

Virtual class–room for learning of understanding

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ABSTRACT: The principal aim of education should be the understanding. Understanding is not equivalent to passive knowledge. We do not identify understanding with knowledge. Even large knowledge do not necessarily imply understanding. Understanding is personal, is subjective, needs personal reflection. For this aim the Virtual class–room of Moodle is excellent technology, it is indispensable, because students should prepare written individual texts of their private opinions about most fundamental concepts of science. Beside of Technology of Communication TIC, beside of Technology of Apprenticeship and Knowledge TAC [Rozar Lozano Dias 2011], we propose emphasize Understanding, the Technology of Learning of Understanding (TLU).

KEYWORDS: University Education; Virtual Platform Moodle; On–Line Education, Understanding Versus Knowledge; Pedagogical Experience.

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EDUCATION FOR UNDERSTANDING

Science is collection of alternative subjective personal ideas and subjective views, where everybody has a right to be right. Science thrives on dissent. Science thrives on alternative theories. Science thrives on diversity. Alternative theories have always been and will always be the life of science. Diversity of opinions is most fundamental to all science. Science does not exist outside of personal opinions of scientists (Oziewicz 2013).

Is the diversity of proposal and ideas the plague of science? Yes, it is a ban for dogmatic science. However, for science that advances thought and understanding the diversity is an advantage. The core beauty of science is exactly the diversity of alternative, subjective and personal ideas and opinions. More subjective opinions then more beautiful and more attractive science is for students and for the Young generation. Different opinions, different interpretations, are not only a good thing; they are necessary for science. Opinions shared by everyone is not subject of science.

Science must not be the universal dogmatic agreement and consensus on the only one true idea. Science must not be based on assumption that there is only one monolithic truth and alternative imaginations and alternatives ways of seeing are false. Science is not only one winner. Science thrives on diversity and this is crucial for its flourishing and development. Science does not need criteria to evaluate or decide who is right and who is wrong; it is possible that everybody is wrong.

We do not identify understanding with knowledge. Knowledge is passive. Understanding needs much more own thought, processing, and all of one's heart. Even large knowledge does not need to imply understanding, do

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not need intelligence. Understanding require the personal choice among several known alternative opinions, a private choice among known alternative theories, among alternative interpretations, among alternative axioms, among alternative definitions. This needs individual reflection.

One may suggest that one test of actually understanding is how successfully one is able to share it with others. But this too is misleading: sharing can be understood as convincing others of one's own idea. Most important is to be convinced for oneself.

We should express our opinions, convince ourselves, though we must try to understand other opinions. Innovative ideas are born alone, born in resistance, are not shared by any group. In science diversity leads to advances, whereas consensus and monopoly bring a ruin.

Textbooks extort only one unique absolute and final truth. Consensus, not dissent, is considered to be a good way to progress. Consensus hampers science, because it foregrounds everybody having the same opinion. From consensus viewpoint diversity is derided rather than heard.

Understanding needs to be familiar with alternative ideas, with alternative theories, with contradictory theories, *with alternative definitions*, with alternative axioms.

To understand, student must express his own personal opinion about these alternatives. Student needs reflection, student needs to decide, made a personal choice. It is our thesis that for such students's personal choices, equivalent to understanding, the best technology, indispensable, is Virtual class–room. Virtual class–room not only allows the individual students reflection, not possible in the University class–room within the group of students, but virtual class–room require individual personal reflexion the only way to understanding.

VIRTUAL CLASS–ROOM IS EXCELLENT TECHNOLOGY FOR UNDERSTANDING

Universidad Nacional Autónoma de México through Coordination de Universidad Abierta y Educacion a Distancia propose Virtual Platform Moodle (Plataforma) with Virtual class–rooms (Aulas Virtuales).

We wish to share pedagogical experience to use efectively Virtual class–room as techno–pedagogy for learning and active critical understanding. Virtual class–room is excellent technology that allows profound interaction of students with professor, within critical comparison of contemporaneous alternative and historical and confused misunderstandings of the basic concepts of mathematics, philosophy, epistemology, physics and vision of Universe.

Alirio Davila is presenting the underline stiff rules (rather dogmatic) that must obey the users of Virtual class–rooms in University of California at Los Angeles UCLA (Davila 2011), stressing, among other, that the role of professor in apprenticeship of students must be secondary, that virtual class–room should and must eliminate teaching by professor. We do not agree with such opinion, instead we consider that the role of professor, his own personal ideas are very important for student's understanding.

One Semester virtual class–room consists of up to 15 thematic subjects, each one presented within alternatives, contradictory theories, alternatives opinions. Students, within e–learning and b–learning, are asked each week to collect from internet, Wikipedia, textbooks, the alternative definitions of thematic concepts by diferent authors, from different sourses. Then students are asked for individual reflexions and to insert into platform, into virtual class–room, their personal writing opinions about alternative definitions. Such learning necessary needs internet at home of students.

The diverse private opinions of students then are openly discussed within the group, but not evaluated (contrary suggestion by Davila (Davila 2011), because we consider that every personal idea of student is beautiful

and must not be critiqued. What is bad is the absence of personal idea of student. In this way, by means of individual reflexions we got understanding, and not memorization.

Professor is presenting each subject in virtual class-room as well as in the class-room. Then each writing homework, always at home, consists of three columns-parts: OTHER (the concepts found in internet), OURSELVES (as preferred understanding by professor —and this is very important in our perception of virtual class-room), PERSONAL (the individual student's preference or student's invention or student's choice).

DISCUSSION AND CONCLUSION

Many Authors consider that the aim of the teaching is to organize cooperative knowledge. Cooperative knowledge of entire group of students that leads to consensus.

Consensus create doctrine. Therefore, according to this view, the aim of the teaching must be interaction, interaction among students, so that students should loose individual diverse ideas. Students must forget about personal opinions. What technology could be the best for such cooperative learning? Professor Alirio Davila at University of California has exactly this opinion and consider that Moodle with Virtual class-rooms is exactly invented to made easily cooperative learning, by means of strong interactions among students. Moodle is for collaborative working groups (Davila, 2011 page 101). Platform Moodle is synonym of interactive group apprenticeship.

Davila see the advantage of Virtual class-room that such class-room force students for forcible cooperation, for social interchange of ideas. That learning together within a group, helps knowledge. This reminds similar communist ideas.

We disagree with such opinion. We consider that consensus in learning and in science is wrong. Understanding is for everyone only, not for group. Pedagogue must allow that students study for themselves individually (Pestalozzi 1797). Our main thesis is that for the learning individual understanding the best technological tool is exactly the virtual class-room, where each student has the full freedom for individual reflection, students have the right for own rim of learning, and expressing individual opinion in written form inserted to Moodle.

In this talk we will present some examples of how virtual class-room is efectively useful for interacting of students with professor. That professor is very important with his personal ideas within the virtual class-room, and that virtual class-room is not addendum to university class-room, but just opposite, that university class-room is addendum to virtual class-room.

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