

Is financial crisis an opportunity for natural sciences?

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Abstract. In recent years, probably lack of interest to study natural sciences. It guarantees fields of economic, legal. Young people see their future in the banking, financial, advisory or other jobs. The current crisis, however, this picture changed. Today there is a fundamental shock factor - money. If high school on time and properly respond, it could lead to awakening interest in studying physics, mathematics, chemistry, etc. But this is conditional on the correct policy of universities and faculties. If this option university missed, could be of physicists, chemists and mathematicians in a few years become a very scarce commodity.

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1. Introduction

Money has become the modern constant. They are important for all, all they want to understand. Vision of property and financial security leads many young people to study the financial, economic fields. Economics courses are offered by state universities, as well as private universities. Topic assessing the quality of teaching at private universities is very complicated, therefore remains in contention, it is not an economist as an economist.

While the economic faculty can choose of the students to have in a very difficult time, then the department of physics, chemistry, mathematics are happy if they have 15 students in one year.

The reasons for the decline of interest in the natural sciences are few. First, slim hope for a quick gain financial independence graduates. Second, social perceptions of learning science as too complicated. Third, students' perception of the natural sciences as too great intellectuals, making them very complicated work at the university.

All these parameters have to change universities. Changes option changes are not costly. However, they are demanding on human resources, creativity and commitment to change.

2. Financial independence naturalists

Scientists can be applied in education, private or public research sphere, the sphere of science close. Starting salaries in the private sector are fairly good, but public sector salaries, which will provide space for the vast majority of graduates are very low. How can colleges help the poor financial future? One of the steps already becoming common - financial bonus during the study. If the student completes the first (and beyond) studies, then he is credited with a financial bonus. This is fulfilled financial motivation. Students can save during the study. But what then? Imagine a fresh graduate who has no "contacts" and without "known". His options are very limited. Even in this university can help. If during training strengthened cooperation with specialized firms, with practitioners would then graduate prospects were much better.

3. How to create a lecture for the student, not the teacher himself?

It is no doubt that the overwhelming majority of universities in continental Europe is a university lecture, unfortunately accompanied by a long monologue professor. It is a fact that during the lecture the student must instill new knowledge and sometimes it can not be otherwise than a monologue. But discretion is worth

a certain debate professor, an expert from industry or other high school student. This option provides the student with the opportunity to meet practitioners, to establish contacts, obtain views on other issues.

The big advantage of this method of teaching is practice. Claims on the course of teaching is minimal. One must also realize the benefits for themselves professors, docents, who will increase their expertise and competence.

A little questionable element is the "supervision". This apparatus is applied in many industries. It is a meeting of employees and their debate over the problems not only professional, but also human. This factor would be built entirely of education to another level. Try to imagine such a model.

On Monday, the lecture took place (an example) focusing on "Engines". The lecture would be invited guest - a leading engineer in the automotive industry. The lecture would be in a spirit of discussion with an emphasis on knowledge. On Tuesday morning would be held "supervisory meetings." This is part professor, students, practitioners. Here, there was a general discussion. Discussion topics should be covered: practical problems, technical difficulties, new trends, interesting. Students should also get other "human" view of the practice. The next day would be followed by practical exercises, which ended with the whole issue of "Engines." Exercise would be held in the labs. It would be divided into two parts - theoretical (calculations) and practical.

The advantage of such model is the creation of complex ideas about the issue. Students may be familiar with all aspects that can occur during the practice.

We have created a certain model of teaching. The question is, if you stand in competition with others. Let us ask once again the primary question - Can the financial crisis a chance for the natural sciences? The answer is yes. If the natural sciences will put major emphasis on practice. Let's look at an interesting connection. The financial crisis was due to "bubble". When everyone talked only about money. They promised to repay their debts. In science, from the perspective of the listener, is only talking, but nothing tangible is presented. This fact is perhaps reflected in the number of applicants. Change is necessary, or soon will be on the list of extinct dodo bird, or a kiwi, but also physics, chemist.

4. Public

How can the university today to apply correctly the relationship with the public? One emerging aspect is the "workshops" in the sense - "Science in the Streets ", " sciencein the camps", " science night ". These actions have a very positive impact on the perception of the university. However, it is possible nowadays to lack of funding to organize these events?

Definitely yes. Let's look at our model of teaching and remember what is important? Practice, meeting with the public (from the perspective of students). These events at will students gain very valuable experience. Consider a simple model. Student during the semester, the subject writes: "Science and the public." During the semester, will work on mastering theoretical events - planning. It will plan what experiments are best suited for the area, what could happen, it will schedule a meeting with potential sponsors.

At the end of the semester will be the action itself. Benefits?

Minimum requirements for funding, the minimum requirements for human resources - just a professor, then many students, and the huge significance for the university attract new students.

5. Feet of clay

The amount I have seen the possibilities of teaching. Options change. At this stage it is clear that the financial sector ahead of change. Changes to wait nearly all areas of education is not removed. It is clear why the question of the moment and not take advantage of the change do so. If we look at the changes described comprehensively discover that they are all based on a completely different approach to teaching, forms of teaching, spending time in the study and presentation of the university. The basic idea of all proposed changes is clear - just as financial markets sink, unless they are based on the production of goods and is well on clay legs today's education, if students only learn science, but to come near her and discuss it among themselves.

Therefore, we can offer comprehensive possibilities for other methods of teaching natural sciences we must also step back to look. Faculty must not underestimate the "recruitment" of their students in secondary schools - to promote the talents, knowledge contests, physical or other competitions. But how to organize these activities without the need for large funding?

a) Physical and other scientific stays can be accommodated within the pedagogical practices of future teachers of physics, chemistry ...

b) Competitions, seminars and other similar activities can be done in the direction of the university courses - Seminars Correspondence, when college students are examples, they send students home for the solutions and then correct them yourself.

And these are possibilities, how to create and replace "clay feet".

6. Latest question

Let's summarize all the proposed options and answer the initial question - Is the financial crisis a chance for the natural sciences?

the proposal	effect	connection with financial crisis
visiting experts in lectures at universities	guarantee greater expertise (emphasis on practice)	support small businesses - advertising, possible recruitment
supervision meetings	conversation about other topics from the practice	graduates are familiar with the financial rewards
Science in the streets	approach Science wider public	free advertising for the university
actions for high school students	range of leisure activities - cheaper	attract new students - ensuring the "number" – subsidies

If the college will want to take advantage of these opportunities, then for them the current situation "win".