



5th Classroom Teaching Research for All Students Conference
22 June – 25 June, 2013, Fuzhou, Fujian, China

ANALYZING THE LITERACY
THAT EXCELLENT MATHEMATICS TEACHERS
SHOULD HAVE
ACCORDING TO SEVERAL CASES

By Tong Qilin,

ChengGuan High School, Yongding County, Fujian Province

zip code: 364100

By He Xuefen ,

2013 graduate student,

Mathematics and computer department, Fujian Normal University

Zip code: 361000

Excellent teachers are those who have the ideas of noble teacher ethics, student center, excellent teaching skills and lifelong learning , and those who are full of passion, mental health, and instruct students according to educational law. Based on the basic concept and content of "High School Teacher Professional Standards (for Trial Implementation)", the excellent teachers should constantly learn, practice, and accumulate as well as innovate.

Key words: *cases, excellent teachers, standard, quality*

CLC number : G720 G525.1 **Document code :** A **Article No.:**

Fund Project: one of the 2013 educational science subjects of “The 12th five-year plan” in Fujian province--- Study of the good qualities in mathematics classroom teaching in High School (2013XB0273)

The implementation of "Do people's satisfactory education" requires teachers to have good quality and emerges more excellent ones. This paper shows the required qualities from them in some cases, some of which should be possessed by all excellent teachers and some of which are only possessed by science and mathematics teachers.

1. EXCELLENT TEACHERS ARE THOSE WHO CONSIDER TEACHER ETHICS THE FIRST

Case 1 :

Many years ago, there is a very popular book named " The best for the soul" . On the first volume writes a very evocative story:

Twenty-five years ago, a sociology professor at one university, as well as his students, made a survey about 200 boys in a city slum. They did the research about these boys' families and living standard, and made predictions for their futures. The result was that they were not promising boys.

Twenty-five years later, another professor found the study, and carried on the follow-up survey, finding that except 20 boys who had moved away or died, 176 among the remaining 180 boys have achieved a lot, many of whom have become lawyers, doctors and businessmen.

The professor was very surprised, then asked the young people once surveyed: "what's the greatest reason for your success?" They all replied: "because I met a good teacher."

Then the professor found out the teacher who was still alive and asked her how she could make the slum children successful. The kind old lady smiled and replied: "actually, nothing special, I love these kids."

Comment: "love" revealed the essence of education. Of course, the teacher ethics is the soul of education and love is the core of the teacher ethics.

Deng Xiaoping said: "I am the son of the Chinese people, I love my motherland and the people affectionately!"

Ai Qing said: "The reason why I was flooded with tears often was that I love this land deeply."

Ba Jin said: "My only wish is to melt into the soil, leaving along with the warm footprints of people."

It is the love to the motherland and the people that make them successful.

Successful education and successful teachers also cannot do without the teacher's love. The teachers with love can tolerate some shortcomings or mistakes of students and also have more patience, more expectations for students. Loving the students means caring about them, helping them and regarding them as their own children to skillfully teach them on step by step , and to instruct them without weariness.

Actually, "Love, responsibility, patience and carefulness" is the requirement of High School Teacher Professional Standards (for Trial Implementation)" (Document of Ministry of Education teachers (2012) No. 1 item 14). "Professional standard" is the basic professional requirement of qualified high school teacher; is the basic norms of middle school teachers to carry out the education teaching activity; is the basic principles, leading the middle school teachers' professional development and is an important basis for the training, admission, assessment to the teachers and so on.

2. EXCELLENT TEACHERS ARE THOSE WHO ARE STUDENT-CENTERED ONES

Case 2

In a research learning course of Social Science, two junior kids had such different views with their teacher in the task report that conflict happened between them. As a result, she issued a report about the two kids to the school, and called for a "suspension" punishment on them.

This aroused the attention of one math teacher and he decided to intervene, but he was also caught in a dilemma. As is often the case, school teachers should be the side of the school and his colleagues. However, the math teacher listened to the two kids statement. After thinking about it , he wrote a letter to the principal and principal assistant respectively to express his view. In his view, though the two kids were naughty, they were not bad kids. Eventually, the School accepted the teacher's advice and did not punish them, which left a deep impression on all students. In these students' view, the math teacher was a real good teacher, and held justice, disregarding of his personal gains and losses.

