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Paper

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## Technologies Applied on Engineering Education

The speed of Web based technologies applied on education make very difficult to schools and teachers maintain, improve and adapt their pedagogies strategies in the teaching process.

Simultaneously, the new generations of students that are coming to the university have another relationship with technologies and another "language" and way to communicate with the world. So we have new challenges first, in understanding this new language and after, in providing interesting classes to our students. If we don't manage to increase students interest and participation ,at least we have to succeed in maintaining the same level of motivation in the learning process.

In fact we don't know exactly witch is the best way to teach in this new environment. We have many new challenges in maintain students interest and motivation and we have to learn how to use these technologies to help us overcome these challenges.

Focusing on this situation, we defined a program that will create some possibilities of evaluating these new technologies applied on education: we are applying the same content to students with the same level of knowledge in three different formats.

The first format is applied in a traditional format, with the teacher making his/hers explanations in an usual classroom, using traditional materials like PowerPoint transparencies or blackboards.

In the second one, the same teacher is giving the class but, instead of being in a classical classroom, the teacher makes his/hers speech in a Videoconference room.

This room is part of a complete infrastructure, provided with moderns equipment, created at Polytechnic School of Universidade de São Paulo to allow our teachers to give their Distance Learning classes. During the videoconference we record teacher's speech and after we provide this material on the Web, as a supporting material .

In the last format we give our course using only our Web Distance Learning framework, we developed to manage our students and our virtual classes. We also developed some tools to automatically provide our content on the Web, using a material enriched with multimedia elements like videos, audios, flashes animations, 3D animations, texts synchronized, etc.

This paper aims to present in details these three formats ,to present the first results we obtained in each scenario and also to present a comparison between each format and our conclusion of this experience.