 10,000 food, food ingredients, and flavoring products to customers in more than 120 countries worldwide. The Group has manufacturing facilities in 16 different countries and international sales offices in 20 other countries across the globe.

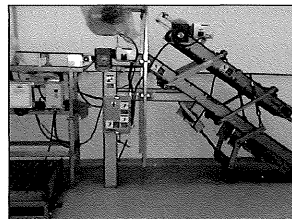
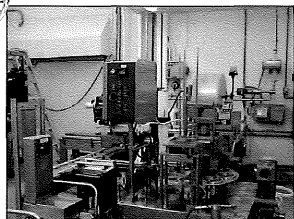
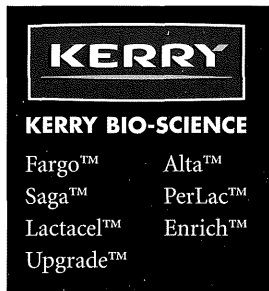
Formerly the Quest International food ingredients division, the Kerry Bio-Science

division in Rochester is the source of all fermented ingredient products marketed globally by Kerry Bio-Science. The Rochester facility creates lactic acid bacteria for processed meat and cultured dairy products, cultured ingredients for natural shelf-life extension, and cultural dairy solids for natural stabilization and “mouthfeel” in ice cream.

In addition to manufacturing some protein and hydrocolloid products for use in the food industry, Kerry Bio-

Science has spent the last 10 years developing its food ingredient product line.

Part of the Rochester community since the early '70s, Kerry Bio-Science's Rochester facility employs scientific researchers working to develop new ingredient products as well as factory personnel who manufacture these products for the company's North American, European, and Asia-Pacific markets.



2402 7th Street NW • Rochester MN 55901 • (507) 285-3400

DIETMASTER SYSTEMS

Cooking for your own family can be a chore, but cooking for an institution would be a nightmare without the type of food service management software offered by Rochester-based DietMaster Systems.

In business since 1990, DietMaster now reaches long-term care facilities in more than 20 states with its flagship software, DietMaster 2000 (DM2K). The full-featured software includes both programs and data to help manage menus and recipes, food order-

ing, preparation and serving, and all the personal data associated with dining in a facility.

DietMaster 2000's ease of use can be credited to the strong mix of technological and medical resources available in the Rochester area. Drawing on the experience of local programmers and relying on the leading-edge health care expertise for which the area is renowned, DietMaster was able to create the premier food service management software now used by facilities across the country.

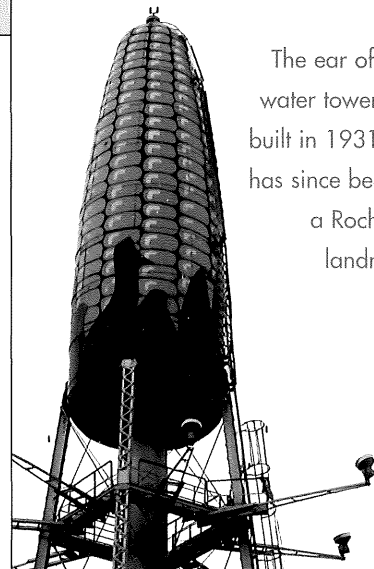
P.O. Box 6345 • Rochester, MN 55903 • (888) 475-3438 • www.dietmaster.com

SENECA FOODS CORPORATION

Scan your kitchen cupboards and you're likely to find a can or two from Seneca Foods—it's the largest producer of canned vegetables in the world. The company's Rochester facility alone produces roughly 156 million cans of vegetables and 40 million pounds of frozen vegetables a year.

Founded in 1929 by Reid-Murdock/Monarch Foods, the Rochester facility was originally built as a gift to the city and its surrounding area by a thankful Mayo Clinic patient. It was sold to Libby, McNeill and Libby in 1948 and purchased by Seneca in 1982 from Libby/Nestle. The company's “ear of corn” water tower has since become a cherished Rochester landmark.

