



January 2010

Dear Vermont K-8 Teacher,

You are cordially invited to apply to the Vermont Mathematics Initiative (VMI), a three-year professional development opportunity focusing on mathematics content, effective teaching practices, action research, and teacher leadership. Now in its eleventh year, the VMI has over three hundred educators who are either currently enrolled or recently graduated with advanced degrees from the University of Vermont. Currently, VMI teachers represent roughly 52% of the elementary and middle schools in Vermont and 90% of the school districts.

Successful applicants are committed to enhancing their effectiveness as teachers of mathematics through in-class mentoring, are enthusiastic about increasing their mathematics content knowledge in a supportive environment, and – most importantly – are committed to sharing their increased knowledge of mathematics content and pedagogy with colleagues through mentoring, peer coaching or other forms of professional development. We are able to offer admission to a limited number of qualified applicants each year. ***Please note that there are no prerequisite mathematics requirements for entry into the VMI program.*** Just as classroom teachers are expected to help students with diverse backgrounds, strengths and needs, VMI faculty and staff are committed to helping all elementary and middle grades teachers, including special educators, develop their expertise in mathematics content, practice, research, and leadership.


The selection process for admission to the VMI will be made on the basis of material included in the application and an interview with a VMI staff member or program graduate. The application should make clear how participation in the VMI will address identified school needs. ***The VMI encourages schools, especially those with larger enrollments, to submit applications for more than one teacher.*** We have found that teams of teachers, ideally representing different grade levels, often generate more broad-reaching systemic changes. Therefore, please share this information and application packet with colleagues.

Detailed information about the VMI is enclosed with this application packet. Completed applications are due (postmarked) no later than March 1, 2010. We anticipate notifying applicants of acceptance in the first week of April.

Thank you for your interest in the Vermont Mathematics Initiative. If you have any questions or need more information, please contact Kathy Lamphier (vmi@cems.uvm.edu), VMI Program Coordinator, at (802) 656-8186 or Judi Laird (jlaird@burkevt.net), VMI Executive Director, at (802) 626-8467.

Sincerely,


Judi Laird
Executive Director


Dr. Kenneth I. Gross
Director



January 2010

Dear Vermont Elementary Principal,

You are encouraged to invite an elementary or middle level teacher (K-8) or a team of teachers from your school to apply to the Vermont Mathematics Initiative (VMI).

The VMI is a comprehensive 3-year master's degree granting program designed to train elementary and middle level teachers to serve as mathematics leaders in their schools and districts. Now in its eleventh year, the VMI has trained over 300 teachers (including over 200 graduates) from 119 elementary schools and 54 school districts, which represent 52% of the elementary and middle schools and 90% of all school districts in Vermont.

Through coursework, classroom applications, mentoring by VMI staff, and leadership training, teachers in the VMI:

- Build a strong and deep knowledge and understanding of mathematics content.
- Demonstrate effective mathematics instruction.
- Conduct action research that informs instructional decisions at the classroom level and beyond.
- Provide leadership that supports schoolwide improvement of mathematics teaching and higher mathematics achievement for all students in the school.

A formal evaluation conducted in 2004 concluded that the VMI has had a significant impact on the learning of students in schools of teachers who have attended the VMI. For example, students in schools having a VMI trained teacher exceeded the performance of students in matched control schools on statewide tests in each of the past three years.

At your school, the selection process for candidates should identify teachers, including special educators, who have demonstrated a commitment to personal growth, collaboration, peer coaching, and leadership. Applicants should be committed to enhancing their effectiveness as teachers of mathematics, enthusiastic about increasing their mathematics content knowledge in a supportive environment, and -- most importantly -- committed to sharing their increased knowledge of mathematics content and pedagogy with colleagues through mentoring, peer coaching or other forms of professional development.

