

LETTER TO THE EDITOR

## **Interactive Lecture Supported by Multimedia Presentation: A New Teaching Tool for Faculties with Crowded Classes and Limited Budgets**

Sir:

Medical education in Ege University is based on an integrated curriculum comprised of theoretical lectures (73%), laboratory experiments (10%) and skills training (17%). Biochemistry constitutes 25% of all lectures and 27% of all laboratory work in the first year (Sacaklioglu *et al.*, 1997); however, the need for renovation is apparent through annual questionnaires (Ersoz *et al.*, 1999). Students voice their complaints about information overload and boring lectures, which inhibit their enthusiasm; crowded classes (300 students) and limited budget sources make student-centred education and/or interactive learning impossible. To overcome these problems and limitations, we used a new complementary teaching approach (teacher–student oriented multimedia presentation—TSOMP). Within a week following the lectures on membrane and lipid biochemistry (6 hours), a relevant multimedia presentation (An Electronic Companion to Biochemistry”—provided kindly by the Cogito Learning Media) (Wells & Tupy, 1997) was conducted. The presentations lasted 1.5 hours and were simultaneously translated to Turkish. Pre- and post-tests applied to 113 (in 1999) and 104 (in 2000) volunteers assessed the educational benefit (Table 1). The questionnaire data (1999) showed a strong positive correlation between the level of understanding of English and the obtained benefit ( $p=0.001$ ,  $r=0.2993$ ) as well as more positive perception of the presentation ( $p=0.017$ ,  $r=0.2245$ ). The same applied for the evaluation of allotted time for each slide, i.e. students who found the time appropriate benefited ( $p=0.000$ ,  $r=0.3296$ ), and had a more positive perception of the presentation ( $p=0.000$ ,  $r=0.3459$ ). The 1999 application showed that the success of the presentation depends upon: how prepared the students are, how well they understand the English text and narration, and whether sufficient time is

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**Table 1.** Evaluation of the pre- and post-test; *p* values show the data obtained from the paired student's *t*-test for matched pre- and post-test

Number of correct answers	1999		2000	
	Pre-test 113 (100%)	Post-test 113 (100%)	Pre-test 104 (100%)	Post-test 104 (100%)
0	9 (8.0%)	0 (0)	1 (1.0%)	0 (0)
1	6 (5.3%)	1 (0.9%)	9 (8.7%)	1 (1.0%)
2	19 (16.8%)	5 (4.4%)	14 (13.5%)	2 (1.9%)
3	34 (30.1%)	17 (15%)	39 (37.5%)	4 (3.8%)
4	31 (27.4%)	36 (31.9%)	29 (27.9%)	31 (29.8%)
5	14 (12.4%)	54 (47.8%)	12 (11.5%)	66 (63.5%)
Mean $\pm$ SD	3.00 $\pm$ 1.37	4.21 $\pm$ 0.92*	3.17 $\pm$ 1.26	4.53 $\pm$ 0.86***

\**p*=0.006, post-test levels of 2000 year versus 1999 year (unpaired student's *t*-test).

\*\**p*<0.000, pre-test versus post-test. (paired student's *t*-test).

allotted for each slide. Considering these factors, reorganisation of the 2000 application created a more enthusiastic atmosphere and no correlation was found between the level of understanding of English and the obtained benefit from the presentation. The new TSOMP we report is the first in our university and it proved to be an effective way of teaching as well as encouraging higher level thinking in crowded classes. Our data showed that interactive TSOMP's stimulate the students' thinking and involvement with the subject as well as encouraging them to combine different disciplines in accordance with other reports on web-based education (McNulty *et al.*, 2000; Seidel *et al.*, 2000). We strongly recommend the use of interactive TSOMP as a complementary and cost-saving teaching technique especially in developing countries with over-crowded classes and limited budgets.

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