Seneca Food's one million plus square foot Rochester facility employs almost 250 full-time and 300 seasonal employees charged with processing roughly 20,000 acres of vegetables a year. To keep in line with FDA guidelines, employees are trained in the latest technology in statistical and thermal processing for filling and seaming the millions of cans they process annually.



The ear of corn water tower was built in 1931 and has since become a Rochester landmark.

1217 3rd Ave. SE • Rochester, MN 55904
www.senecafoods.com

KEMPS ICE CREAM

What does Kemps, the Minnesota-based dairy provider, know about making ice cream? Just look at the numbers.

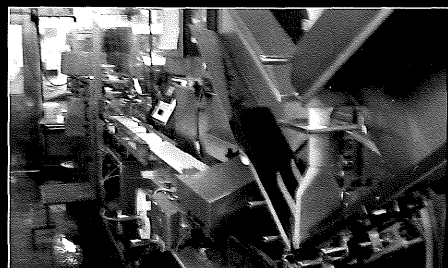
The Rochester plant—the fifth largest bulk ice cream plant in the world—churns out about 30 million gallons of ice cream, sherbet, and frozen yogurts each year, along with 3 million dozen ice cream sandwiches that it distributes to over 42 states under 34 brand names. The 218,000 square foot facility offers 183 flavors in 12 containers ranging from a pint to 3 gallons.

Established in 1928, the Kemps ice

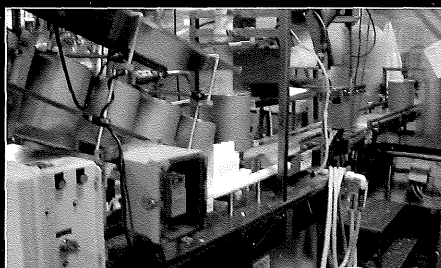
cream plant has grown to occupy two full city blocks, which house 30,000 square feet of warehouse space, a full service laboratory, a research pilot plant, and a four-bay load out dock. The dairy's six production lines run 24 hours a day, five days a week, averaging 140,000 gallons of product per day. The plant has 12 raw dairy tanks with a total capacity of 126,000 gallons, 13 pasteurized tanks that hold 92,000 gallons of mix, and three sweetener tanks that hold 60,000 gallons total. Kemps has one large high temperature short time pasteurizer that runs at 85 gallons of mix per hour.



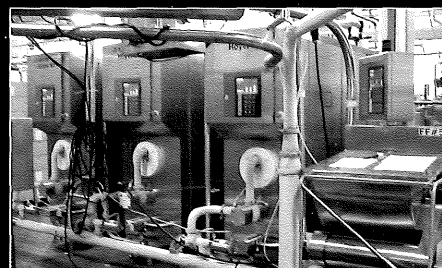
Kemps enjoys the largest market share in Minnesota and the upper Midwest because it produces great-tasting ice cream, a tasty tribute to scientific achievement. The ice cream plant's research team tests different stabilizers, flavors, and dairy ingredients to develop new flavors and improve the flavor, cost, and textures of current flavors. Who knew science could taste so good?



This machine fills ice cream sandwiches at the rate of 140 sandwiches per minute, which Kemps sells at a rate of 3 million dozen per year.



Three gallon containers, sold mainly to restaurants and dipping stores, are filled at the rate of 10 containers per minute.