We are able to offer admission to a limited number of qualified applicants each year. ***Please note that there are no prerequisite mathematics requirements for entry into the VMI program.*** Just as classroom teachers are expected to help students with diverse backgrounds, strengths and needs, VMI faculty and staff are committed to helping all elementary and middle level teachers develop their expertise in mathematics content, practice, research, and leadership.

The selection process for admission to the VMI will be made on the basis of material included in the application and an interview with a VMI staff member or program graduate. The application should make clear how participation in the VMI will address identified school needs. ***The VMI encourages schools, especially those with larger enrollments, to submit applications for more than one teacher.*** We have found that teams of teach-

ers, ideally representing different grade levels, often generate more broad-reaching, systemic changes. Therefore, please share this information and application packet with teachers at your school who have the potential to meet the VMI selection criteria described above.

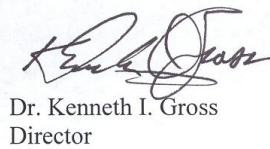
More detailed information about the VMI is enclosed with this application packet. Completed applications are due (postmarked) no later than March 1, 2010. We anticipate notifying applicants of acceptance in the first week of April.

Thank you for your interest in the Vermont Mathematics Initiative. If you have any questions or need more information, please contact Judi Laird (jlaird@burkevt.net) at (802) 626-8467 or Dr. Kenneth I. Gross at (802) 656-8186.

Sincerely,



Judi Laird
Executive Director



Dr. Kenneth I. Gross
Director



Professional Development in Mathematics for K-8 Educators

Content, Pedagogy, Action Research and Leadership

Information for VMI Applicants and School Officials -- January 2010

What is the Vermont Mathematics Initiative (VMI)?

The Vermont Mathematics Initiative (VMI) is a three-year, comprehensive mathematics professional development program. Now in its eleventh year, the VMI has been developed to support highly effective mathematics instruction so that all children can learn the rigorous mathematics needed for success in higher education and the workplace.

What is the mission of the VMI?

The mission of the VMI is to significantly improve the teaching and learning of mathematics in grades PreK-8 across the state of Vermont. Through their VMI experience teachers build strong mathematics content knowledge, develop the ability to conduct action research about their teaching practices, cultivate leadership skills, and apply this acquired knowledge and skill in their classrooms and at the school or district level to improve student learning.

What is the academic component of the Vermont Mathematics Initiative?

For each of the three calendar years a teacher is enrolled, the Vermont Mathematics Initiative offers four courses (two during the summer and one each semester during the academic year) with each course providing three graduate credits. Field work, including work with the participant's VMI mentor, runs concurrently with each course. Upon completing a full three-year program, a teacher will have earned 36 graduate credits and will have completed all of the requirements for a UVM Master's Degree in Education with a specialty in Curriculum and Instruction (focus on PreK-8 mathematics). Alternatively, a teacher who already has a master's degree may elect to receive a Certificate of Advanced Study in Educational Leadership.

What are some of the benefits to schools that participate in the VMI?

In addition to coursework in mathematics content, pedagogy and leadership, the VMI provides support for participants in their schools. Through participation in the program, VMI participants:

- Have immediate access to increased mathematics content expertise through the VMI staff, which includes mathematicians, mathematics educators, and master elementary and middle level teachers experienced in professional development.
- Receive ongoing professional development for enhancing their teaching effectiveness and for preparing to take on expanded leadership roles in their schools.
- Have opportunities to form partnerships with VMI staff and other participants that result in continuously improving learning opportunities for students and support for the mathematics component of their school's Action Plan.

One should also note that a recently conducted program evaluation has shown that VMI teachers have attained a high degree of mathematics content knowledge, VMI teachers have made significant contributions to mathematics teaching and learning in their schools and across the state, and there is significantly higher achievement by students in schools having a VMI trained teacher than by students in matched control schools.

When does the program take place?

