Statement of teaching responsibilities

A comprehensive list of courses taught

1. Biology
    - 1.1. 9th grade level
    - 1.2. 10th grade level
    - 1.3. 11th grade level
    - 1.4. University seminars
        - 1.4.1. Principles of evolution
        - 1.4.2. Genetics
    - 1.5. Specialized courses
        - 1.5.1. University entrance examinations
        - 1.5.2. SAT II Biology
2. Chemistry
    - 2.1. 7th grade level
    - 2.2. 9th grade level
    - 2.3. 10th grade level
    - 2.4. 11th grade level
    - 2.5. A Level courses
        - 2.5.1. Detailed organic chemistry I
        - 2.5.2. Detailed organic chemistry II
    - 2.6. University seminars
        - 2.6.1. Principals of physical chemistry
    - 2.7. Specialized course
        - 2.7.1. University entrance examinations
        - 2.7.2. SAT II Chemistry
3. Economics
    - 3.1. A Level courses
        - 3.1.1. Introduction to microeconomics
        - 3.1.2. Introduction to macroeconomics
4. Mathematics
    - 4.1. 7th grade level
    - 4.2. 8th grade level
    - 4.3. 9th grade level
    - 4.4. 10th grade level
    - 4.5. 11th grade level
    - 4.6. 12th grade level
    - 4.7. A Level courses
        - 4.7.1. Calculus I
        - 4.7.2. Calculus II
    - 4.8. University seminars
        - 4.8.1. Introduction to linear algebra
    - 4.9. Specialized courses
        - 4.9.1. 7th grade high school entrance examination
        - 4.9.2. 12th grade high school exit examination
        - 4.9.3. University entrance examinations
        - 4.9.4. SAT I
        - 4.9.5. SAT II Mathematics
        - 4.9.6. GMAT
        - 4.9.7. GRE
5. Physics
    - 5.1. 9th grade level
    - 5.2. 10th grade level
    - 5.3. 11th grade level
    - 5.4. A Level courses
        - 5.4.1. Detailed thermodynamics I
        - 5.4.2. Detailed thermodynamics II
        - 5.4.3. Detailed electromagnetism
    - 5.5. Specialized courses
        - 5.5.1. University entrance examinations
        - 5.5.2. SAT II Physics

Personal teaching methods

Teaching is significantly more than just a job and I have strived for excellence in all aspects of educating young adults. Whether the course I teach includes a single student or a large group, the governing principles I adhere to are quite similar.

Personal qualities

I have developed a wide variety of personal qualities that I utilize on a daily basis in my classes. One of the first things I discovered when I was doing my first teaching internship was that assuming ownership for the classroom and students' success was of vital importance. Most students want to learn and to develop themselves given that the teacher provides the right motivation, enthusiasm, and manner of teaching. I often use personal experience to provide real-world examples. Doing this removes the abstract aspect of the material, because students perceive it as something that might actually happen to them as well, and of course deepens my personal relations with my students by giving them a glimpse of my out-of-classroom life. I do my best to understand their problems, feelings, and emotional states. Adults often underestimate how traumatizing it can be not to get enough likes on your most recent profile photo, because we forget that at one point in time issues that now seem miniscule in comparison to dealing with mortgage, were indeed the most critically devastating moments we had then faced. Humanizing myself in front of my students is important to me, because I can show them in practice how to handle situations which they are bound to stumble upon like making mistakes for instance. We all make mistakes, big and small, insignificant and life altering. How we handle them is taught behavior. When I make a mistake I admit to it immediately, a fact which often comes as a shock to some of my first time students. I then apologize publically for it and correct it. I hold an enormous amount of respect for those of my students who have the courage to stand up to me and point out I have made a mistake.

I have discovered that students learn and generally perform much better when stress is removed from the environment. A good sense of humor accomplishes that. I had the practice of having the entire class start loudly applauding on the count to three in response to a student dozing off in class. Unfortunately my students got too cautious about sleeping on their desks after only a few weeks of implementing that practice. I conduct one-on-one conversations with my students on a regular basis. A lot of them have chosen to confide in me with personal problems, because they perceive me both as a responsible adult who can render them assistance and as someone who would understand them without passing judgment. In that regard maintaining confidential trust and mutual respect is a key element. I strive to be responsive to situations and my students' needs by being structured, yet flexible and spontaneous. All of my students are treated equally and fairly. Even though I have trouble memorizing everyone's names initially, I distribute name plates so that I may always address my students by name. I ask that students address me on a first name basis, because I believe in earning their respect and not forcing it onto them with a title. I never raise my voice in my interactions with students and I expect them not to either. I try to teach them that no argument becomes more valid because it is yelled out instead of spoken in proper tone. As a whole I try to engage in positive dialogue and interaction with my students

both inside and outside the classroom. Whenever conflicts arise I look for the win-win solution together with the students involved.

I enjoy teaching and I expect my students to enjoy learning by creating a suitable environment for them to do so. I listen attentively to their questions, comments, and concerns and communicate my high expectations of them consistently. I work actively with my students by investing time for extracurricular activities and for tutoring after school hours.