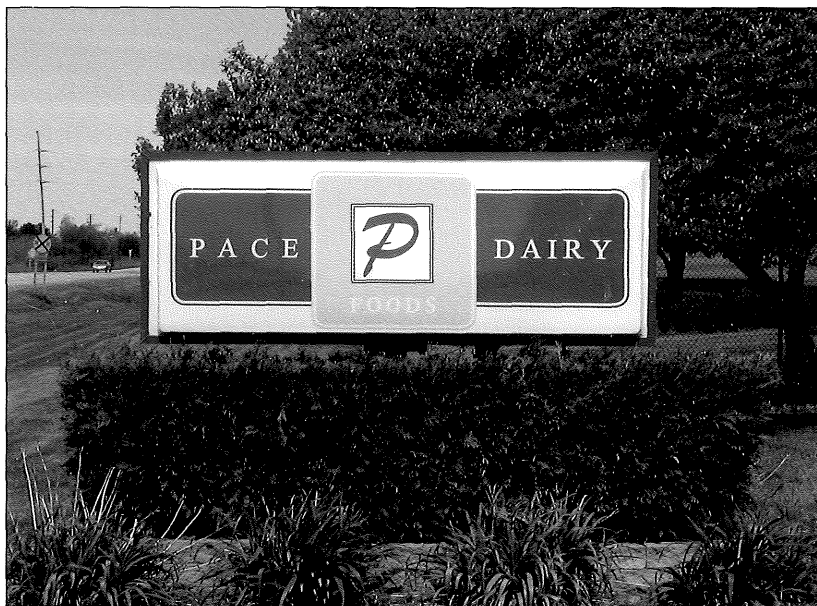
This equipment freezes the ice cream to 21 degrees (soft serve), incorporates air, and adds condiments. It runs at the rate of 2,400 gallons of ice cream per hour.

400 North Broadway • Rochester, MN 55903 • (800) 555-7301 • www.kemps.com

PACE DAIRY

Pace Dairy, a division of Kroger, has processing cheese down to a science. Responsible for the input, processing, and distribution of a wide variety of cheeses, the Rochester plant employs the latest technologies in food processing to stock your local grocer's dairy case with everything from colby to mozzarella.

Pace performs extensive tests on moisture content, salt content, and color to ensure great-tasting products and performs strict microtests to meet requirements for food safety. The 350-person company then slices, shreds, and wraps the cheese for sale under brand names by Kroger and many others.



2700 Valley High Drive NW • Rochester, MN 55901 • (507) 281-6385

MEDICAL INNOVATIONS



Medical Innovations International Inc. (MII), previously Gauthier Medical, has enjoyed a 40-year history with Mayo Clinic. MII provides prototype development and contract manufacturing services. Recently, MII introduced the New Technologies Business Group where innovative point-of-care diagnostic testing devices are brought to life.



6256 34th Avenue NW • Rochester MN 55901 • (507) 289-0761 • www.Medicalinnovations.com

CIBER

CIBER, a multimillion dollar systems integration consultancy with more than 7,000 employees in 10 countries, has a simple mission: to help companies save money, speed time to market, and improve the quality of their software.

It's a mission that gets results. Gartner's Fast 50 report names CIBER the fifth

fastest growing company in its sector. Plus the company's high sense of integrity commands a respect that turns new clients into loyal customers. Not only are CIBER customers happy with their service, but over 98 percent would recommend CIBER to their colleagues.

CIBER opened its Rochester office in 1988 because of the high concentration of technology and medical expertise in the area. Since then, the local office has grown to 200 employees who are experts at helping companies leverage technology through building, integrating, and supporting business applications.

CIBER strives to help its clients reach the most cost-effective solutions to their problems by following this four-step procedure:

- Understand the business problem and success criteria
- Form a joint customer/CIBER team to develop the most practical solution
- Offer choice in how to manage, staff, and structure the engagement
- Execute on time, within budget, and with the defined functionality

The company's services are offered on a project or strategic staffing basis and across all technology platforms, operating systems, and infrastructures.



