

## What to Assess in Large Scale Web-based Instruction: Student Satisfaction versus Performance (Poster)

### Ornit Sagy

Department of Education in  
Technology and Science,  
Technion – Israel Institute  
of Technology  
ornit\_sagy@yahoo.com

### Yael Kali

Department of Education in  
Technology and Science,  
Technion – Israel Institute  
of Technology  
yaek@technion.ac.il

### Dan Zilberstein

Faculty of Biology,  
Technion – Israel Institute  
of Technology  
danz@tx.technion.ac.il

### Masha Tsaushu

Department of Education in  
Technology and Science,  
Technion – Israel Institute  
of Technology  
tmasha@gmail.com

### Tali Tal

Department of Education in  
Technology and Science,  
Technion – Israel Institute  
of Technology  
rtal@technion.ac.il

### Shimon Gepstein

Faculty of Biology,  
Technion – Israel Institute  
of Technology  
gepstein@technion.ac.il

### Abstract

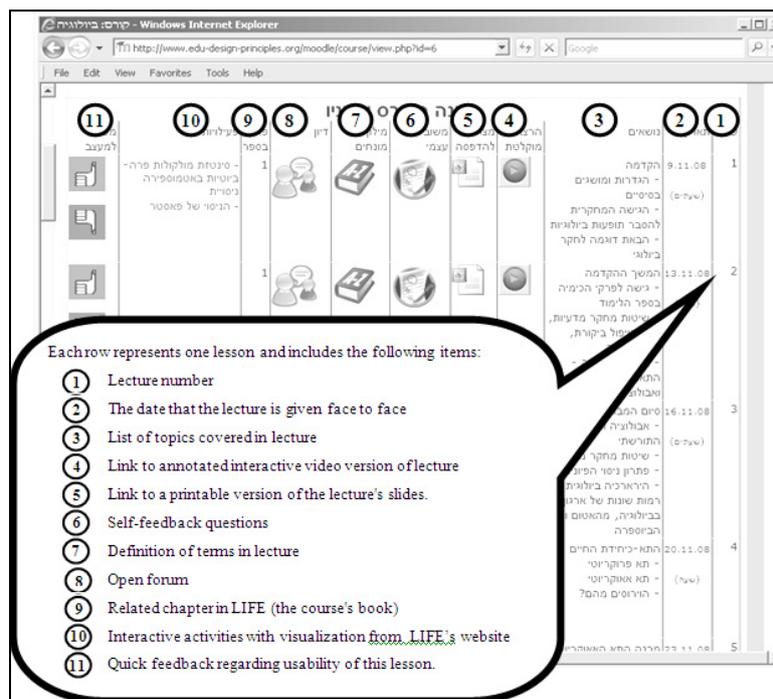
In many cases the success of course websites is measured in terms of student satisfaction (Lim & Karol, 2002; Reister, Lapointe, & Korcuska, 2007; Sahin & Shelley, 2008; Smart & Cappel, 2006). Many studies rely on the assumption that satisfaction enhances the motivation for learning, and that as a consequence, students' ownership of the learning process increases (Lim & Karol, 2002; Smart & Cappel, 2006), which eventually, improves the effectiveness of the learning process. This research reports on the first stage of an instructional model (see basic version in action Table 1) designed to improve the learning in a large enrollment introductory Biology course at the Technion. It is conducted as a collaborative project between the Department of Education in Technology and Science and the Faculty of Biology. All three versions of this instructional model use an online tutorial, which was developed for this purpose (see Figure 1).

**Keywords:** on-line tutorial, large enrollment class, students' satisfaction.

As can be seen in Table 1, in the basic version all course contents are taught via lectures, in the same manner the course was taught prior to the intervention. However, one important difference is that this version provides students with optional use of the online tutorial.

**Table 1. The three phases of the instructional model**

	Face to face meetings	Online Communication	Use of tutorial	Instructor's role	
Socio-constructivism	<b>Basic</b>	Regular lectures cover all topics. Students can choose not to come to lectures and use tutorial instead	Optional forum for each topic mentored by teaching assistant.	Students can use the tutorial as an optional resource. All topics are covered by lectures too.	Instructor lectures on pre-defined contents.
	<b>Intermediate</b>	Lectures cover only depth topics.	Students provide input that help instructor decide on complex contents to focus on in lectures.	Students are required to study all topics using the tutorial. The tutorial serves as the only resource for studying the less complex topics.	Instructor uses student feedback, automatically compiled by the tutorial to decide which topics to focus on in lectures.
	<b>Advanced</b>	Instructor meets with groups of about 30 to discuss complex contents.  Each group of 5 students presents their subtopic, and provides feedback to other groups.	Groups of up to 5 students communicate via private forums and chat rooms for about 4 weeks in which they collaboratively study one aspect of a complex topic to present in class.  Following the meeting they collaboratively build a Wiki web-page for their topic.	Students are required to study all topics using the tutorial. The tutorial serves as the only resource for studying the less complex topics.	Instructor leads discussions regarding complex topics, presented by groups of students in face to face class meetings of about 30 students.



**Figure 1. The online tutorial**

Observations indicated that although students were provided with the online tutorial, which included all course contents, they continued to physically attend course meetings. However, web-mining of the data on the tutorial's server showed that there was a lot of activity in the course's website (On average students entered about 5 pages per week).

With regard to satisfaction from the tutorial, interviews and surveys indicated that students' satisfaction from the tutorial was very high. 78% of the 175 students who filled the survey wrote that the tutorial had a large impact on their learning process. In addition, 80% of free comments regarding the tutorial were positive (e.g. "The new website is a great tool for

learning”). In addition, almost all interviewees indicated that they intend to take more advantage of the online tutorial before the exam. In spite of the above, we did not find any change in the students’ final exam scores compared with those achieved by students in the previous year (M=70, SD=15 vs. M=71, SD=14 in the previous year).

## References

- Lim, J. & Karol, J. (2002). *Student achievement, satisfaction and instructional delivery modes*. In M. Simonson (Ed.), *Encyclopedia of research on distance education in South Dakota* (pp. 77-85), Pierre, SD: South Dakota Star Schools Project
- Reisetter, M., LaPointe, L. & Korcuska J. (2007). The impact of altered realities: implications of online delivery for learners' interactions, expectations, and learning skills. *International Journal on E-Learning*, 6(1), 55-81.
- Sahin, I. & Shelley, M. (2008). Considering Students’ Perceptions: The Distance Education Student Satisfaction Model. *Educational technology & Society*, 11(3), 216-223.
- Smart, K., L., Cappel, J., J., (2006). Students’ Perceptions of Online Learning: A Comparative Study. *Journal of Information Technology Education*, 5, 201-219.