Classroom management

All of the classrooms I teach in are organized in a non-traditional manner. On the first day of school I let my students rearrange the desks in a way that facilitates interaction and enables all of them to see and hear the instruction. Sometimes they choose to arrange the desks in two long rows, sometimes they make a ∏. I have had discussion classes where we were all sitting in a circle on the floor. When the weather allows it classes are even sometimes held outside. At the beginning of each semester the classroom walls are perfectly clear, besides a few things I put up myself – a cork board where everyone can pin an article or some interesting problem they came across, a calendar of events where I fill out the class as well as the school events, the class rules and lab regulations, and pocket holder where all students and myself leave our cell phones as we walk in the classroom. By the end of the semester the walls are covered with materials produced by my students in the class – exemplary lab reports, creative problem solutions, presentation boards, funny science jokes they came across online, photos we during the course. In the back of the classroom I usually set up a small library with extra materials for the particular class – additional textbooks, science magazines, scientific news, compilations of practice problems, exam books, etc.

Classroom procedures are communicated clearly on the very first day of class and I manage them to facilitate smooth transitions, instructional groups, procurement of materials and supplies, and supervision of volunteers and paraprofessionals in the classroom. My students take a short quiz at the beginning of every single lecture class. Upon completing those quizzes, students exchange them and check their fellow's results. That teaches them to be critical in a constructive way of their peers and to draw a clear line between work and play. This is an established student routine for responsibilities and student leadership. By allowing my students to check and grade each other's work, I also teach them fairness. In fact students are well involved in formulating the classroom rules, interactions among them are encouraged and students are always required to address one another in a positive and respectful manner.

The most important aspect of disciplining students is to do so with dignity and respect. I use my proximity to my students to manage their behavior, I rarely raise my voice and as a whole note positive interactions. It was in my very first semester of teaching that my students taught me a valuable lesson – the stick does not necessarily work better than the carrot. Positive corroboration is just as significant as strict rule enforcement. The expectations I have of my students in terms of their behavior both in and outside of the classroom are clear, firm and consistent, but I do make a point of praising good results, clever ideas, and inquisitive minds.

Planning and organizing

A detailed syllabus is provided to every student on the first day of class. Besides the guidelines for the course, the syllabi contain a week-by-week division of the material to be taught with labs and exams scheduled (please see the included examples), which allows my students to plan accordingly.

Regarding lesson plans, I used to do tentative plans for every lesson as I developed the syllabus, but that turned out to be an ineffective strategy, because I ended up majorly revising those plans in order to account for the dynamically changing class environment. Currently I write lesson plans one week ahead at a time and I send them to my students over the weekend via email so that they familiarize themselves with the agenda and the objectives before the class. I use student assessment and diagnostic data in my instructional planning, because it is crucial that my teaching be in sync with the pace of my students' learning. For that reason I try to use as many student work samples in my lessons as possible, as well as incorporate technology, include use of available materials, and integrate other content areas when appropriate. If appropriate, I indicate the time each activity will take and incorporate pre-lesson questions to increase my students' involvement in the material to be taught. I believe it is important to address different learning modalities and styles in my lesson plans in order to prevent classes from becoming mundane and rather boring.

My weekly lesson plans are sent to the school administration on a weekly basis in case of an emergency situation when I have to be substituted by a different teacher.

Implementing instructions

The lessons I teach are primarily guided by the students' questions and prior knowledge. I try to anticipate the possible problems my students might have with the material so that I may answer all of their questions spontaneously. Of course that requires in-depth knowledge and research of the material, though I must admit I have had situations in which the only available answer I have had was "I don't know. I will check into it and get back to you OR Let's find out together after the end of class." I put particular effort into providing real-world connections and applications of the taught material since I very much believe that if at any point my students find a particular equation "worthless", they will never learn or remember it. Ever!

The key element to delivering instruction is to follow a logical, sequential manner. I never interrupt the momentum of the lesson, so I use established procedures to capture more class time (e. g. students pass out materials themselves). I incorporate higher-order thinking strategies by using a variety of activities and methods to actively engage my students. One example of applying this is continuously having high numbers of students on task.

My classrooms are definitely student-centered. The delivery and pacing the lessons is adjusted in response to student cues, because I model learning for my students and make changes to my teaching throughout the lesson based on my students' feedback. I encourage student-to-student interaction throughout the lesson which is why I focus learning at the beginning of the class and leave time for practicing, problem solving, and other learning activities. I assist my students in planning for homework assignments by designing them on measurable objectives. When providing feedback, I rely equally on verbal, nonverbal, and written communication with my students.

Monitoring student progress and potential

Independence is one of the most important things I try to teach my students, so I provide them with plenty of methods for them to track their own performance in my classes. When grading assignments my written comments are extensive and detailed. I regularly give students oral feedback as well, especially to those who have not performed according to the expectations, both theirs and mine. Each student's progress is entered into a worksheet and I print graphs which I hand out to each student every two weeks. In that way I can also analyze achievement data more easily. Students' knowledge is

assessed based on a variety of ways – homework assignments, quizzes, tests, in-class participation, projects, and presentations.

