

### To date, how well has the VMI met your expectations?

- VMI has exceeded my expectations. I feel that this course has closed and answered questions that have been opened for me since high school.
- VMI has far exceeded my expectations. At last, a course where instructors back up math theory with math applications and/or models.
- The VMI has met and exceeded my expectations. I was expecting to only be lectured to about the principles of learning mathematics only.
- Wow! I came into this program never realizing that I could understand such a vast amount of problem solving strategies. As a result, VMI has far exceeded my expectations.
- It has exceeded them. I really didn't know what to expect. It had been very different from most P.D. We have been given reasons for "why" what we do works and not more of try this way of teaching. It has given us more fire power of knowledge to help others become successful.
- This course has been very interesting. When I came I really had no expectation, since my position had been cut. This course has taught me that I need more practice in how to explain why and why not's to students. I learned more than I expected, actually the practice made me feel inadequate, until everything was thoroughly explained and showed. I found out we expect more from students than what we give them, thus hurting them mathematically.
- The VMI has exceeded my expectations. I didn't expect such an in-depth study and you have covered a lot of mathematical territories in just 5 ½ days. It has been an educating and enjoyable experience. I look forward to the next session.
- VMI has definitely been above and beyond any of my expectations! Dr. Gross and Susan = brilliance. I have so much to learn! The two of you have such patience! Thank you so very much for all your time and effort!
- Yes – and then some!! VMI has been an awesome experience for me. I have learned so much in such a short time. I grew up memorizing, but this week has shown me a lot of whys. I also found out when taking the beginning test that pieces of what I had memorized had "slipped away" and how much better it would have been if I had learned why back then.
- Very well, throughout the sessions you have given thoughtful explanations of why and how the rules of arithmetic really work. The connection of adjective-noun to numbers and their operations was particularly helpful.
- I was not sure what VMI was to begin with. I am pleased with many insights on which we do what we do in math or the "reasoning math behind the math"
- I was not sure exactly what to expect. The content has been at a higher level than I would have predicted – which is good! - and there has been less emphasis on pedagogy.
- Very well – I have learned so much – not only have I learned math, I've also thought about my needs as a learner so I can transfer this into my teaching. Trying to explain and explain to someone who doesn't understand doesn't diagnose their need
- Much above. The content has been great.

- Attending this college level class wasn't my expectation. I was expecting the "typical" professional development where I would leave with a few new ideas and forget the rest. This will be worthwhile in that I'm able to use this experience to reach students and teachers.
- The VMI was a pleasant experience. So much was covered in a short time, but the content was covered in depth.
- The only expectation I had was to grow mathematically, since I had no idea what the VMI was. I definitely did grow. I saw reasoning behind the math I just did automatically, and I learned more math that I started with.
- It had been much more in depth than I expected. I've been pleased with the content. It has been an excellent review for me, but I have also learned things.
- I wasn't sure exactly what my expectations were prior to coming but I do know that the knowledge I have gained from attending is invaluable.
- More than I expected. This has gotten everything down to a reason "why" we have done things.
- It's been good.
- This training has helped me to see how dependent on the calculator I am. It gave me explanations of "why" we do certain things. For the level of students I teach, I don't see using any of these methods to teach, but maybe if I'm doing one on one tutoring.
- VMI has met my expectations. I'm learning new skills and reinforcing others I've already learned.
- I had no expectations. My principal and I received emails that I would attend and I would commit for three years...so I came. I do know my mathematical thinking was expanded daily. My content knowledge has increased. This course has surpassed any expectations.
- It has been an extremely challenging yet worthwhile time. I like the incorporation of adjectives and nouns. I also related to and learned about the connections between algebra, geometry and arithmetic. The atmosphere was "user-friendly" people were not afraid to try. Dr. Gross humor and jokes added to the pleasant atmosphere.
- I was told that we would attend VMI – 5 days this Spring and 5 days in the Fall. I was not told anything else. I assumed it would cover additional proven methods to teach children and that in the Fall it would be over. I was taken aback to find out it was an extended course with as many as 8-12 modules. I still am not sure what future modules will cover. (This miscommunication was not fair to the presenters.) I have thoroughly enjoyed the first module and will use some other information in my coaching role to expand my teacher's knowledge. This was a horrible time in the school year to be out of the building.
- I actually had no expectations. I did not have any idea what to expect. I was glad that I was able to catch up after missing a day.
- We were not given any information regarding the VMI program, so I had no idea what to expect. We were sent an email stating that we were to attend an inservice on these days. I did not know that this course would be over a period of 2 ½ years and consist of 8-12 modules.