Comment: there are many good qualities that the excellent teachers should be required, such as ability, backbone, courage, élan and vitality. But most importantly, they should have justice. Protecting the legitimate rights and interests of students is the embodiment of the "student-centered".

Many teachers with the idea of the "student-centered" and a sense of justice do not want to see that the conflict breaks out between students, let alone to say what is obviously wrong is right. In fact, the moral core of Chinese intellectuals is justice and conscience. In all kinds of offices with highly- educated people, Justice should be stressed. The sense of justice is the basis of the behavior of the teachers. " To be a model for others and to take the lead" mostly refers to the justice and principles of teachers. Upholding the justice

is to depreciate evil trend, and setting the inspiring justice can stimulate teachers' potential creation, and can experience all kinds of wisdom and inspiration. Setting the justice is to let excellent people get affirmation and praise; to let the ordinary people realize aspirations and desires; to let the backward people feel pressure and crisis; to let the evil people be punished.

The "student-centered" and the pursuit of justice show a higher level of "teacher ethics" or "teaching", which requires the teachers not only to pursue justice, but also to cultivate the students with justice.

3 EXCELLENT TEACHERS ARE THOSE WHO LAY EMPHASIS ON “TEACHING-SKILLS”

Case 3 In the 2000 Annual National Highest Scientific Award, the winner, academician Wu Wenjun, answered a reporter's question. He said emotionally: “when I was young, I did not have much interest in mathematics. Even worse, I wanted to leave school. It was a teacher, Mr. Wu, who changed my views on mathematics with his wonderful teaching. As a result, my interest in mathematics developed so much that I regarded the mathematical research as my lifelong career.”

Comment: After reading it, we, as a teacher, will arouse the encouragement and delight. Actually, the teachers themselves should also be interested in their own subjects, otherwise it will cause negative influence. Interest, of course, is the starting point of education, and also is the result of education. Some teachers change interested students into non-interested ones, which is a failure in teaching.

“Interest is the best teacher.” To stimulate students' interest in learning, teachers must inspire the students from the different angle to let the students understand. To stimulate students' interest in learning, teachers must be knowledgeable. To stimulate students' interest in learning, teachers must protect students' curiosity and childishness -- this childishness or curiosity is motive force of scientific development. It is not only a very

important scientific spirit, but also a kind of humanistic spirit. To stimulate students' interest in learning, teachers must create more spiritual resonance, widen their knowledge and improve their thought to enable students to have feeling of “suddenly-understand” , “enlightening” and “understand with ease” and to experience excitingly, imaginatively and wonderfully.

Professional ability includes teaching design ability, teaching implementation ability, classroom management and education activity ability, education teaching evaluation ability, communication and cooperation ability, and reflection and development ability and so on. "Creating a good learning environment and atmosphere, and arousing and protecting the high school students' interest in learning" is the professional teaching ability dimension requirement in item 40 in “High School Teachers' Professional Standards (for Trial Implementation)”.

4 EXCELLENT TEACHERS ARE THOSE WHO ARE "LIFELONG LEARNING" TEACHERS

Case 4, Yuan Longping, the first National Science Award Winner , liked to inquire deeply into every question in the secondary school. He asked the teacher why he got a positive after multiplying two negative (two negatives make a positive.) The teacher couldn't answer it. Later on, he also encountered some difficult problems, and the teacher did not give him satisfying answer, so he came to a conclusion that "mathematics is unreasonable". As a result, he lost interest in learning mathematics.

Comment: Teachers' professional quality is the basis of engaging in education. Only a good professional quality can teach students well. The teacher must keep on learning and thinking to adapt to the environment. The reasons why the teacher couldn't answer the student's problem are that he was lack of the sense of responsibility; and that he didn't improve his knowledge and ability; and that he had no desire for lifelong learning.

In fact, constant learning and reflection is beneficial to understanding the teaching material, and also is good at answering the students' questions. A teacher not only makes the students know that 1 chicken +1 chicken =2 chickens, 1 duck +1 duck =2 ducks, but also lets students know what 1 chicken +1 duck equals to? That is to say, teachers should have a higher abstract thinking ability. What is the core competence of science teacher? I think it is the ability of solving problems. A teacher's intelligence depends on the ability of solving problem. A teacher who does a job with skill and ease in teaching often benefits from the ability of solving problem well. In order to improve a teacher's intelligence, he must keep on learning and solving problems.

