

# 从几个案例看优秀数学教师应有的素质

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- **Analyzing the Literacy That Excellent Mathematics Teachers Should Have According to Several Cases**

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- 摘要：优秀教师是“师德为先”、“学生为本”、“能力为重”、“终身学习”、对教师事业充满激情、心理健康、按教育规律办事的教师。优秀教师应在遵从《中学教师专业标准（试行）》的基本理念、基本内容的基础上，不断学习、实践、积累和创新。

**Abstract:** 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.

- “办人民满意的教育”落实在教师身上，就是要求教师要有高素质，要有越来越多的优秀教师涌现。本文从几个案例看优秀数学教师应有的素质——这些素质要求，有些是各科优秀教师都应具备的，有些是理科或数学教师特有的。

**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 优秀教师是“师德为先”的老师

- **案例1** 在多年前十分畅销的书籍《心灵鸡汤》第一卷上，有一个颇为令人回味的小故事：**25**年前，某大学社会学教授组织学生在一个城市的贫民窟，调查**200**名男孩的家庭状况和生活环境，并对这些孩子的前途进行预测，结果认为他们将“毫无出头的机会”。**25**年后，另一位教授发现了这份研究，并进行了后续调查，却发现除有**20**名男孩搬离或去世，剩下的**180**名学生中有**176**名成就非凡，其中许多人成为律师、医生或商人。这位教授感到很惊讶，便向曾经接受调查的年轻人询问：“你今天取得成功的最大原因是什么？”结果他们都不约而同的回答：“因为我遇到了一位好老师。”教授又找到了这位仍健在的老师，问她到底有何绝招，能让这些贫民窟里长大的孩子个个出人头地？这位慈祥的老太太微笑的回答：“其实，也没什么，我爱这些孩子。”

# **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."**

## 2优秀教师是以“学生为本”的老师

- **案例2**在一次社会学科的研究性学习课上，两个初中的男生由于课题汇报的内容与任课女教师的观点不合而和她发生冲突，这位女教师很快将此事向学校进行了报告，并要求对他们实行“停学”的处分。这件事引起了一位教数学的男教师的关注，他决定介入此事，但他同时也陷入了一个两难的境地。从通常的情况来看，学校的教师都是应当站在学校的立场上，并为自己的同事说话的。但这位男教师听了两个学生的陈述后，经过思考，分别给校长助理和校长写了信，表达了自己的看法。他认为，这两个学生虽然有些调皮，但他们绝不是坏孩子。最终学校接受了这位男教师的建议，没有处分这两位学生。这件事给学生留下了深刻的印象。在他们看来，这位男教师是一个不顾个人得失和主持正义的人，这样的教师才是真正“教书育人的好教师”。

## **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 their view, the math teacher was a real good teacher, and hold justice, disregarding of his personal gains and losses.

以“学生为本”及对正义的追求是关于“师德”或“教书育人”的较高层次。它要求教师不仅自己要做到追求正义，还要在教育中培养学生成为一个追求正义的人。

**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优秀教师是“能力为重”的老师**

**Excellent teachers are those who lay emphasis on “teaching-skills”**

**案例3** 2000年度国家最高科学奖得主吴文俊院士在获奖后答记者问时，有一段动情的话：“小时候，我对数学并没有多大兴趣，甚至想辍学不念。是一个姓武的老师的精彩授课使我改变了对数学的看法，对数学的兴趣发生了几何级数的跳跃，最终把数学研究确立为终生职业。”

**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.”

- **点评：**读了这一段话，我想，身为教师的我们都会引起激励或喜悦。其实，教师自身也要对自己所任教的学科产生兴趣才对，否则也会引起负感染。是啊，兴趣是教育的起点，又是教育的结果。有的教师把有兴趣的学生教成没有兴趣了，就是一种失败。