The 2010 summer courses for new participants will be held in Burlington, at the University of Vermont, during the weeks of July 12 and July 19. Academic year course meetings will be held on Friday/Saturday “weekends,” three during the fall and three during the spring. *In addition, participants will be required to attend occasional after-school workshops, case discussions, and tutorial sessions, and a 3-day Leadership Institute at the conclusion of their first year.*

Who should apply?

All teachers, including Special Educators, of grades PreK-8 are eligible for the program. Participants may represent a school or supervisory district. Specifically, applicants should be teachers who are:

- Dedicated to enhancing mathematics teaching and learning for all of their students.
- Enthusiastic about increasing their mathematics content knowledge in a supportive environment.
- Willing to share their increased knowledge of mathematics content and effective teaching with their colleagues through mentoring, peer coaching or other forms of professional development.
- Interested in supporting the development and implementation of their schools’ mathematics curriculum, and the mathematics portion of their schools’ Action Plan.
- Committed to serving as mathematics teacher leaders in their schools and contributing to the appropriate use of local assessment results to improve instruction.

What is the cost?

With satisfactory completion of a full calendar year’s courses, the VMI teacher will earn 12 UVM graduate credits (6 in the summer, 3 in the fall and 3 in the spring). Of those 12 credits, it is expected that the participant’s district will pay for at least 6 UVM graduate credits. (This is a common contractual benefit for teachers in many districts.) The remaining 6 credits are the responsibility of the teacher. Current tuition is \$488 per credit, and one can expect a small increase for the 2010-11 academic year.

Note: *The overall goal of the VMI is to improve the teaching and learning of mathematics in the VMI teacher’s school/district, and the VMI teacher and the school/district leadership will work together to help achieve that goal. For that reason, we encourage the school and district to work creatively with the VMI applicant to increase the school or district share of tuition and correspondingly reduce the teacher’s share.*

A number of strategies have been suggested for doing so, including the following:

- A district develops an MOU in which it agrees to pay for one or two courses over and above the Master Agreement in exchange for an agreement by the VMI teacher that she or he will not request any course tuition for a given time frame (e.g., three years) following completion of the VMI. The teacher would further agree that she or he will reimburse the district a prorated amount in the event that the teacher does not renew her or his contract during the life of the MOU period. In brief, such an agreement would give the teacher added tuition funding and at the same time would provide assurance to the district and school that their financial support would benefit the school in the long term. This seems a win-win arrangement.
- Some districts pay stipends to teachers who take on leadership roles, for example, in curriculum, coaching, mentoring, etc. In this strategy, a VMI participant would be able to "earn" additional tuition funding by fulfilling such roles in their schools. This arrangement has the advantage that the teachers' participation in the VMI is tied directly to school impact.
- Title IIA and Title V can be used to pay for additional VMI tuition. Again, districts can work out MOUs for the number of years that an individual would be expected to work for the district.

Reminder: Federal tax code provides a number of options for tuition as a deductible expense. Additionally, the Lifelong Learning provision offers a tax credit. If either applies in your situation, the actual cost of tuition can be significantly reduced.

Financial assistance

The VMI has limited funds available for financial aid to qualified participants. These financial awards will cover tuition for up to one academic course per year and will be based upon a demonstrated need for assistance. Applicants must reapply each year. The following are general guidelines.

- Applicants must first utilize all of the funds for course tuition made available through the teaching contract and agreement with the local school board. Contracts often provide tuition for two courses per year as a contract benefit.
- Applicants must have requested additional financial assistance from the principal, superintendent, and local school board for tuition beyond the amount covered by the contract. Frequently, school districts have additional funds available for teacher professional development; and, as a consequence of NCLB requirements and recent stimulus funding, mathematics is a high priority. Also, many districts will support arrangements along the lines of those listed in the preceding section.
- The amount of the tuition for which the applicant is responsible would cause a financial hardship.

If you meet the above criteria and wish to be considered for financial assistance, please contact Kathy Lamphier, VMI Program Coordinator, for detailed information and for a financial assistance application.