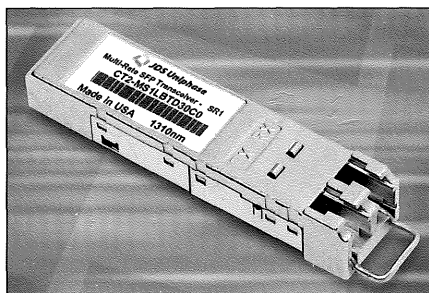
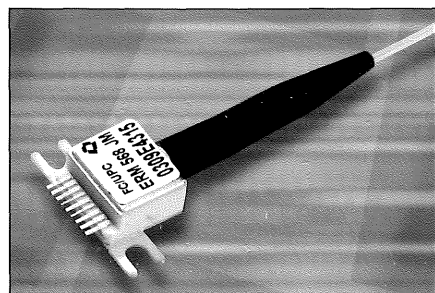
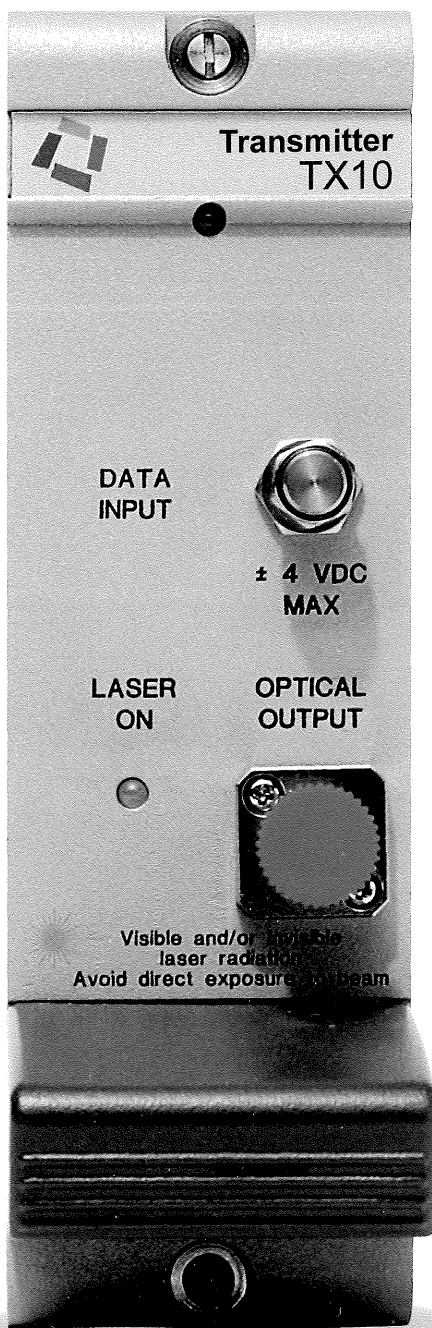
2222 18th Avenue NW • Suite 100 • Rochester, MN 55901 • (507) 280-9267 • www.ciber.com

JDS UNIPHASE

Just as the human body depends on an elaborate nervous system and cell structure, today's communications networks depend on a complex fiberoptic infrastructure that includes optical transmitters, receivers, amplifiers, multiplexers, switches, splitters, and circulators. JDS Uniphase designs and manufactures these optical components, modules, and subsystems that enable us to communicate so effortlessly over the phone, through email, and online.

In addition to creating the building blocks for today's fiberoptic communications systems, JDS Uniphase has a growing optical technology business. This arm of the global fiberoptic technology provider creates optical tools that control the properties of light for use in commercial and consumer applications, such as the light engines and displays used in projection televisions, lasers and optics used in biotech and environment monitoring, and unique optical solutions to protect everything from currencies (used on the new \$20 and \$50 dollar bills, for example) to pharmaceutical products from counterfeiting.

The company's Rochester facility specializes in product development, product management, and operational support of optical transceivers, which combine transmitters with receivers to generate, encode, receive, and detect signals in a single package.



Transmitter (top), Receiver (bottom left), Transceiver (bottom right)

PHOTOS COURTESY OF JDS UNIPHASE CORPORATION

SPSS INC.

It would be a lot easier to make smart decisions if only you could read the future. The good news? With software from SPSS, you can.

Well, sort of. SPSS enables its clients—including corporations, academic institutions, healthcare providers, and government agencies—to tie knowledge to action by drawing reliable conclusions about current conditions and future events through complex data analysis. The end result is that clients are able to make better, more informed decisions based on research rather than guesswork.

SPSS employees aren't fortune tellers. The company uses its predictive analytics software to explore how specific business issues relate to data describing people's characteristics, attitudes, and behavior. This data is then analyzed and used to generate models for classification, segmentation, forecasting, pattern recognition, sequence and association detection, anomaly identification, profiling, propensity scoring, rule induction, text mining, and advanced visualization.

