



**ONLINE EDUCA BERLIN 2014**

# **E-Learning and Continuing Education at University of Sao Paulo: A Brazilian Experience**

**Wilson S. Iramina; Sergio M. Eston and Lucas A. Moscato**



**PECE - Polytechnic School of University of Sao  
Paulo Continuing Education Program, Brazil**



# INTRODUCTION

## Facts:

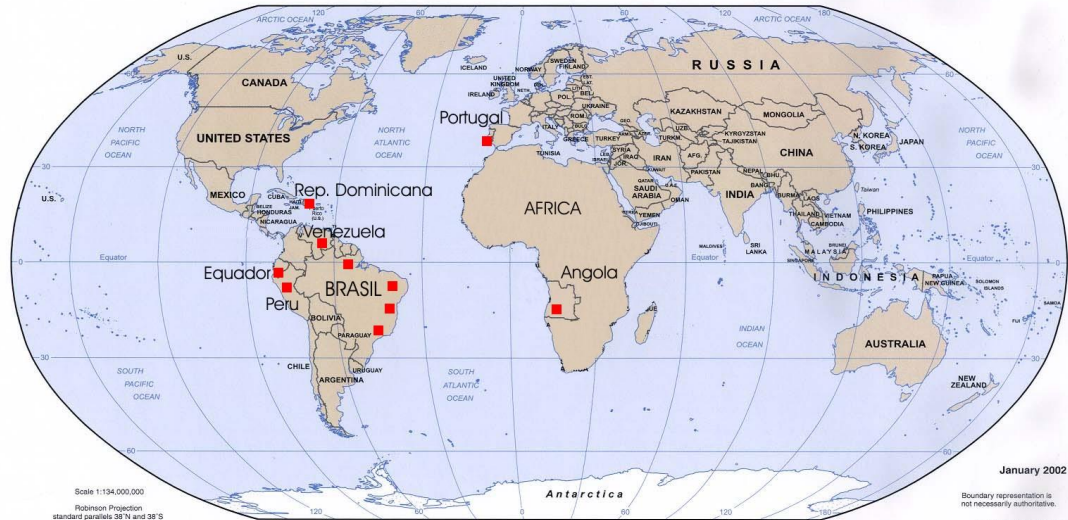
In situ mandatory exams and the need for practices and lab classes have delayed the development of new e-learning methods for technological areas.

Brazil's territorial extension and a huge demand from professionals outside Sao Paulo metropolitan area (150 km away): **challenge to deliver the technological knowledge to them.**

**Studying at University of Sao Paulo: great appeal to people all over Brazil**



# THE BEGINNING



Courses and countries:

Safety in electrical facilities (2002)

Environmental management (2003)

Industrial Hygiene (2003-4)

Safety engineering (2005)



# METHODOLOGY

- Good quality content (textbooks, brochures, videos, digital files, etc.)
- Reliable, simple and cheaper technology (Moodle, chat, forum, e-mail, etc.)
- On site meetings
- Supporting team

**PP – ON SITE PROFESSOR (TRADITIONAL LECTURER)** - Protagonist of knowledge and quality of the course

**CPD – DISTANCE / ON SITE CONVERTER** - Production of brochures, short movies and Moodle manager

**IMAD – REMOTE MULTIMEDIA TUTOR** - Performs online mentoring and lecturer interface

**CIMEAD – IT, MEDIA AND E-LEARNING CONSULTING** - Technological support

**AA – ADMINISTRATIVE SUPPORT** - Logistic, administrative and academic management



# LEARNING DYNAMICS

Need to develop supporting tools: Virtual Laboratory (LAV) for Industrial Hygiene lab classes

Introdução

UNIVERSIDADE DE SAO PAULO  
Minas e de Petróleo  
Segurança e Higiene na Mineração

Laboratório  
Virtual

Versão 2.0

Fechar Tutorial

Ivan K. Tachibana / André L. de Souza  
Sérgio M. de Eston / Wilson S. Iramina

COPYRIGHT © 2005 – 2008. Todos os direitos reservados.

Gases Iluminação Calor Ventilação Vibração Ruído **Menu**



# STUDENT ENROLLMENT

Type of Course	Total enrolled students by year at PECE – Polytechnic School of University of Sao Paulo - Brazil												
	2002	2003	2004	2005	2006	2007	2008	2009	2010	2011	2012	2013	Total
Electricity	8	12	20	80	80	0	0	0	0	0	0	0	200
Environmental Management	0	37	0	35	35	40	55	65	51	60	39	53	470
Industrial Hygiene	0	27	78	78	58	59	62	30	0	0	0	0	392
Safety Engineering	0	0	0	54	64	44	117	115	109	135	250	250	1138
<b>Total</b>	<b>8</b>	<b>76</b>	<b>98</b>	<b>247</b>	<b>237</b>	<b>143</b>	<b>234</b>	<b>210</b>	<b>160</b>	<b>195</b>	<b>289</b>	<b>303</b>	<b>2200</b>



# RESULTS

**Honors:** for e-Learning methodology in safety and industrial hygiene courses

- ABED/Embratel Institute 2004: 2nd Place, Brazil's National Contest
- E-learning Brazil/Micropower 2005, 2011 and 2012: respectively National Reference Gold, Winner of National E-learning based engineering course category and National Reference

Delivered training programs and courses to important companies (Petrobras, Vale, Anglo American, Yamana Gold, etc.)





# RESULTS

- Changes in structure of teaching material and teacher's didactic
- Effective use of an online supporting platform and tools
- Contact and interaction with more heterogeneous classrooms
- Use of Virtual Laboratory (LAV) as a supporting tool
- The financial results are reinvested in the general improvement of courses and researches: more equipped labs, more interns and more fellowships to undergraduate and graduate courses
- Better interaction and funds for social project at University of Sao Paulo





## CONCLUSION

There is not a unique right methodology (“magical formula”) to guarantee a successful E-learning program concerning technological courses.

Our E-learning project: the one that get quality, educational benefits and profit.

Profit stands not only for the financial sense, but also for the increase in didactic and technological knowledge of the instructor and formation of multidisciplinary teams.

Challenges: create new courses according to demand and translate current ones to other languages (spanish, english, etc.)



## CONCLUSION

As far as we know it is a successful methodology. Delivering industrial hygiene, safety and environmental knowledge, despite any methodology, is the university role in our society.

There will be a decreasing at the number of injuries, occupational diseases and deaths by training a growing number of professionals (thanks to e-learning). It is, hopefully, an unstoppable process and it is what we believe and what we work for.

**THANK YOU!**