Teachers who are interested in applying should not be deterred by questions related to cost. In a case of financial hardship we will work with the teacher and district to try to find a satisfactory solution.

Who are the instructors?

The VMI Leadership Team consists of the following individuals:

Dr. Kenneth I. Gross

Director and Professor of Mathematics and Education at UVM

Judi Laird

Executive Director and Co-Director for School Implementation

Kathy Lamphier

Co-Director for Program Management

Robert Rosenfeld

Co-Director for Statistics and School-Based Research, and Professor Emeritus of Mathematics and Statistics, Nassau Community College

Other members of the instructional staff include:

Dr. George L. Ashline, *Associate Professor of Mathematics, St. Michael's College*

Priscilla Bremser, *Professor of Mathematics, Middlebury College*

Josh Bunker, *Mathematics Teacher, Rutland Middle School*

Connie Cannon, *Mathematics Education Consultant and Lead Field Mentor, VMI*

Mary Cox, *Lecturer Department of Mathematics and Statistics, UVM*

Doug Dickey, *Lecturer Department of Mathematics and Statistics, UVM*

Carol J. Eckels, *Principal, Leicester Elementary School*

Elisabeth Gambler, *Professor of Mathematics, VTC*

Fran Huntoon, *Teacher, The Schoolhouse in Burlington, VT and Field Mentor, VMI*

William Jesdale, *Principal, Lincoln Community School*

Dr. Tony Julianelle, *Faculty Member in Mathematics, UVM*

Bob Laird, *Instructor, Field Mentor and Phase II district liaison, VMI*

Kiran MacCormick, *UVM Statistics Graduate Student*

Suzanne McDevitt, *Math Curriculum Coordinator, Browns River Middle School, Instructor and Field Mentor, VMI*

Dr. Edwin L. Marsden, *Professor of Mathematics, Norwich University*

Dr. Elizabeth Mathai, *Assistant Professor of Mathematics, Norwich University*

Kathy Nolan, *Mathematics Content Specialist, Orleans Essex North S.U. and Field Mentor, VMI*

Susan Ojala, *Lead Instructor/Field Mentor, VMI*

Kathy Richardson, *Teacher, The Putney School and Field Mentor, VMI*

Penny Stearns, *Math Coach, Burlington Public Schools and Field Mentor, VMI*

Dr. Julie M. Theoret, *Assistant Professor of Mathematics, Johnson State College*

Sean Theoret, *K-12 Math Consultant, Franklin Northeast Supervisory Union*

Dr. Sheila Weaver, *Senior Lecturer of Mathematics and Statistics, UVM*

Dr. James Wright, *Associate Professor of Mathematics, Green Mountain College*



Vermont Teachers Return to Math Class

Determined to raise the mathematics skills of elementary school students, Vermont state education officials launched the Vermont Mathematics Initiative three years ago. Elementary teachers learn algebra, geometry, problem solving, and calculus so they can better understand and explain math to their students.

Included: Lessons from the Vermont Mathematics Initiative

Algebra, trigonometry, and calculus are not topics often associated with elementary school teachers.

Vermont education officials, however, calculate that a professional development program in mathematics for elementary teachers will add up to better math comprehension for them and better math skills for their students.

Called the Vermont Math Initiative (VMI), teachers in the three-year program learn higher-level math in a way they can understand and then take that increased understanding to their classrooms. At the end of the program, teachers receive a master's degree in education with a specialty in K-6 mathematics education.

VMI's goal is to prepare 300 math teachers with advanced degrees by 2005; those teachers will then instruct other teachers and help shape mathematics instruction in their schools. Currently, 105 teachers from 76 schools are enrolled in the program, which began in 1999. Vermont has about 3,200 elementary school teachers in 350 K-5 or K-6 elementary schools.