The results vary depending on the industry. A medical researcher at a major hospital uses SPSS software to more efficiently analyze gene expression data, leading to more rapid advancements in the study and treatment of pediatric brain tumors. A leading bank, on the other hand, uses SPSS software to better focus its marketing efforts, resulting in a 50 percent increase in sales and a 30 percent decrease in key marketing costs.

Read more testimonials and learn the ins and outs of predictive analysis by visiting the company's Web site at www.spss.com.

CORPORATE ROSTER

Rochester is home to a wide array of innovative companies making a global impact on the fields of technology, biology, and medicine. The companies listed here are just a sample of the great wealth of resources available in the Rochester area.

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PHOTO COURTESY OF THE POST-BULLETIN

FOR MORE INFORMATION CONTACT:

Rochester Area Economic Development, Inc. (RAEDI)

220 South Broadway, Suite 100 • Rochester, MN 55904

(507) 288-0208 • www.raedi.com

RAEDI

Rochester Area Economic Development, Inc.

The Rochester community vision builds on the existing academic base at University Center Rochester and provides a significant opportunity for growth in baccalaureate and graduate programs to enhance its position as the "Southern Anchor" for Minnesota's high tech corridor.

UNPRECEDENTED GROWTH

In the past decade, Rochester has become a research & development hotbed, attracting over thirty new companies to work at the cutting edge of technological, medical and biological advances.

- Rochester is now Minnesota's 3rd largest city with a diverse population of 93,037 and a metropolitan statistical area of 172,476.
- Rochester has the highest concentration of high-tech business per capita in the U.S. (*Milken Institute Study of America's High Tech Economy*)
- Mayo Clinic, a world leader in health care, is MN largest private employer with 47,000 workers, of which 28,100 work in Rochester. In 2001, Mayo's state economic impact was \$3.9 billion annually; Olmsted County's impact was \$16 billion.
- IBM, a world leader in technology, employs 4,500 in Rochester; this team has earned 1300 patents.
- Over 7% of U.S. total real output for computers and office equipment is produced in Rochester.

UNIVERSITY CENTER ROCHESTER

Incremental steps at University Center Rochester (UCR) have advanced higher education; however, upper division, professional and graduate programs have not kept pace with the region's economic and demographic changes.

- UCR partners Rochester Community and Technical College (RCTC), University of Minnesota Rochester and Winona State University Rochester Center deliver programs spanning certificates to graduate degrees and workforce education courses.
- UCR is Minnesota's 5th largest public campus. Combined, UCR institutions enrolled 7,229 students in credit-based programs in fall 2003; and generated 4,987 FYE in 2003-04 academic year.
- Rochester has done its share by becoming the first community in the state to pass a half percent sales tax earmarked for co-developed higher education facilities at UCR.

What got us here...can't get us there"

-- Peter Drucker

- Rochester has exhausted its local labor supply and relies heavily on commuters (~35,000) and net migration to fill labor force needs.
- By 2030, Olmsted County projections show job growth will exceed labor force growth by 26,000 workers.

A WINDOW OF OPPORTUNITY

The growing genomics and supercomputing partnerships by the University of Minnesota, Mayo Clinic and IBM are evidence of the opportunity and justify continued growth in higher education in Rochester.

- Basic premise: preserve the current academic base and grow baccalaureate, graduate and professional programs.
- Signature programs focused in health sciences, technology, business, agribusiness, and professional programs that sustain the region's economic and human development.
- Innovation in technology-enhanced learning
- Strong public-private partnerships
- Leverage strategic investments

GOVERNOR'S PROPOSAL

- Rochester University Development Committee to research and recommend mission-driven institution to meet the economic and human development needs of the state and region.
- Establish funds to implement recommendation and new programs
 - \$ 200,000 research and planning
 - \$ 3 million for implementation

For information contact: Alison Good
507.281.7786

"Rochester's confluence of world-class medicine, technology and bio-industry, including agriculture, makes it uniquely poised to be a major player in the 21st century economy. It has the potential to be for Minnesota what Austin became in the 1990's for Texas -- a mecca for high-wage, high-skill scientific enterprises. But Rochester lacks one ingredient that has been key to Austin's success -- the presence of a major research university."

