Alfonso D'AMBROSIO (GROUP NINE)

Alfonso D'Ambrosio, 38 years old, graduated with honor in theoretical physics in the University of Naples and won 4 doctorates. Currently he is teaching Mathematics and Physics in a High School in Monselice (Padova).
He is famous for the prize won in 2016 of "best italian teacher". This prize was because of his innovative method of teaching using digital and ITC didactics. So he invented a network to learn by video games and make students able to create them and enjoy difficult subjects like maths and physics using their smartphone sensors.

1. **When and how was your passion for physics born?**

I Think I have always had a passion for physics. It is an interest that I feel alive even now, every day. If we are looking for a specific moment it was when I was about 6 years old. I was doing my usual experiments with insects and animals in the garden and I found a way to land a lizard by building wings with leaves. In that moment I understood that it is better to investigate Nature than to look at it alone.

2. **What motivated you to pursue a career as a teacher?**

Once I read that teaching and education are made either by analogy or by contrast. I chose to be a teacher because I have never loved my school experience: frontal lessons, lecture-style and teacher-centred methodology, few group activities, limited possibilities for different thought. I chose to be a teacher because I wanted to be different from my teacher. I decided to become a teacher to tell how wonderful education is.

3. **What is your innovative teaching method based on?**

Indeed I do not think I have an educational method. I use different teaching methods (upside learning, scientific method, cooperative learning etc.), but basically I let my students work as researchers: they work as a team, go wrong and start again, learn to manage their emotions and come up with hypotheses about the world around them.

4. **How do the students work? What is their opinion about your teaching?**

I asked my students. They told me that my lessons are extremely engaging and strange, because flying in a virtual world or measuring the pressure of the stratosphere with a drone is not for everyone.

5. **How did you come to develop your education? How much time did it required before collecting results?**

Teaching is a slow research, in my vision the teacher is therefore an educational researcher, he keeps up to date almost daily, he learns with his students. I started teaching in Padova in 2007, already at that time I used blogs and forums to make students search for educational material out of school. In 2009 I started the first experiments with educational video games. From the beginning I had my students realize experiments with waste materials: our hands provide our thinking. I wrote a book on gravity and I'm writing other two books that I'll publish over the summer. I often travel all over Italy doing teacher training on coding, educational robotics, science with the smartphone.

6) If this modality of education is useful and funny, why didn't it develop in other disciplines?

Teaching is like a dress: everyone can choose his own, and the one that can be good for me, it couldn't fit someone else.
Therefore teaching is a social relationship, you can't never teach in absolute way, because much depends on the context and the external environment.
Of course there are some evident features in my teaching, that recall the Anglo-Saxon approach: less homework, many hands-on activities, free choice projects, thesis about the development of skills (not only disciplinary, but also about working in team, arguing own ideas, managing deadlines, etc.
All these things have always existed, but maybe it is easier to do frontal lesson and prepare a lesson from a textbook that it is always the same, isn't it?

7) At school, your colleagues recognize and appreciate your style teaching?

Can we move on to another question? I worked very well in schools where the headmaster himself (and some teachers) make the difference. Schools that have educational leaders are distinguished by their ability to team. Who loves his own work also appreciates that of others.

8. Do you need special skills from students or anyone can get results with your teaching?

I think teaching have to be inclusive, always. We need to look at students as the best people possible to get the best from them.

9. Is your teaching suitable for schools that have not adequate digital equipment?

Actually digital tools come into schools because they are in the pockets of the students! By any smartphone you can measure the magnetic field, the brightness of the external environment; you can search the net, process data, you can even turn it into microscope! But even without any digital device it would change little: for example at school we build robots using scooters of old toys and we set experiences by paper, rubber bands and a lot other common material.

10. If you had not been a teacher, what job would you like and why?

I believe that people in our country can not fully appreciate the work of a teacher. I would like to do didactic experimentation, visit schools and train teachers or stay a few months still to experiment with different tools and methods. I would like to be a teacher again, but not in Italy.