"In traditional staff development, teachers learn how to teach math to kids -- not mathematics itself," says Dr. Kenneth Gross, director of the program and a professor of mathematics and education at the University of Vermont. To prepare to teach reading, teachers do not just read books at the level of their students, he notes. "My idea was to train teachers to think like mathematicians. This is not baby math. We are teaching college-level math in such a way that they can assimilate it and translate it to fit their own K-6 classes."

TEACHER, ADMINSTRATOR COMMITMENT

Teachers who are accepted into the program take four math courses a year at the University of Vermont, two during a two-week session in the summer and one each during three weekends in the fall and the spring. A mentor is assigned to each teacher in the program.

VMI instructors are from the University of Vermont and other colleges in the state. Office hours are held at different locations during the year so teachers can get help with homework and discuss with other teachers how they are integrating the math into their lessons.

School administrators are expected to support the VMI teachers. When teachers apply to the program, their principals have to sign the applications and submit statements outlining how they envision the training being applied in their schools. After the first year of the program, teachers and principals attend a three-day workshop on implementing VMI-based instruction.

Deborah Armitage, a mathematics consultant for the Vermont Department of Education and a former elementary school teacher, says the state sees enormous benefits from the program. "For the first time, teachers are seeing the why and the when of what they are doing," Armitage tells Education World. "They understand where the math is leading. They have crossed a line -- instead of just doing math, they are experiencing math and understanding math."

LEAVE THE CALCULATORS HOME

Gross, who also runs math programs for gifted high school students and adults who want to improve their math skills, began developing the program about five years ago, after staff from the Vermont Department of Education approached him with concerns about student math skills. The DOE officials realized that any curriculum changes were doomed to fail if teachers did not have a grasp of the material, Gross says. "If you don't understand the math, then all you are doing is teaching activities."

In setting up the program, Gross says, he had two primary criteria: to offer challenging material and to treat teachers as professionals. "Society undervalues teaching and education; teachers are overworked and underpaid and asked to teach everything and be psychologists. I wanted teachers in this program to be treated liked the CEOs of corporations." That meant holding the program in an attractive setting, providing accommodations, and providing lunch, he says. ...

The VMI courses cover arithmetic, probability, statistics, algebra, trigonometry, and calculus. Teachers are forbidden to use any mathematical formula until they are able to derive it, Armitage says. One of the first courses is called Math as a Second Language, which brings together arithmetic, algebra, and geometry to show that they are different approaches to the same subject, Gross says. "You can teach algebra in kindergarten or first grade if you understand the math behind it."

A subtraction problem, for example, can be turned into an algebra problem, if you change $9 - 5 = ?$ to $5 + x = 9$, solve for x , and $x = 4$. "Subtraction and division are really algebra," says Gross.

ADDING UP THE BENEFITS

Teachers come into the program with various levels of math skills and several told Education World that they were amazed at how much they have learned and how their confidence has grown.

"It's everything I wanted and 100 times more," says Connie Cannon, who teaches fifth grade at the Dorset School in Dorset, Vermont. She is in her second year of the program. "I'm excited to be immersed in math again, and I've bonded with the other teachers and made some close friends." After taking the Math as a Second Language course, Cannon says, topics such as probability, trigonometry, and calculus are much clearer. "I would never have expected to be able to do this. I never understood them the way I understand them now."

Cannon has taught for 26 years. She majored in fine arts as an undergraduate and has a master's degree in education. She says she took only one or two math-related courses in graduate school. "Nothing prepared me for teaching math."

Now, Cannon says, she knows multiple ways of solving problems. For example, when she was in school, she was taught when solving a problem such as $43 - 29$ to automatically cross out the 4 and add a 1 to the 3, without really understanding the math behind it. Now Cannon explains to her students that because the top number is 43, in order to do the subtraction, they borrow one group of 10 from the 40 and add it to the 3, making it 13.

"This has made me more confident," Cannon says of the program. "I have a better foundation so I can help students better."

Kathleen Nolan, a third-year VMI participant who teaches middle school math at Island Pond School in Island Pond, Vermont, says she finally is learning the concepts behind certain applications.