Excerpt from article: "U-Rochester/Investing now for high-tech gain" reprinted with permission of the Star Tribune Feb. 16, 2005

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Opinions

It's time for a leap into the educational future

By Al DeBoer

Higher education in Rochester has been newsworthy since Gov. Pawlenty announced a proposal for the "Rochester area to take greater control over its own higher education destiny."

As a member of the Rochester Area University Center (GRAUC) Board of Directors and chair of its Higher Education Task Force, let me clarify the vision we see for higher education in Rochester and invite the community to join in supporting the governor's initiative.

Over the past decade, Rochester has experienced unprecedented growth; however, funding and leadership for expanding baccalaureate, professional and graduate education programs have not paralleled the region's economic and demographic changes. The task force implementation of the GRAUC vision addresses these needs.

GRAUC's vision

The GRAUC vision features a high-quality, distinctive, focused institution offering signature programs in health sciences and technology with an applied research focus. Addi-

tional professional programs in business, including agri-business, management and areas that foster economic and human development of the region could be expanded. Projected economic spin-offs have tremendous potential to increase our region's contribution to state economic output and create new opportunities for all Minnesotans.

Our vision calls for a unique "South Bank" identity with degrees granted by the University of Minnesota. It's a significant opportunity for the U to strategically grow, enhance its position as a premier research university and create a southern anchor for Minnesota's developing high-tech corridor providing access not only to area residents, but also to students throughout the United States. This vision aligns with the U's strategic plan.

Imagine Rochester's university as an education mall with two anchors — Rochester Community and Technical College and University of Minnesota-Rochester, each distinctive in its mission and programs. There would also be "boutique" outlets that address important programs not delivered by either anchor. Example: Winona State University's nursing

program fills a critical need and would be expected to continue in this higher educational marketplace.

This vision preserves the current academic base in Rochester and enhances growth of the U. The governor's proposal acknowledges preserving the base but does not presuppose the U's alignment. The governor and GRAUC both propose that RCTC continue its mission as a community and technical college and remain an open-access institution.

The challenge

This vision challenges Minnesota to allocate higher education resources strategically to leverage and maximize economic opportunities in the state. It recognizes the strong growth in our region, particularly the medical genomics and biotechnology partnership between Mayo and the U, the collaboration with IBM and Blue Gene/L, and other industries that are making this area a research and development hotbed. (Check out www.raedi.com.) This historic convergence of health sciences and technology spells opportunity for Rochester and all of Minnesota. However, this opportunity is not guaranteed. It is no secret

that Arizona, Florida and others aggressively seek to replicate what we have here. Minnesota must align its higher education resources to nurture and support the advanced education, applied research and outreach needs of globally competitive industries of the future.

How will this vision be realized? First, the governor has taken a leadership role and created a process to allow our community's needs to be heard.

Second, this community needs to focus on this vision and speak with one voice. We recognize that it will not satisfy all wants. We must focus on the future.

Third, this is *not* a partisan issue. We believe our area legislator's will speak unanimously in their support of this key legislation.

Lastly, resources will be required to turn this vision into reality. The governor's budget requests \$200,000 for planning and an additional \$3 million to begin to implement the vision. An interim board is recommended as a bridge to the planning goal. This is not a take-away from other higher educational institutions. The respective higher education institution missions and pro-

grams should stand the same scrutiny in determining how assets are allocated. We believe this vision will be judged favorably on its merits and funded accordingly.

A treasure for many

GRAUC envisions a higher education institution aligned with the U. It will be a Minnesota, even a national, treasure, serving as a magnet of excellence, extending the mission of the U and contributing in significant ways to the economic growth and vibrancy of Minnesota. We respect the work of the current University Center Rochester partners. It has produced Minnesota's fifth largest public higher education campus. However, in the words of management guru Peter Drucker, "What got us here can't get us there."

