

***Professional Qualities
And
Competencies Of A Mathematics Teacher***

A teacher plays an important role in the system of education . Teacher are considered to be “builders of nation” . On him depends the future of the country and in fact the future of mankind. The influence of a teacher never stops . Like a painter creates a painting similarly a teacher shapes the personality of the child . So we can say that a teacher has a unique opportunity and a vital role to play in contributing to the overall development of the child .

The success or failure of a mathematics course rests mainly with the teacher . He may be provided with all the possible facilities in terms of laboratory , apparatus and equipment . Given an ideal syllabus and a sufficient time for teaching of mathematics but he is not likely to achieve success unless he is enthusiastic about his work , knows the subject and really knows how to teach mathematics . On the other hand a keen and well informed teacher who loves his subject and believes in its value will succeed in spite of difficulties and handicaps .

In this regard the Kothari Commission reports (1966) says ,

“of all the different factors which influence the quality of education and its contribution to national development , the quality , competence and character of teacher are undoubtedly the most significant” .

Qualities and characteristics

The work of a teacher is not only confined to mental development but also to contribute in his emotional, moral and spiritual development. As , a teacher is considered the builder of nation , foundation stone of educational process and a lead way to society , so a teacher should necessarily have the following qualities ,

- Skills and abilities to understand the children
- Self-educational and teaching ability
- Capacity of adjustment and cooperation with the children
- Will power to work with,
- Impartial nature ,
- Leadership power
- Feelings of common harmony

A mathematics teacher apart from being teacher of a particular subject is essentially a teacher at first. Therefore the qualities of a mathematics teacher may be divided into two categories.

a) General qualities and abilities that are required in every teacher

Much is expected from a teacher in order to play a leading role in any scheme of education.

- ❖ Well integrated and effective personality
- ❖ Qualities of leadership
- ❖ Love for discipline
- ❖ Sympathetic, affectionate and impartial behavior

b) Special qualities which makes him a successful mathematics teacher.

Besides the general qualities, teaching of a subject demands a number of special qualities from its teacher. It is the same situation where something special or more may be demanded from a dentist or pediatrician, other than the general qualities of being a doctor. Through this angle we can think some of the special

qualities or requirement for a mathematics teacher

- ❖ Command over the subject mathematics
- ❖ Ability to teach mathematics effectively

Professional qualities of a mathematics teacher

Knowledge of subject-matter

A mathematics teacher should have full knowledge of his subject . A little knowledge in subject-matter can not make him trust worthy among students . A teacher can not work with confidence unless he has full command over content. Lack of subject-matter knowledge, puts fear in the mind of a tends that tended him to commit repeatedly mistakes.

Presentation of subject-matter

A teacher should present the subject-matter skillfully making interaction with the students , introducing well methods and applying various aids.every problem should be introduced to the students logically an in a systematic manner. He should first judge nature of the student .then he

should apply different methods to make his teaching more effective and comprehensive .

Knowledge of individual differences

A good teacher is who has the knowledge to judge individual differences because every student is different in reading and writing, understanding and work speed. He is successful when he makes teaching arrangement according to individual differences . A mathematics teacher should necessarily have knowledge of psychology to make him able to understand interest , ability and capacity of different and thus ,he can guide them properly.

Knowledge of different teaching methods

With a firm grip over subject matter, a mathematics teacher should know different teaching methods. He should clearly know the aim and objectives of mathematics. Thus, required teaching learning situation can be created. He should teach the students by effective teaching methods like – Analysis, synthesis, methods, inductive –deductive method, laboratory methods and project and problem solving methods .so that the students may get the

opportunity of learning by doing and the knowledge they have learned can be more permanent and solid.

Interest in Research work and mathematics applications

A mathematics teacher should be good at research work . To give importance to research and experiments in mathematics. A mathematics teacher should apply scientific and discovery methods for the solution of different mathematical problems. Priority should be given to experimental work so that students may be habitual of learning by self doing and hence the teacher can work as a scientist and researcher.

Power to know the difficulties of the students

It is very necessary for a mathematics teacher to know where the students are feeling difficulty in solving problems. The solution of students problems depends upon the ability and capacity of the teacher to grasp them and there by a teacher gains popularity among the students .

Inspiration to drill work

A mathematics teacher should inspire and motivate the students to drill and practice work through examples understand the basic concept of formulae. This method of learning makes them to be creative and the knowledge received become permanent. He should examine the students both through oral and written test so that different skill and habits of regulating can be developed in the students. So a mathematics teacher should inspire the students to do more and more drill work. So that the students may learn through practice.

A mathematics teacher is expected to possess certain academic qualification as also certain professional qualifications.

The teacher should study mathematical journals and modern book of professional interest. He may visit certain school of outstanding merit to investigate the quality and nature of work done.

The teacher may do professional research work and write professional articles and books for publication.

The teacher should participate enthusiastically in various school activities such as,

- Faculty meeting
- Students projects
- Mathematics club
- Social events
- School publication
- Excursions
- Educational fairs
- Educational quiz etc.

For the development of mathematics it is desirable is mathematics teachers form some mathematics teachers organization at district, zone and state level. These organization should take up only academic things and nothing else.

The skills needed for effective teaching involve more than just expertise in an academic field. You must be able to interact with people and help them understand a new way of looking at the world. This is not an easy job! Although there are many different ways to teach effectively, good instructors have several qualities in common. They are prepared, set clear and fair expectations, have a positive attitude, are patient with students, and assess their teaching on a regular basis.

They are able to adjust their teaching strategies to fit both the students and the material, recognizing that different students learn in different ways. As a teacher, you are a role model who sets the tone for the class. If you are able to show enthusiasm and commitment, your students are more likely to reciprocate. Conversely, when you are negative, unprepared, or impatient, these qualities will be reflected in the attitudes of your students. Give them a reason to remember your class as an important part of their college experience!

- ▶ **Interest in mathematics-** A mathematics teacher should have full command over subject matter. It is possible when he has interest in mathematics
- ▶ **Positive attitude towards mathematics-** A mathematics teacher should have positive attitude towards his teaching subject. Because his self-attitude directly influences the learning process of the students.
- ▶ **Knowledge of subject matter-** A mathematics teacher should have full knowledge of his subject. A little knowledge in subject matter cannot make him trustworthy among students

- ▶ **Knowledge of individual differences**- A good teacher is he who the knowledge to judge individual differences because every students is different in reading, writing, understanding and work speed in mathematics
- ▶ **Knowledge of different teaching methods**- With a firm grip over the subject matter, a mathematics teacher should know the teaching methods. He should clearly know the aims and objectives of mathematics.
- ▶ **Power to know the difficulties of the students**- It is very necessary for a mathematics teacher to know where the students are feeling difficulty in solving problems.

- ▶ **Presentation of subject matter-** A teacher should present the subject matter skillfully making interaction with the students, introducing well methods and applying various aids
- ▶ **Inspiration to drill work-** A mathematics teacher should inspire and motivate the students to drill and practice work through examples understand the basic concept of formulae.

“Good teachers are inborn not made”. But it is underlying fact that training and their self-experience also bring a great change in them. The teacher should participate enthusiastically in various school activities such as

- ▶ **Faculty Meetings.**
- ▶ **Students Projects.**
- ▶ **Mathematics Club.**
- ▶ **Social Events.**
- ▶ **School Publications.**
- ▶ **Excursions.**
- ▶ **Educational Fairs.**
- ▶ **Educational Quiz etc.**