Professional knowledge includes the knowledge of education, the knowledge of subject, the knowledge of subject teaching and common sense. The teacher mentioned in this case lacked both the knowledge of subject, academic ability and the attitude of lifelong learning.

5 EXCELLENT TEACHERS ARE THOSE WHO ARE FULL OF PASSION

Case 5 it was reported in Education Digest Weekly that Zhang Fangao was the most excellent teacher in one city and had been rated as outstanding teachers in the city for many times. Surprisingly, after the school was reorganized to a private one, his name was eliminated in the first list. Mr. Zhang was not convinced, determined to compete among these eliminated teachers. Because of the reasons as everyone knew, there were much more people listening to his class. After class, he got a lot of teacher's affirmation: “this class is so vigorous”,

“there are 9 ways to solve the problem, which we never think of” “ The connecting are so wonderful that Mr. Zhang is great.”

Soon, the conclusion of the Human Resources Department also came out: after discussing of the committee, Zhang Fangao lacks of passion, hoping that he must

improve himself in the 3 months of probation, otherwise, the school will not accept him.

Comment: obviously, Mr. Zhang should be a good teacher, but no passion has become a shortcoming of him, which is a great pity.

In fact, the passion is not only the requirements of the education, but also the requirements of all kinds of work. In the interview enrollment staff of "Microsoft", examiners have to pay special attention to the following four questions: (1) whether or not smart enough? (2) if there is a creative passion? (3) whether there is team spirit? (4) how the professional ability is?

What is education? It not only gives knowledge, but also becomes a dream maker. Lang Clark, one of the 2000 outstanding teachers in the USA, said what lacked most among the knowledge the educators gave students was passion, one that embraced the life; that showed a love of humanity; that dreamed of the future; and that pursued all unknown. Passionate teachers love life, and love the class. Also, they are full of vitality to infect themselves and students. Accordingly, that the private school strongly expect passion in teaching is understandable.

6 EXCELLENT TEACHERS ARE THOSE WHO ARE MENTAL HEALTH

Case 6 It was reported that in Shan Xi province, a 25- year -old teacher due to suffering from severe mental disorders committed suicide, leaving less than one-year- old son. The reason was that "She didn't teach students well and she was very sad."

In Yancheng city, Jiangsu province, a 30-year-old teacher also committed suicide because he couldn't answer the questions from students.

In the blue peacock kindergarten, in western blocks, Wenling City, Zhejiang Province, the teacher Yan Yanhong abused children and then uploaded photos on the Internet, which annoyed net citizens. These annoyed net citizens also found in

her QQ space that there were a lot of photos of children's mouth being kept silent with tapes; of children's face being covered; and of children's head being inserted into a garbage can. Every one was greatly shocked. "she is not the first time to abuse these children. All evidences are here!"

The investigation by Police verified that since 2010, Ms. Yan did abuse her kids in the ways mentioned above and took photos for fun. Nowadays, the Police confirmed that, at least five of ten kids appearing in Ms. Yan's QQ space were in the class where Ms Yan was teaching.

The Wenling authorities have set up a working group, specifically psychological counseling for these kids in Yan's class. What can not be ignored is that it is Yan's request to expose these photos and upload the one "she was pulling the kids by their ears" to "micro message", which was found and reported.

Yan Yanhong accepted the reporter's interview in the kindergarten. Yan Yanhong still wearing the Leopard Coat appeared panic. When closing to her, we could feel she was trembling. When asked "why to pull the kids by the ears, and let others take pictures", Yan said "for fun". Reporter asked: "don't you find that children are crying?" Yan Yanhong was silent.

These children were punished cruelly only because of some shortcomings. Some were punished to "eat flies"; some to slap each other; some to tattoo on their faces; some to cut off the fingers; some to be scalded with tongs.

Comment: it can be said that psychology of those teachers is not healthy, and the soul of YanYanhong is distorted. The harm of mental health is enormous. It hurts themselves and others. According to the sampling survey in Fujian, among 265 primary and secondary school teachers, 29% of them have slight mental barriers; 10% have moderate barriers; 4% even have mental diseases. Nearly half of the teachers are not mental health. Moreover, woman teacher, the head teacher and the

teachers whose students will graduate soon have more serious mental health problems. Similar survey has been made in other places. As a result, there are similarities.