It is time for a bold, compelling, achievable quantum leap for Rochester and all of Minnesota. All of Rochester and this state must marshal the required resources and political will to accomplish this vision. The opportunity is here. The time is now.

Al DeBoer is chairman of the Greater Rochester Area University Center Higher Education Task Force.

U-Rochester

Invest now for high-tech gain

Wednesday, February 16 • 2005

StarTribune Editorial

Cynics called it a political sop when Gov. Tim Pawlenty said in his State of the State message that Rochester should have its own public university. Zero-summers scoffed at the suggestion that Minnesota should expand higher education now, while existing campuses are still reeling from big state funding cuts in 2003.

They're both wrong. There's much more than politics behind the Republican governor's proposal to put more public higher education muscle in Rochester — the city's DFL trend in the last election notwithstanding. There's a fleeting economic opportunity to be seized, one Minnesota cannot afford to pass up.

Rochester's confluence of world-class medicine, technology and bio-industry, including agriculture, makes it uniquely poised to be a major player in the 21st-century economy. It has the potential to be for Minnesota what Austin became in the 1990s for Texas — a mecca for high-wage, high-skill scientific enterprises.

But Rochester lacks one ingredient that has been key to Austin's success — the presence of a major research university. The city is served by Rochester Community and Technical College, which grants two-year degrees. Nearby Winona State University offers 35 degree-granting programs in Rochester, mostly in the liberal arts, nursing, business and computer science. A number of private colleges have a smaller presence in the city too, as does the University of Minnesota.

But the university's 400-student operation is too small to fully meet the needs of Rochester's two big science-driven employers — the Mayo Clinic and IBM — and the city's many smaller science-based companies. Those companies need both top-flight graduate-level education for their employees and research collaboration close at hand as they build businesses on the cutting edges of biogenomics, bio-informatics, food science and more.

Many of those companies are footloose. They'll start and stay in a place that offers the high-tech re-

search and education support they need, and they'll go elsewhere if it's lacking. That situation is what makes a higher education investment in Rochester particularly promising, and particularly urgent.

Rochester isn't asking for a full-fledged campus. It isn't asking for a building at all, at this stage. Rather, explains Sen. Sheila Kiscaden, I-Rochester, the community's vision is for development of a science/technology/management institute within the University of Minnesota family — not to replace the academic programs already located in Rochester, but to supplement them.

Think of the concept as a higher education mall, Kiscaden said, with Rochester Community and Technical College (RCTC) and the University of Minnesota as anchor tenants, and an assortment of other providers operating in between.

Who would be the landlord? Who would be in charge? On those points, this promising concept needs work. Those best suited to undertake it might well be the Rochester area task force that Pawlenty would entrust with \$3 million in state funds over the next two years to do the planning. But the planners would be wise to invite to their circle of leaders from both the University of Minnesota and Minnesota State Colleges and Universities, the system that includes both RCTC and Winona State University. For the sake of accountability and its own stability, the Rochester higher ed "mall" must be tied to those systems, and they ought to figure prominently in the planning.

Unfortunately, the cynicism that greeted Pawlenty's proposal is clouding the Legislature's view of what could blossom in Rochester. Also unhelpful is a move to push the entire discussion under MnSCU's umbrella. That move misses the point. The education infusion Rochester wants is the sort that is the unique franchise of the University of Minnesota. Legislators should look past the naysaying, and see that the whole state will gain if Rochester's higher ed dream comes true.

Post-Bulletin Company, L.L.C.
Rochester, Minn.

Jon Losness, Publisher & Editor
Greg Sellnow, Editorial Page Coordinator, 285-7703
Jay Johnson, Editorial Page Writer, 285-7619

Opir

Editorial

Pragmatic view from the 'U'

University president speaks through budget realities

University of Minnesota President Robert Bruininks says he has "no capacity" to make a declarative or visionary statement of support for providing a full-fledged, U-of-M-branded university in Rochester. What he does give is nuts-and-bolts type administrative advice on how the city can turn the idea into reality.

