An old Chinese proverb states:

If your vision is for a year, plant wheat.
If your vision is for ten years, plant trees.
If your vision is for a lifetime, plant people.

I believe “planting” a good mathematical foundation for students is important to developing confidence in the subject which supports future learning. My teaching philosophy fosters a positive learning environment that encourages participation, instills structure and methodology in the classroom, models a systematic approach to problem solving, and equips students for independent learning.

A good mathematics teacher should …

Provide an environment conducive to learning.
For many of my students, mathematics has been a significant challenge. Many suffer from anxiety which they developed as children. In an atmosphere of mutual trust these students begin to share their ideas and learning is enhanced. When students feel comfortable making mistakes in front of the class, they learn not to be discouraged, and see their errors as part of a learning process. It is exciting to witness a class discussing the mistakes, suggesting alternate solutions and laughing together at the same time.

Encourage the potential in students.
Simple words as “I know you can grasp this concept!” - can motivate students to work harder. Students observe the expectations of success or failure that others have for them. When teachers provide students with challenging yet attainable learning tasks, self-confidence increases as they experience success in learning.

Acknowledge students’ efforts.
Recognition of students’ efforts to overcoming a huge hurdle of learning in a “difficult” subject encourages students to be more active in their learning and open to challenging themselves.

Be organized and well prepared.
I expect my students to be organized and well prepared and I lead by example. A good lesson has clear objectives and is structured logically so that the students are able to follow with ease.

Take time to explain concepts.
Time spent reinforcing the subject matter either deriving the formula or theorem or providing more examples for individual or group work ensures that students establish a solid grounding upon which to build their math knowledge.

Provide good notes.
Good note-taking skills are essential in mathematics as they help reinforce classroom learning. By providing objectives at the beginning of each class session, writing notes on the board in an outline form, first stating the key words and definitions, then summarizing the procedures used and supporting with examples, I enable my students who have weak foundations to follow the solutions. My step by step approach serves as a model for solving other problems.

Establish a mathematical vocabulary.
Mathematics is like a foreign language with unfamiliar vocabulary. When students learn and apply the vocabulary, they develop a deeper understanding of the subject.

Insist on clear expression.
Set a high standard for effective oral and written communication for all students. Students who can explain how they solve mathematical problems can reinforce their knowledge of the subject.

Coach students to teach.
If teachers are constantly learning when they teach, students will also learn when they guide their peers through a mathematical concept. The sharing of knowledge can have a profound effect on the student's individual and professional growth. I use a collaborative approach, nurturing students to become active learners.