"I learned math one way: memorize the procedures, the steps, and the process," says Nolan, who has taught for 27 years. "Now I need to teach differently so the kids understand better. Now I can see the connections, I understand the concepts in many different ways, so I can teach in many different ways."

Adjusting her thinking also has taken some time, according to Cannon. "I'm starting with more of a math background than some people, so it has been a challenge to slow myself down and ask 'why?' It's been a widening experience."

FIGHTING THE PHOBIA

Many elementary school teachers' lack of strong math skills often dates back to their own school experience, says Gross. "Many people become math phobic and don't feel good about math," he explains to Education World. "If I tell someone I'm a mathematician or teach math, nine of ten people say to me it was their least favorite or worst subject."

New math curricula were introduced in the late 1980s, but often teachers were not prepared to teach it, Gross adds. "They threw in topics previously foreign to the K-6 and K-12 curriculum, such as statistics and problem solving; they introduced topics teachers had not studied in school."

Teacher preparation programs usually do not include many mathematics or science courses, Gross says. "Elementary teachers have so many subjects to learn. There has been an emphasis on pedagogy and process versus content in terms of mathematics and science preparation. The teacher training community has not put a premium on knowing mathematics, and many teachers come in loathing it."

Cannon and Nolan agree. "Education majors need more math and science; everyone has to teach it," Cannon says of elementary teachers. "A lot of elementary teachers shy away from math," Nolan comments. "It wasn't their strong suit. But I think math education is changing at the college level."

Vermont is looking into revamping its teacher education programs to include more math content and is also considering a science program for elementary teachers similar to VMI. VMI may be expanded to middle school teachers as well, Gross says.

Armitage, of the state education department, praises the dedication of teachers in the VMI program. Even though elementary teachers spend only about one-seventh of their day teaching math, "they are still willing to give up their time for this," she notes.

The teachers know that they are preparing more math-literate students. "If I can make math fun, they'll be golden," Cannon says of her students.

Article by Ellen R. Delisio
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Application 2010
VERMONT MATHEMATICS INITIATIVE

Please type or print clearly in ink. Type and attach responses to essay questions. Completed applications must be postmarked no later than March 1, 2010. Please send your completed application to:

Dr. Kenneth I. Gross
Director, Vermont Mathematics Initiative
University of Vermont
Department of Mathematics and Statistics
16 Colchester Avenue
Burlington, VT 05405

A complete application includes:

- Part I: Applicant information cover sheet
- Part II: Applicant's responses to the essay questions
- Part III: (a) Three letters of recommendation, including at least one each from a colleague and an administrator
(b) Signature sheet, signed by the principal and applicant
- Part IV: (a) Principal's responses to questions 1 and 2
(b) Signature sheet, signed by the principal and superintendent

Only fully completed applications will be considered.

If you have any questions or need more information, please contact:

Kathy Lamphier, VMI Program Coordinator

vmi@cems.uvm.edu

802-656-8186 (VMI office)

or

Judi Laird, VMI Executive Director

jlaird@burkevt.net

802-656-8186 (VMI office)

802-626-8467 (home office)

Vermont Mathematics Initiative Application Form
Part I: Applicant Information Cover Sheet

Please print in ink or type.

Name of Applicant _____

School _____

School phone _____

School address _____

Current Grade level/position _____

Number of years teaching in current school _____

Total number of years teaching _____

Undergraduate & Graduate Degrees _____

Educator License Endorsements _____

Home mailing address _____

Home phone _____

Email _____

Vermont Mathematics Initiative Application Form

Part II: Essay Questions

Please type and attach your responses to this application. (Suggested length: For questions 1-4, a total of approximately 2-3 typed pages.)

1. Meeting the needs of all students

Helping all children succeed in mathematics is a challenge faced by all educators. Please describe your commitment to helping all students succeed and your goals for enhancing your effectiveness in this area.