I believe in positive feedback and although I impose rules in the classroom, I do provide praise on a regular basis. I make use of student intervention plans, because all subjects I teach build on past knowledge and understanding. If a student fails to grasp a lesson, they will have trouble grasping the next one, and the one after that. Intervention plans prevent this avalanche-like effect.

Whenever parent communication is involved, I maintain a detailed record of it in its entirety. I require parents to familiarize themselves with the syllabus in the beginning of the term and I send them their children's weekly progress reports. Parents are always welcome to attend any class without notification if they so wish.

Each homework assignment and test include both higher- and lower-level assessment content. I use rubrics and scoring guides for each assignment. If and when a student falls into the group of at-risk students, they are required to attend the peer tutoring program after classes, as well as my office hours on a weekly basis. If and when a student grows into the group of high-ability students, they are given different assignments, appropriate for their level of subject understanding.

At-risk and high-ability students

Getting to know students' cultures is a matter of respect and vital importance when teaching in underdeveloped countries. Although Bulgaria is not technically considered one of those countries, there are large groups of at-risk students who come from minorities and difficult home environments. I am genuinely interested in the issues my students' communities are facing and I truly believe that each of them can succeed. Most at-risk students suffer the lack of proper organizational skills which is why establishing rules and procedures on the very first day of class in critical. I make continuous efforts to engage those students in higher-order thinking skills by using a variety of instructional strategies. I would often explain a concept and give an example to demonstrate it. I let my students then solve a problem on their own. That problem is identical in its solution method to the one given in the example with a few minor details altered, for instance different variable coefficients. I repeat that until the students are able to verbally provide an explanation to the solution. I try to provide extremely detailed feedback to at-risk students on all of their work.

High-ability students have individual interests and I help them pursue those by providing more directed materials in their area of interest. Sometimes those students demonstrate aggressive learning behaviors which need redirecting. I do so by providing more time for social interaction. I find ways to connect gifted students with experts in their field of interest by regularly suggesting lectures and seminars held in town or online. I try to challenge high-ability students by providing a multitude of resources in the classroom and incorporating technology into my lessons.

Mathematics

An effective mathematics teacher shows skill in facilitating students' ability to understand, analyze, and solve problems. I present real-world applications of math concepts to make the application pertinent to students. I help students to think beyond the paper and the pencil to comprehend how mathematics is

evident and applied to everyday life. My classroom is filled with manipulatives and decorated with math-related posters and 3-D constructions. The chalkboard tray holds oversized replicas of the tools students use, such as rulers. I use these tools to break down the process and provide meaning for the class. If a student is having difficulty, I am able to diagnose and remediate the gap in prior knowledge or identify where the student has misunderstood the process to get the child back on track. Students are asked to compute problems, write about solutions, and discuss mathematics. Mathematics is not just numbers and symbols; it is a language for understanding.

I use a variety of tools and manipulatives to teach, including the following:

- Various papers (grid, dot, patty, graphing, notebook)
- Calculators (four-function, scientific, graphing)
- Measurement tools (angle ruler, balance, compass, protractor, ruler, thermometer)
- Mathematical software programs and spreadsheets
- Commercial manipulatives (algebra tiles, cubes, Cuisenaire rods, decimal blocks, fraction circles, geoboards, tangrams)
- Common materials (spinners, coins, dice, yarn)
- Overhead calculator and transparent tiles

I use a variety of approaches to teaching the content, including the following:

- Application problems using real-life data
- 3-D constructions
- Reading and writing story problems
- Using visuals in problems
- Mental mathematics
- Prediction and estimation
- Discussing mathematical concepts
- Students talking through how to do the problem
- Tessellations
- Venn diagrams

Science

Scientific discoveries are constantly adding to and changing the body of science knowledge. I engage students in experimentation and discussion of the findings. I am aware of current scientific changes and I highlight new and older discoveries with my students as, together, we investigate and develop an understanding of science.

My science classroom has safety as a focus, with the following items displayed or easily available:

- Posted safety rules
- Lab safety contracts
- Available protective materials (lab aprons, gloves, goggles)

- Fire extinguisher
- Chemicals are stored with materials safety data sheets
- Marked disposal bin for broken glass
- Eyewash
- Locked chemical storage

In my science classes I use a variety of techniques to facilitate the learning of the curriculum objectives:

- Cooperative learning groups
- Inquiry-based instruction and learning
- Computer simulations
- Laboratory investigations and experiments
- Lab write-ups
- Scientific models
- Project-based learning
- Hands-on activities
- Demonstrations
- Reading scientific articles and journals

And my science classroom contains a variety of equipment, including the following:

- Beakers, flasks, and graduated cylinders
- Scales and balances
- Computer-based laboratory probes
- Dissection tools
- Microscopes
- Models
- Thermometers
- Chemicals
- Lenses, prisms, and mirrors