**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.**

**4**优秀教师是“终身学习”的老师

**4 Excellent teachers are those who are "lifelong learning" teachers**

- **案例4**首届国家科学奖得主袁隆平在中学求学时就喜欢寻根究底，他说，他对两个负数相乘为什么得正数（负负得正）百思不得其解，问老师，老师也回答不清，后来还碰到一些自己难以解释的数学问题，老师也没有给他满意的解答，于是他得出“数学不讲道理”这一结论，对数学的学习失去了兴趣。

**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.**

- **点评：**教师的专业素养是从事教育的基础，只有过硬的专业素质才能担当重任。老师要不断学习，不断思考，才能适应变化。这位老师回答不出学生的问题，一是责任心不够，二是学科知识和能力有待提高，三是终身学习的愿望不够。

**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 that 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.**

- 专业知识包括教育知识、学科知识、学科教学知识、通识性知识等，本案例的教师除了学科知识缺乏外，还缺乏学科能力以及终身学习的态度。

**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 优秀教师是对教师事业充满激情的老师

### 5 Excellent teachers are those who are full of passion

- **案例5** 据《教育文摘周报》报道，张范高老师的教育教学水平在某市是一流的，曾多次被该市评为优秀教师、市级名师。令人吃惊的是，学校改制为民办后，他的名字出现在第一批淘汰的名单中。张老师不服气，执意参加淘汰老师学习后的竞聘。由于众所周知的原因，听他课的人特别多。课后，他的课得到很多老师的肯定。“如此严谨，滴水不漏。”“这道题有9种解法，我们从来没有想过。”“承上启下，衔接得如此巧妙自如，真乃大家风范。”很快，人力资源部的结论也出来了：经评审委员会评审，张范高老师缺乏激情，希望该同志在3个月的试用期内争取有明显改进，否则，学校不予录用。

**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.

- **点评：**显然，这个张老师也应该是比较好的老师，但没有激情却成为张老师的一个短板，让人遗憾。其实，工作激情不仅是教育部门的要求，也是各行各业的要求。“微软”在面试录取员工时，考官们特别注意以下四个问题：（1）是否够聪明？（2）是否有创新激情？（3）是否有团队精神？（4）专业基础怎样？

**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?**

- 教育是什么？它不仅给予知识，更是梦想的制造者。全美2000年优秀教师郎克拉克说，教育者给予学生的内容中，最缺乏的是激情，一种对生命的拥抱，对人性的热爱，对梦想的向往，对一切未知不屈不挠追求的激情。有激情的老师热爱生活，热爱课堂，充满活力，能够感染自己，也感染学生。由此可知，这所民办学校对教学激情的强烈期待是可以理解的。

**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 优秀教师是心理健康的老师

### 6 **Excellent teachers are those who are mental health**

- **案例6** 据媒体的报道：陕西一位年仅25岁的女教师因患严重心理障碍疾病，撇下还不到一岁的儿子服毒自杀。原因是“没有教好学生，心里很难受”。

**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."**

- 江苏盐城市区一名30多岁的男教师因解答不出学生的提问，也自杀身亡。

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

- 原浙江温岭城西街道蓝孔雀幼儿园教师颜艳红虐待幼儿的照片发在网上后，愤怒的网民还发现，颜某的QQ空间里有多张儿童被胶带封嘴、蒙脸、倒插垃圾筒等照片，大家惊呼：“虐待孩子的恶行不是第一次了！罪证都是现成的！”
- **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!"**
- 警方随后调查核实，颜某自2010年工作以来，确实多次对幼儿园学生以胶带封嘴、倒插垃圾筒等方式进行虐待，并拍照取乐。警方目前确认，颜某QQ空间照片里出现的约10个孩子中，至少有5个曾经或者正就读于颜某任教的班级。

**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.**

- 温岭当地政府部门已成立工作小组，专门对颜某所任教班级的学生进行心理辅导。无法令人忽略的是，颜某虐童行为之所以被曝光，是她自己要求拍照留念，并将“拎耳照”上传至“微信”这一网络社交平台，继而被人发现举报。

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.

