



Virtual Skills Lab

Swiss Virtual Campus Project #2001-54

A Project Overview

Overview

1. The Swiss Virtual Campus
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4. Project Organization
5. Content Definition and Validation
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7. Implementation



The Swiss Virtual Campus



What is the Swiss Virtual Campus?

The Swiss Virtual Campus (SVC) is a federal funding program with the aim to promote the innovative use of information and communication technologies at Swiss higher education institutions by funding e-learning projects

Objectives of the SVC

- To improve teaching quality
- To promote the adoption of web-based courses as a supplement to or replacement of traditional teaching methods
- To foster the collaboration between institutions of higher education in Switzerland
- To develop teaching materials and methods of high didactical quality

The SVC in Numbers

- 30 million CHF of federal funding:
 - 15 million CHF for first round (2000)
 - 10 million CHF for second round (2001)
 - 5 million CHF for central coordination
- Fund-matching by project partner institutions
- Project duration: 3 years

The SVC in Numbers

(continued)

	1st Round (2000)	2nd Round (2001)
Submitted Projects	136	58
Funded Projects	28	22
Medical Projects	7	5

Medical SVC Projects

(by leading house)

- BOMS – Basics fo Medical Statistics (Basel)
- TropEduWeb – Epidemiology and Tropical Medicine (Basel)
- A Web-Based Training in Embryology (Fribourg)
- Computers for Health (Geneva)
- eBioMed – Biological Sciences Teaching Modules (Lausanne)

Medical SVC Projects

(continued)

- General Chemistry for Students in a Life Sciences Curriculum (Lausanne)
- Immunology Online – Basic and Clinical Immunology (Lausanne)
- Virtual Skills Lab (Lausanne)
- Alzheimer's Disease (Zürich)
- Basic and Clinical Pharmacology (Zürich)
- Basic course in Medicine and Pharmacology (Zürich)
- DOIT – Dermatology online (Zürich)

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Project Description



What is Virtual Skills Lab?

Virtual Skills Lab (VSL) is a Swiss Virtual Campus project with the purpose to develop a multilingual interactive online application for learning the clinical skills that are at the heart of every medical curriculum.

Objectives of VSL

- To improve teaching of clinical skills
- To better prepare students for their first patient encounter
- To provide a learning environment accessible independent of time and place
- To support a unified clinical skills teaching approach in Switzerland

Content

- Clinical skills based on the Swiss Catalog of Learning Objectives for Undergraduate Medical Training
- Modular content with fine granularity

Target Audience

- Learners: medical students in clinical years
- Examinees: medical students preparing for clinical assessment
- Teachers: junior or senior residents involved in pre-graduate clinical teaching

Uses of VSL

- E-learning course to support clinical skills curriculum
- Knowledge-base to support instruction and independent study
- Off-line use of A/V-material (video clips, etc.) to support presential teaching

Who is Virtual Skills Lab?

Leading House:

- Medical Faculty, University of Lausanne

Project-Partners:

- Medical Faculty, University of Berne
- Medical Faculty, University of Geneva
- Medical Faculty, University of Zürich