- In all honesty, it is difficult to say how the VMI has met my expectations because we were not given any outline of the VMI expectations before coming to the course. We were only told that it was a commitment. There was not a course outline given. It would have been appreciated that we had known in advance of the expectations of the course and of ourselves.
- I had no expectations coming in because I had no idea what I was going to be doing. However, since I have started I really appreciate what you are teaching us and why.
- Above expectations.
- This course has allowed me the opportunity to explore and expand my mathematical thinking. Knowing math terminology proved to be of great value. Yes, VMI met my expectations and above. I came in expecting to be challenged and that goal was achieved.
- VMI actually superseded my expectations. Some of the content I hadn't done or seen in a number of years, Even though it was difficult for me to understand specific parts, the instructors did a great job explaining the problems, parts of problems and how to arrive at the answers.

**Thinking back upon the experience of the past five and a half days, describe the overall value of the VMI experience. For example, did you learn a lot? How has your mathematical thinking and/or disposition toward mathematics changed as the result of your VMI experience to date? What do you see as lasting benefits of the course? Etc.**

- I learned a lot from VMI. VMI has changed the way I interpret how children develop conceptual understanding of mathematics. That was a great benefit for me. I also learned a lot about myself as a math teacher.
- I've learned how to apply what I've known mathematically and taught for a number of years.
- I have seen myself gain confidence in working through these 5 ½ days. There are many aspects of my own personal mathematical thinking that have changed and I plan on using my new knowledge and understanding with staff and students
- This course has boosted my content knowledge tremendously. I plan on studying my course materials this summer to further solidify what I've experienced in this course. The value of this course has been important. I will use what I have learned with students.
- Simply analyzing problems (algebra, geometry, etc) and seeing solutions from a totally different perspective. A perspective that gives the relevance of the problem being solved. (relevance meaning why it works or how it works)
- Yes I learned things I forgot and some items I didn't know. Like understanding that there are alternative algorithms for subtraction that I wasn't utilizing. Understanding math as sentences using nouns and adjectives. The VMI experience has helped me realize all methods of understanding math hadn't been utilized. Lasting benefits will be for me to take back what I have learned and help my students truly understand mathematics as everyday thinking.

- One of the things I value most about my experience here is that we have covered areas that I haven't worked with in a while and this course has brought those concepts back where they are more fresh in my mind. I also value the teaching techniques that we were taught. These methods and techniques helped me have a better understanding of why we do some of the things we do in math. Hopefully this learning experience for me can extend to the teachers in my school...and thus...to the students.
- I have learned that teaching the relationship and connections of arithmetic is how students can learn to discover on their own! I have so much practice on and need time to do that- but even though I have felt overwhelmed at times, I have definitely learned a lot! I want to be better! I am anxious to deepen my horizons so that I can truly help to impact our children in math. I now truly understand and respect how my students feel!
- I was exposed to a great deal. Some I put in as being able to apply but will need to practice with it to actually remember or apply to another situation (converting decimals to fractions, Pythagorean theorem). Some was refreshed with prior knowledge. I do not realize that I need to occasionally brush up on higher level math being K-5 to again remember what foundation we are building for future learning to be successful.
- I feel like I have learned (or maybe "relearned") a lot. As an elementary teacher for all 20 years of my career, much of the content was more difficult than what I have even taught. Some of it I remembered from long ago high school algebra, but many of the geometric ideas were new to me.
- I have deepened my learning on all levels – content and as a teacher. I feel very empowered as a learner ( I now understand so much more math – the why) and a teacher. I now know (or know better how to) how to intertwine the geometry, algebra and arithmetic. I also know more about the focus needs to be on concepts – the why and how something works AND where it leads to in higher level math courses.
- I desperately need and want the content so it has been invaluable. From repeating decimals to geometric representations of most all mathematics. More knowledge makes me a better teacher and a better teacher of teachers.
- I've always loved math because of the challenge. I didn't learn too many new approaches but more new connections.
- The connection of arithmetic, geometry and algebra was a great "Ah Ha" moment for me. I have deepened my own content knowledge and am better prepared to scaffold mathematical content for the children.
- I did learn a lot. I regained some math that had escaped me, plus I learned new things. The benefits of this course, I think, are that we need to teach math for understanding and take it to a deeper level. We should teach the concept and call it what it is even in the early grades (i.e. showing all kinds of triangles – using graphs).
- I need to be reminded over and over to present material to students step-by-visual-step, and to go slowly. "Going deeper," as we have done will help me be a better teacher. I want to show students "Why?".