- 颜艳红在幼儿园接受了记者的采访。颜艳红依旧穿着那件豹纹的外套，显得有些惊恐，靠近时，甚至能感觉到她在微微发抖。当被问及“为何要揪孩子耳朵，并让别人拍照”时，颜称“为了好玩”。记者追问：“你难道没发现小孩子在大哭吗？”颜艳红沉默了。

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.

- 一些孩子仅仅因为一点点轻微的过失就遭受到恶劣而又残暴的惩罚：罚“吃苍蝇”者有之，强迫学生互打耳光者有之，往学生脸上刺字者有之，剪断幼儿手指者有之，用火钳烫伤学生者有之。

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.

- **点评：**可以说，上述这些教师的心理都是不很健康的，颜艳红的心灵是扭曲的。心理不健康的危害是巨大的，一是伤及自身，二是伤及他人。据抽样调查，在福建的265名中小学教师中，29%的教师存在轻度心理障碍，10%的教师有中度心理障碍，4%的教师甚至已经得上了心理疾病。近半数教师的心理不够健康。而且，女教师、班主任和毕业班教师的心理健康问题相对更为严重。其它地方也作过类似调查，结果都有相似之处。

**Comment: it can be said that psychology of those teachers is not healthy, and the soul of YanYanGong 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.**

- 不是说优秀教师就不会产生心理问题，重要的是优秀教师能够意识到问题并解决问题。比如主动寻求别人的帮助，或者自我疗伤。生命可贵的，无论是学生还是教师自己。如果教师的心理不健康，怎么能教出心理健康的孩子。所以，心理健康是一个教师优秀的必要条件，当然不是充分条件。一个学生在QQ签名中说：因为黑暗所以迷失，笔者建议改成：因为黑暗所以追求光明。心态改变了，世界就改变了，心态改变了，黑暗就可能成为光明。从这点意义上说，我们教师也可以改变自己、改变世界。

**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.**

7优秀教师是能够按教育规律办事的教师

**7 Excellent teachers are those who can instruct students according to educational law.**

- **案例7** 某教师教学多年来，一直喜欢在课堂上多讲，每次下课铃响了，他总要拖堂几分钟。有时同一问题，生怕学生难懂，他总要重复多遍，提问比较频繁，问题形式比较单一。他把此作为一条经验，不厌其烦地说：多讲讲，即使学生忘了一半，还有一半被学生掌握了。如果少讲了，学生再忘了一半，不是学到家的知识所剩无几了吗？可是，他的教学并不受学生欢迎，学习成绩也不佳。为此，他感到沮丧、困惑。

**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.

- **点评：**拖课，学生是反感的，常常拖课，学生就更反感——老师剥夺了学生休息时间。老师连这一点认识都没有，让人感到可悲可叹。

**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.**

- 教师的出发点虽然不是坏的，也披上了“积极工作”的合法外衣，但他忘记了一条基本的教学规律：教是学的外在条件，学是教的内在动因。教离开了学的认识特点和学习动机是难以获得成功的。教师的课堂只有45分钟，在这45分钟里，应该完成教学任务。而完成教学任务不是全用讲授法就能达到目的的，应该按教材内容的特点进行处理，必要的时候，要叫学生自学，或者同伴互助，有时还要运用“空白”艺术，多讲就会多得，“少讲少得”，完全是对教学规律的误解和曲解。

**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.**

- “尊重教育规律和中学生身心发展规律，为每一位中学生提供适合的教育”是《中学教师专业标准（试行）》专业能力维度教学实施领域的第11条要求。加班加点，延长学习时间等都是违背教育规律的，值得我们警惕。

**" 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.**

- 总之，优秀教师应在遵从《中学教师专业标准（试行）》的基本理念（四个基本理念：师德为先，学生为本，能力为重，终身学习）、基本内容（包含“维度”、“领域”和“基本要求”三个层次，即“三个维度、十四领域、六十三项基本要求”。“三个维度”是“专业理念与师德”、“专业知识”和“专业能力”；在各个维度下，确立了四至六个不等的领域；在每个领域之下，又提出了三至六项不等的基本要求）的基础上，不断学习、实践、积累和创新。

**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.**

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谢谢大家！

**Thank you!**