It doesn't mean that excellent teachers have no mental problems. Most importantly, they can realize problems and solve them. For example, they will ask others for help, or heal themselves. The life is cherishing. Whether they are students or teachers, they can't teach a kid healthily without mental health. A student said in QQ signature: because of the darkness, I was lost. The author suggested that: because it is dark, I pursue light. Mentality changes, so the world will change. Mentality change, so dark can become bright. In this sense, we teachers can change ourselves, change the world.

In the field of "professional idea and ethics" dimension "individual tutelage and behavior, "High School Teacher Professional Standards (for Trial Implementation)" puts forward five requirements: love, responsibility, patience and carefulness; optimistic, enthusiastic, affinity; self-adjusting mood, a calm state of mind; diligently learning, constantly enterprising; and neatly dressed, appropriate language, good behavior. The "optimistic, enthusiastic, affinity; self adjusting mood, a calm state of mind; diligently learning, constantly enterprising." is to emphasize the teacher's mental health

7 EXCELLENT TEACHERS ARE THOSE WHO CAN INSTRUCT STUDENTS ACCORDING TO EDUCATIONAL LAW.

Case 7 One teacher having taught for many years always liked to teach more in class. Every time the bell rang, he always wanted to delay a few minutes. He always repeated the same problem in fear that the students didn't understand it. He asked students question frequently and the way of questioning problems was simple. He took it for granted that the teacher should teach more. He thought even if the student forgot half, the students could master another half. If the teacher taught less, the students would master

little knowledge, after forgetting half. However, his teaching was not popular with the students and students' marks were poor. So, he felt frustrated and confused.

Comment: the students are disgusted about not dismissing class on time. The students thought the teacher deprived of their rest time. It was a pity if the teacher didn't realize this.

The purpose of teachers is not bad and also an "active action", but he forgot a basic law of teaching: teaching is the external conditions to learn and learning is the intrinsic motivation to teach. Teaching is hard to succeed without characteristics of cognition and learning motivation. The class is only 45 minutes, during which the task of teaching should be accomplished. And accomplishing the task of teaching is not only achieved by teachers, and it should be dealt with according to the characteristics of the teaching content. When necessary, the students can learn by themselves or between peers. Sometimes the teachers needn't to instruct. It is wrong that teaching more will get more and teaching less will get less.

"In order to provide appropriate education to every student, we should follow the laws of education and the physical and mental development of students", which is the requirement of item 11 in "High School Teacher Professional Standards (for Trial Implementation)" professional competence dimension and the field of teaching implementation. Teaching overtime and extending learning time are contrary to the laws of education and it is not a better choice.

In short, excellent teachers should follow the basic ideas in High School Teacher Professional Standards "(for Trial Implementation)" (the four basic ideas: teacher ethics being the first place, student centered, excellent teaching skills and lifelong learning); the basic content (including three levels: "dimension", "field" and "basic requirements", i.e. three dimensions, fourteen fields, sixty-three basic requirements". "The three dimensions" are a "professional idea and ethics", "professional knowledge" and "professional ability"; in each dimension are four to six different fields; in each field are three to six basic

requirements). On the basis of these ideas and contents, the teachers can constantly learn, practice, and accumulate as well as innovate.

References

Anonymous *Graduation Rates into the Most Important, Half of the Teachers Have Psychological Barriers* [N/OL]. China Youth Daily, 2007-7-27 [2013-04-05]. HTTP: // <http://www.zhyww.cn/teacher/200707/635.html>.

Li Tianfeng *The Teachers' Psychological Influence on the Quality Education* [J]. Chinese Journal of Education, 2003, (5) : 45-48.

The Ministry of Education of People Republic of China. The Kindergarten Teachers' Professional Standards (try out) ", "Primary School Teachers' Professional Standards (try out)" and "High School Teachers' Professional Standard (try out)" (files, the ministry of education (2012) no. 1), February 10, 2012.

Tong Qilin *The Pursuit of Math - Wonderfulness* [J]. Journal of High School Mathematics (Qu Fu Normal University), 2004, (6) : 4-5.