



New Chalk Talk

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Academic Center, Room 212A
Tel. 20.2.797.6659, clt@aucegypt.edu

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Cooperative Learning (3) *Experimenting with cooperative learning at AUC*

“One way individual faculty members can begin to reform undergraduate education is through the use of strategies promoting active learning in the classroom. To do so successfully, each must personally confront the issue of taking risks...” (Bonwell and Eison, 1991)

Collaborative projects are not new at AUC. For example, the Engineering and Computer Science departments offer two-semester courses devoted to capstone projects that involve teamwork, and group work is standard procedure in the Management department. But the two examples we are addressing here are examples of faculty members (from departments where group work may not be the norm), who are willing to take risks and to try out in-class strategies that have been shown to improve student learning.

Dr Soraya Altorki, Professor of Anthropology, and Dr Fadel Assabghy, Dean of the School of Sciences and Engineering and Professor of Physics, have both recently experimented with cooperative learning in their classrooms (Anthropology 210, *Arab Society* and Physics 327, *Electronic Instrumentation* respectively). It was Dr Altorki's initial questions to us that inspired the New Chalk Talk series on cooperative learning (Volume 2, Issues 2 and 3). After having read about it in the newsletter, Dr Assabghy decided to try out the method in his course. They have kindly agreed to share their experience with us.

From the start, the aim of each professor was different: Dr Assabghy was going to use it for an in-class design exercise which would also serve as an opportunity to examine the outcome of such student-student collaborations. Dr Altorki, on the other hand, was going to have her students work collaboratively on a research paper over a period of two weeks.

The groups

In both cases, **the groups** were randomly chosen. Dr Altorki divided her 38 students alphabetically into six groups (two of them had seven students), which were then subdivided into two subgroups A and B. Dr Assabghy's 22 students were also randomly divided into groups of 3 students each.

The task

Dr Altorki asked each of the six groups to monitor, on the internet, every issue of one of the following six newspapers for a period of two weeks: *The NY Times*, *The LA Times*, *The Washington Post*, *The Christian Science Monitor*, *The Jerusalem Post* and *Haaretz*. (One of the newspapers had to be dropped because of subscription requirements and replaced by *The Guardian*). Subgroup A of each group would track the Editorials, and subgroup B the “Letters to the Editor”, to find those pertaining to the Arab world. Each group was to examine these Letters or Editorials, and report on how the Arab world is perceived in those publications. Each group would be graded on a collective essay written by members of the group, as well as on the portfolio of the Letters or Editorials. Each member of the group would receive the same grade.

Dr Assabghy gave the following collaborative graded design problem: “The control of temperature in the New Falaky Building is independently adjustable in every room in the building. This is achieved by first cooling the air to temperatures below comfort levels (T_{bc}) by the Central Air Conditioning system which circulates air throughout the building. Then at the exit to each room, the air is made to flow through an electrical heater which brings the cold air to the desired Comfort Temperature (T_c). [This explains the smell of burning dust which is sometimes noticed when the heater first comes on]. The Comfort temperature can be adjusted by ON/OFF control of the heater. [There is a distinctive clicking sound that can be heard when the relay switches]. This is a Thermostatic Temperature Control system or Thermostat.

Design an Electronic Thermostat that will control (T_c) to settings between 18°C and 35°C , $+ 2^{\circ}\text{C}$. A bipolar dc supply of 15 V is assumed to be available. The heater is powered from a separate ac supply at 220 V 50 Hz.

Dr Assabghy went one step further and invited me a few days later, to talk to his class to allow me to get the students’ feedback. He also did not want to be present, so that the students could talk freely, a somewhat risky proposition that had however a very positive effect on students.

The assessment

Like with any experiment, one cannot come to a definite conclusion after just one trial, but the verdict from both professors was that the method has great potential, and that they were planning on continuing to use it. Dr Altorki was impressed with the large effort that most members of the groups put into their project, and Dr Assabghy was pleased with the spirited interactivity of the students, and how engaged they became as they went about solving their design problem.

As expected, they also learned about things that needed to be refined. Dr Altorki, for instance, felt that she should allow her students more in-class time for group discussions, and that she should monitor their progress in between. Faculty who use the method (Davis, 1993) recommend that some class time be devoted to that purpose. This allows the students to organize for out of class meetings to discuss different perspectives, divide the work load, edit or proof read their common paper etc. (Online technology could be a great help in this respect and students could meet in virtual group discussions.).

To the uninitiated, the most difficult part of collaborative work is group grading because of “free loaders”. Both Dr Assabghy and Dr Altorki expressed some reservations about it, and some students in both classes did not like it. Experts have many suggestions to offer in addressing this issue, and we shall be examining these in future workshops and/or newsletters.

Aziza R. Ellozy
Director, CLT

Sources:

Davis, B. G., “Collaborative Learning: Group Work and Study Teams” in *Tools for Teaching*. San Francisco: Jossey-Bass Publishers, (1993).

Please send comments or suggestions to aellozy@aucegypt.edu