In Rochester last week, Bruininks seemed content to leave the inspiration to Gov. Tim Pawlenty. It was Pawlenty who gave the idea of a four-year university its new vitality when he made it a focal point in his 2005 State of the State speech in Rochester.

Bruininks' hesitancy to back Pawlenty and Rochester on the university is not, he says, because he doesn't believe Rochester deserves or needs a university.

Bruininks has a track record of support for the U of M Rochester. Before he became president, he was a U of M administrator. As much as anybody, it was Bruininks who ensured the U of M had a foothold in Rochester.

Bruininks' pragmatism comes from tough budget times. It is this reality that shapes his suggestions about what Rochester should do next.

First, says Bruininks, focus on curriculum needs and do the research with outside consultants who can sidestep political infighting.

Curriculum matters because it does more than just fill local demands for graduate-level science and technical courses. A well-designed curriculum can make a university's cash flow.

Bruininks said any university needs to have undergraduate programs because tuition paid by lower level students supports upper-division and graduate courses. It is a financial model found at virtually all universities. In addition, undergraduate programs would be the pipelines that bring the majority of students into graduate school.

Bruininks also believes Rochester should be ready to make a financial commitment. The money could, and should, come from the city's Tax Increment Financing district.

To use this money for educational purposes, the city needs to alter legislation that limits its use on the University Center Rochester campus to sports facilities. Get this changed, said Bruininks, and then press the state to become a real financial partner.

Bruininks is not going to be a vocal champion for the city's university goals, but he has pledged the support of the U of M staff to help develop curriculum and programs. His help should be welcomed.



The issue:

University of Minnesota president outlines model for a successful four-year school.

Our comment:

Bruininks won't be an outspoken advocate, but his expertise is welcome.



Bruininks

Local/Region



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UND helps teach Mayo employees

By Edie Grossfield

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It's now possible to work at Mayo Clinic in Rochester while earning a four-year degree from the University of North Dakota in Grand Forks.

The first 12 graduates of the clinical laboratory science program will receive their bachelor of science degrees during a commencement ceremony Sunday at the clinic.

The new collaborative program between UND and Mayo's Department of Laboratory Medicine and Pathology enables clinical laboratory employees with

two-year associate degrees to earn B.S. degrees while they continue working at Mayo.

Seventy-five Mayo employees are expected to obtain degrees during the next five years through the program, the first of its kind at Mayo, said Susan Lehman, program director for Mayo's Clinical Laboratory Science Internship Program.

The students complete much of their coursework through online classes, and UND sends faculty down to teach six weeks of hands-on lab sessions. After those components are finished, the students go on to an internship in Mayo's labs.

Clinical laboratory scien-

tists perform and analyze tests and examine body fluids, tissues and cells. They are in critical demand at Mayo and throughout the country, Lehman said.

The need for the lab workers is greater than the nation's nurse shortage, added Ruth Paur, program director for the UND Clinical Laboratory Science program.

Why North Dakota?

With the University of Minnesota nearby, including at University Center Rochester and the Twin Cities, why would Mayo develop a distance-learning degree with UND?

"It has everything to do

with a needs assessment," Lehman said. "The University of North Dakota has been involved in distance education for at least 15 years ... They have a wealth of experience in this, and their infrastructure is supported to deliver this."

The collaboration between Mayo and UND is one example of how people in Rochester can obtain four-year degrees by piecing together education from different institutions.

Though it works for many, it's not the preferred method, said Dr. Hugh Smith, chairman of the Mayo-Rochester Board of Govern-

"Higher education in Rochester is very fragmented, and we commit something over \$5 million a year in complementing tuition for our employees to get complementary education," he said. "We know that they struggle because there's no single college with a clean curriculum."

Smith said he expects IBM also faces the same challenges as Mayo.

"The need (for a four-year institution) is there, and I think it's felt by many employers in our region," he said.

Staff writer Jeff Hansel contributed to this report.