2. Teacher leadership

Serving as a mathematics teacher leader is an important aspect of your participation in VMI. Please describe the key challenges in mathematics teaching and learning faced by your school and the ways in which your enrollment in VMI might help address those challenges.

3. Mathematics Content Knowledge

The VMI curriculum includes rich and challenging mathematics content which is intended to extend your understanding whether you are currently at a novice or more advanced level. Please describe your interest in expanding your mathematical content knowledge.

4. Critical Reflection/Action Research

Throughout your VMI enrollment, you will be asked to read relevant research and document and critically reflect upon your teaching practices. In the final year of the program, you will undertake an action research project around an appropriate topic of your choice. This strand of the VMI offers you the support of an individual mentor with whom you will work closely over the three-year program. Please describe your interest in utilizing an inquiry approach in your classroom practice. Include your goals for using student performance data to improve your instruction and your openness to feedback from instructors and mentors.

5. Teaching Experience, Leadership and Mathematics Professional Development

Please list:

- Your teaching experience (locations, roles, levels, and lengths of time).
- Any teacher-leadership experience (serving on or leading committees, facilitating meetings/discussion groups, writing curriculum, etc.).
- Your professional development experience (as participant and/or presenter) in mathematics content and instruction (graduate courses, Network meetings, VT Portfolio involvement, conferences). Please indicate those events in which you served as a facilitator or presenter.

Vermont Mathematics Initiative Application Form Part III: Recommendations & Signatures

Recommendations

Please include three letters of recommendation to support your participation in this project, including at least one each from a colleague and an administrator.

Recommendations should address your:

- ability to take on challenges and to grow professionally
- dedication to addressing the needs of all students
- leadership experiences or qualities, including your commitment to working with other teachers/school personnel to improve the teaching and learning of mathematics in your school

To be completed by the Principal

I have read and discussed the applicant's completed application and support the applicant's participation in the Vermont Mathematics Initiative. I am aware that I may be contacted by a VMI staff member for further information.

I understand that our district will be expected to provide release time for the participating teacher to attend VMI sessions, and pay for at least a portion of the 12 UVM graduate credits a participating teacher will receive each year. I have read the portions of this application packet pertaining to cost and administrator support and am committed to assisting the participating teacher find the necessary funds to cover the cost.

Note: The overall goal of the VMI is to improve the teaching and learning of mathematics in the VMI teacher's school/district, and the VMI teacher and the school/ district leadership will work together to help achieve that goal. For that reason, *we encourage the school and district to work creatively with the VMI applicant to increase the school or district share of tuition and correspondingly reduce the teacher's share. A number of strategies have been suggested for doing so, which are listed under the headings "What is the cost?" and "Financial assistance" on the enclosed sheet entitled "Professional Development in Mathematics for K-8 Educators."*

Signature of sending-school principal

Date

Applicant Agreement

I understand that I am making a three-year commitment, that one aspect of my involvement is to play a leadership role in mathematics in my school or district, and that I will engage in classroom-based observation and feedback sessions with my VMI mentor.

Signature of Applicant

Date

Vermont Mathematics Initiative Application Form
Part IV: Principal's letter and signature sheet
To be completed by the school principal

Name of Teacher Applicant _____

Administrator's Name and Position _____

Please attach responses to this cover sheet.

1. Please detail how the applicant's participation in this professional development program will support the improvement of student performance in mathematics at your school.
2. *VMI participants enter the program with greatly varying levels of leadership experience.* Please describe the ways in which you will support this applicant in taking her or his next steps as a teacher leader in your school.

I have read the Vermont Mathematics Initiative application packet and discussed this application with the district Superintendent. I understand that active support of the VMI participant by the principal or other designated school leader will be required, including attendance at occasional seminars and evening meetings.

Signature of Principal

Date

Signature of Superintendent

Date

Please return this cover sheet with attached responses to the applicant. Completed applications, with all signatures and recommendations must be postmarked no later than March 1, 2010.