



# How students perceive elearning situations? The case of the SVC WBT embryology course

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# Project collaboration

- Institutes of 3 Swiss Universities are collaborating within the SVC Embryology project:
  - ◆ University of Fribourg (Project leader):
    - Institute of Histology and General Embryology
    - Centre NTE
  - ◆ University of Bern
    - Institute of Anatomy
  - ◆ University of Lausanne
    - Institute of Cell Biology and Morphology
- The project team members are:
  - ◆ in Fribourg: Prof. M. Celio (Project Leader), Dr M. Adé-Damilano (Project Coordinator), Dr F. Schöni-Affolter, B. Brüschi, Dr G. Collaud, Dr H. Platteaux, Dr J.-F. Perret
  - ◆ in Bern: Prof. P. Bürri, Prof. O. Müller, Dr E. Strauch
  - ◆ in Lausanne: Prof. J.-P. Hornung, PD Dr S. Kasas, Dr C. Dubuis-Grieder





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# Project aims

- The Embryology project aims at creating and implementing:
  - ◆ an interactive 52 hour web-based course in embryology
  - ◆ for first and second year medical students
- The course consists of:
  - ◆ 10 modules of embryogenesis (for 1st year students)
  - ◆ 16 modules of organogenesis (for 2nd year students)
  - ◆ different interactive tools (quizz, animations, etc.) to support a better autonomous learning process of the students
- The course development is helped by:
  - ◆ all the team members
  - ◆ a formative evaluation process
- Why don't you have a look?
  - ◆ Site demo: SVC Days – 27.05.2003 – 12:30-13:00



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# Purposes of the study

- A continuous formative evaluation process applied during the WBT courseware to help its development
  - to feed the project with the students inputs
- Students' inputs to measure their course acceptance
  - ◆ Situation 1: 01.2002 course / 53 students answered
  - ◆ Situation 2: 11.2002 course / 100 students answered
  - The results of situation 1 define the improvements to be done
  - The results of situation 2 control the improvements done



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# Students' inputs about (1)

- The analysis done with the students
  - ◆ measures how much they accept / refuse the course situation
  - ◆ gives indications why they feel like this
- A questionnaire at the beginning of the course...
  - ◆ students' general use of a computer (activity types, time)
  - ◆ students' general use of e-mail and internet (week frequency)
  - ◆ students' general judgement about
    - Internet and web are very useful: in general / in course
    - Multimedia opens new perspectives: in general / in course
    - Email is a good communication tool: in general / in course
- ... to know about
  - ◆ familiarity of the students with the computer
  - ◆ general use done with the computer
  - ◆ global positive / negative attitude and thought of students relative to the use of the computer in courses



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# Students' inputs about (2)

- A questionnaire at the end of the course...
  - ◆ installation difficulty
  - ◆ most appreciated / disliked element (web tool, chapter)
  - ◆ communication appreciation with teacher / other students (quantity and moments /used means: F2F or web-based)
  - ◆ definition of course objectives (clarity / used means)
  - ◆ course objectives mastering
  - ◆ used printed copies or on-line documents
  - ◆ learning efficiency of resources (theory modules, quiz, case study, communication tools)
  - ◆ weekly working time (quantity chapter / feeling)
  - ◆ in favour of another virtual course?
- ... to know about
  - ◆ utility and usability of web and F2F course resources
  - ◆ facility / difficulty of working conditions: objectives, schedule, tasks to be done, quantity of work, etc.



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# Method of answers' analysis

- Global analysis
  - ◆ the answers of all the January students
  - ◆ the answers of all the November students
- ➔ Global comparison between January and November
  
- Two categories into November students
  - ◆ students who answered « Yes » to the final question
  - ◆ students who answered « No » to the final question
- ➔ Looking for the reasons of the students' acceptance
  - ◆ depending on **e**-learning factors?
  - ◆ depending on **e-learning** factors?
  - ◆ depending on **other** factors?



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# Results of Student's analysis (1)

- Question: What working resources?

	<b>November (all)</b> (% of students)	<b>November (yes)</b> (% of students)	<b>November (no)</b> (% of students)
Read from printed pdf files for about 100% of modules	90	83	97
Read from computer screen for about 100% of modules	12	20	4

- A large majority of the students need a print to work
- Significant difference between « Yes » and « No » students
- Difficulty to manage two working resources
  - ◆ the work on printed paper (note taking, overwriting, etc.)
  - ◆ the loss of interactivity (schematics, video, etc.)





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## Results of Student's analysis (2)

- Question: Do you want more contacts?

	January (% of students)	November (all) (% of students)	November (yes) (% of students)	November (no) (% of students)
More contacts with teacher?				
Yes	38	42	27	57
No	62	58.5	70	43
More contacts with students?				
Yes	25	32	27	37
No	62	67	73	61

- ➔ No significant difference between January and November
  - ◆ Students wanting more contact (about 40%): F2F lecture
- ➔ Significant difference between « Yes » and « No » students
  - ◆ preference for / habit of F2F or distant situations is important



# Results of Student's analysis (3)

- Question: Identification of learning objectives?

	<b>January</b> (% of students)	<b>November (all)</b> (% of students)	<b>November (yes)</b> (% of students)	<b>November (no)</b> (% of students)
Yes	4	45	57	33
Partly	54	50	43	57
No	42	5	0	10

- Here
  - ◆ Here

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# Results of Student's analysis (4)

- Question: Means used to identify learning objectives?

	<b>January</b> (% of students)	<b>November (all)</b> (% of students)	<b>November (yes)</b> (% of students)	<b>November (no)</b> (% of students)
Modules	31	65.5	65	66
Teacher	29	14.5	14	15
Other means	26	13.5	12	15
No answer	14	6.5	9	4

- Difference between January and November
  - ◆ Here



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# Results of Student's analysis (5)

- Question: Efficiency of resources for learning?

	January (% of students)	November (all) (% of students)	November (yes) (% of students)	November (no) (% of students)
<b>Modules (theory and quiz)</b>				
Very good and good	51	70	80	60
Sufficient and insufficient	49	22.5	7	38
<b>Modules (quiz alone)</b>				
Very good and good	9	51.5	60	43
Sufficient and insufficient	44	38	30	46
<b>Forum</b>				
Very good and good	23	29.5	33	26
Sufficient and insufficient	32	26.5	10	43
<b>Email</b>				
Very good and good	13	30.5	37	24
Sufficient and insufficient	21	15.5	10	21
<b>Chat</b>				
Very good and good	17	20.5	27	14
Sufficient and insufficient	34	27	23	31



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# Results of Student's analysis (6)

- Question: Weekly quantity of work?

	<b>November (yes)</b> (% of students)	<b>November (no)</b> (% of students)
1 hour	7	14
2 hours	47	31
3 hours	43	40
4 hours and more	3	13
average value	2.88 hours	3.06 hours

- Difference between January and November
  - ◆ Here
- Difference between January and November
  - ◆ Here



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# Results of Student's analysis (7)

- Question: Perception of weekly quantity of work?

	<b>November (yes)</b> (% of students)	<b>November (no)</b> (% of students)
little and very little	10	10
normal	53	30
big and very big	33	59

- Difference between January and November
  - ◆ Here



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# Conclusions and perspectives

- Conclusions
  - ◆ big improvement of the course between January and November
- Perspectives
  - ◆ to develop an analysis taking every student individually
  - ◆ to measure if there is a correlation between
    - « Yes » or « No » attitudes**and**
    - communication, work quantity, etc. parameters
    - general feeling about computer for teaching (1<sup>st</sup> Questionnaire)