- Yes – my attitude has changed – it makes much more sense. Using this with teachers/students and your modeling has been very beneficial.
- The lasting results will be the power of “why”, everyone’s favorite question. I now feel that I can take this back to my school and show teachers as well as students a better understanding.
- Most of it has not been new learning, just refresher or practice. However, the last 2 days have included new learning. I’ve been really wanting someone to help with me with visual model for dividing fractions. Lasting benefits...I’m warming up more and more (see a variety of uses for) to the number line. Also, I’ve learned some great methods to help students learn how to add and subtract signed numbers.
- Yes – many of the concepts have been presented in a new way to make more meaningful. Using the 4 different examples for adding/subtracting signed numbers was presented in a way that will be helpful to my students. I have had to practice nightly as many concepts I needed review on them.
- The VMI experience has made me look at mathematics differently. It has opened my eyes to different ways mathematics can be done and presented.
- I learned several new things – and remembered many more. I like thinking of mathematics in the “9 rule framework.” I think that thinking should be developed early. I would cover the course for some of my younger teachers. By the time I finish it, I will be about to retire. It will only have the benefit of what I can pass along during the Institute. If younger teachers could go through this – they would be prepared to step into a coaches role.
- My experience here has been enlightening. I have been reminded that there is a lot to know in math and that I know (on some level) of math. But I also know that I also don’t know a lot of math. I spent a lot of time and energy thinking about problems that I would have simply solved and moved on.
- I feel that it has broadened my understanding of mathematical concepts. I feel that the illustration of concepts geometrically has been very beneficial. I like how it has related arithmetic, algebra and geometry.
- I have learned a great deal. My mathematical thinking towards math has not changed as a result of this course but the thinking I’ve had before has increased.
- Yes, I have learned a lot. I knew or had forgotten how to do some of the math. I realized during the week I didn’t know the why. That was difficult for me to “see” and explain the why instead of just getting the right answer. I know it will change my teaching. I always ask why by truly didn’t know the reason. I’ll have that knowledge now when teaching students. I’ve taken good notes. Hopefully I can help my teachers.
- Yes, I learned a lot. I realize I still need to revisit and strengthen my algebra skills. My mathematical thinking was challenged, and as I go back to school, I plan to implement my new learning to help students develop their mathematical sense.
- New ways of seeing the relationship/representation of numbers. Hopefully the “lasing benefits” will be “lasting” and passed on to the students.
- Yes, I learned the importance of looking for the common nouns as a starting point. I learned the value of representing through models, especially

geometrically. I will certainly encourage students to explain and process through the use of models. The proof on justification is easier to see and to follow one's way of thinking. I must also practice and expand my content tool box in order to build and transpose what I learned in other areas of mathematics. Often times there is a relationship.

- The VMI experience has been very beneficial to me. For the first time I can say I have a partial understanding of the associative and the commutative property of mathematics. For the first time, I can also say the number line has helped me to see the real meaning of fractions as a part of a whole. If a concept is introduced and explained with a visual for example an area box – and lots of practice, I now realize eventually I will grasp some concept of the real numbers and their relationship to each other. Given enough time – enough practice – logical instruction – visuals (models) and manipulatives any concept of numbers and the understanding of them will increase.
- Truthfully with the end of the year at hand I did not have a chance to have many expectations because no one told me what VMI was going to be about... This week was certainly more intense than I was expecting ☺.
- I've learned a few things but I wouldn't say a lot. A lot of the material presented I really don't see the purpose and for sure don't have the time to present things in this manner. The benefits in seeing/having everyone else's ideas/thoughts.
- One lasting benefit was that I will be able to communicate math to students better and vice versa. In my role as math coach, I hear a lot of different approaches to similar lessons. I then try to help them improve their teaching (if they are willing to listen and change).