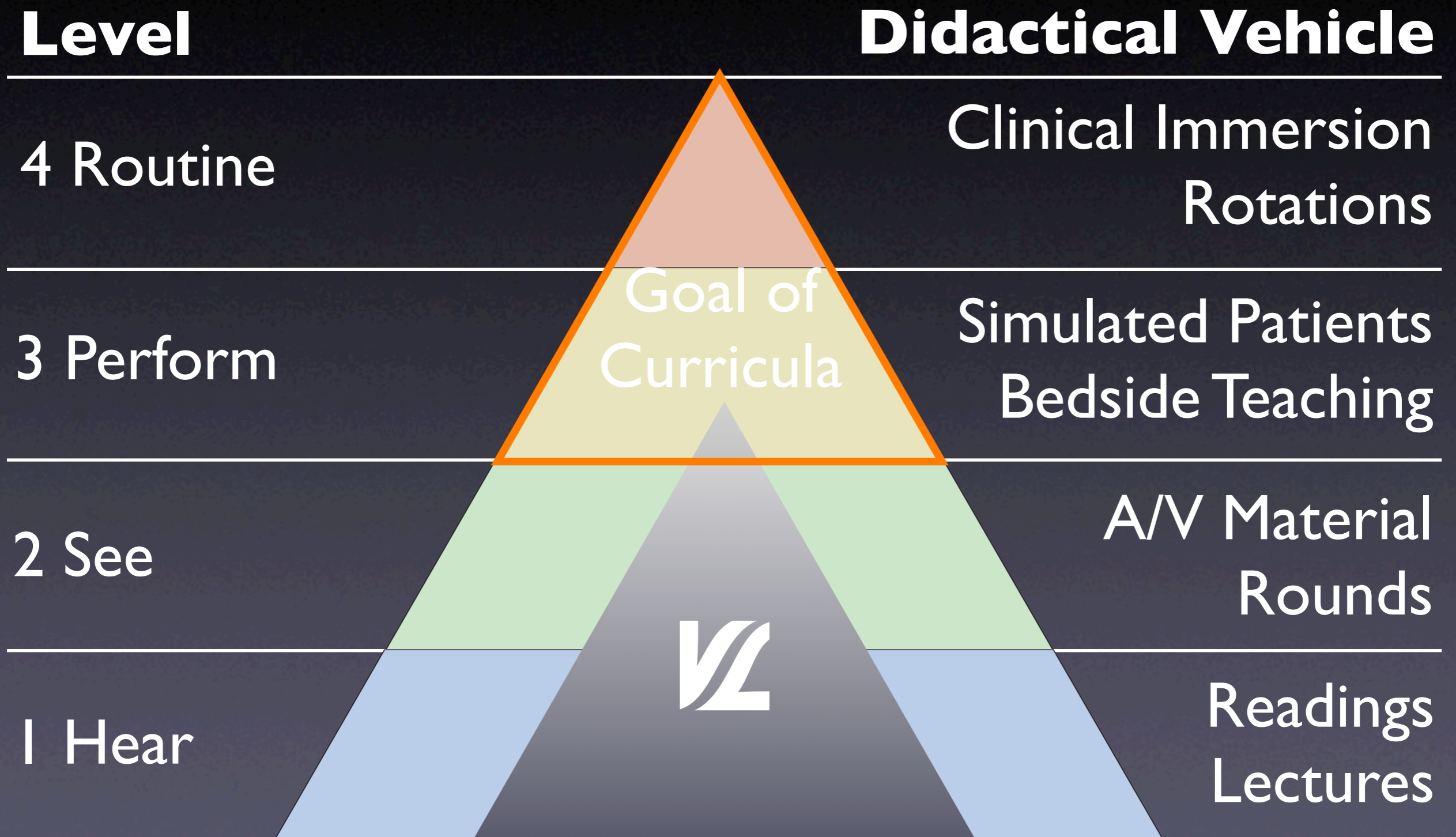
Contact: info@virtuallskillslab.net

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Content Overview



Level of Content



Content Requirements

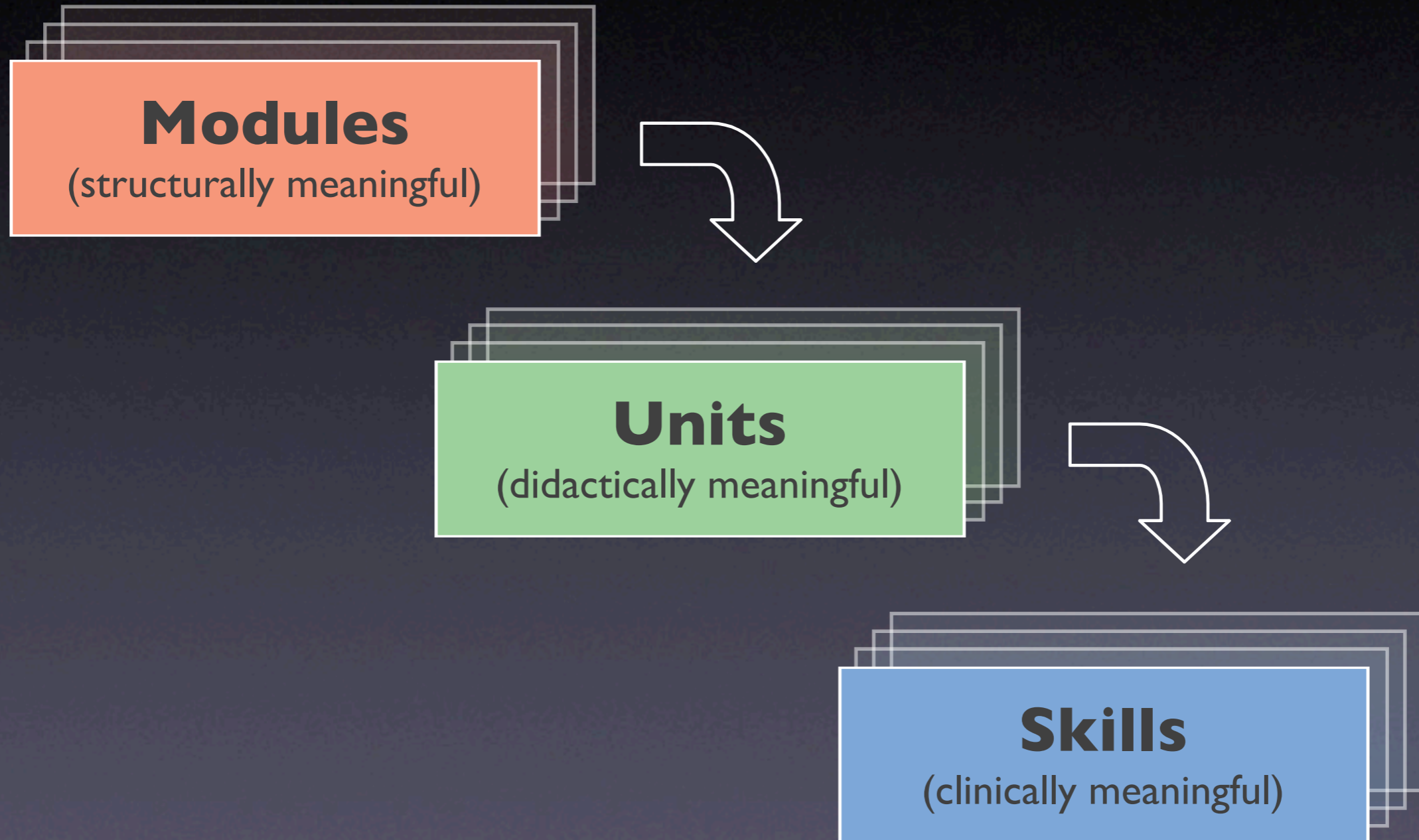
- Content accommodates local requirements
 - Effort to achieve uniform content is made
 - Customized content is produced where necessary
- End product is flexible and customizable
- Supports varying degrees of curriculum integration

Content Structure

- Skills are basic and clinically meaningful units with predefined flow
- A selection of Skills can be assembled to a didactically meaningful instructional Unit
- A number of Units can be grouped into a Module that parallels the curricular structure

Content Structure

(continued)



Modules

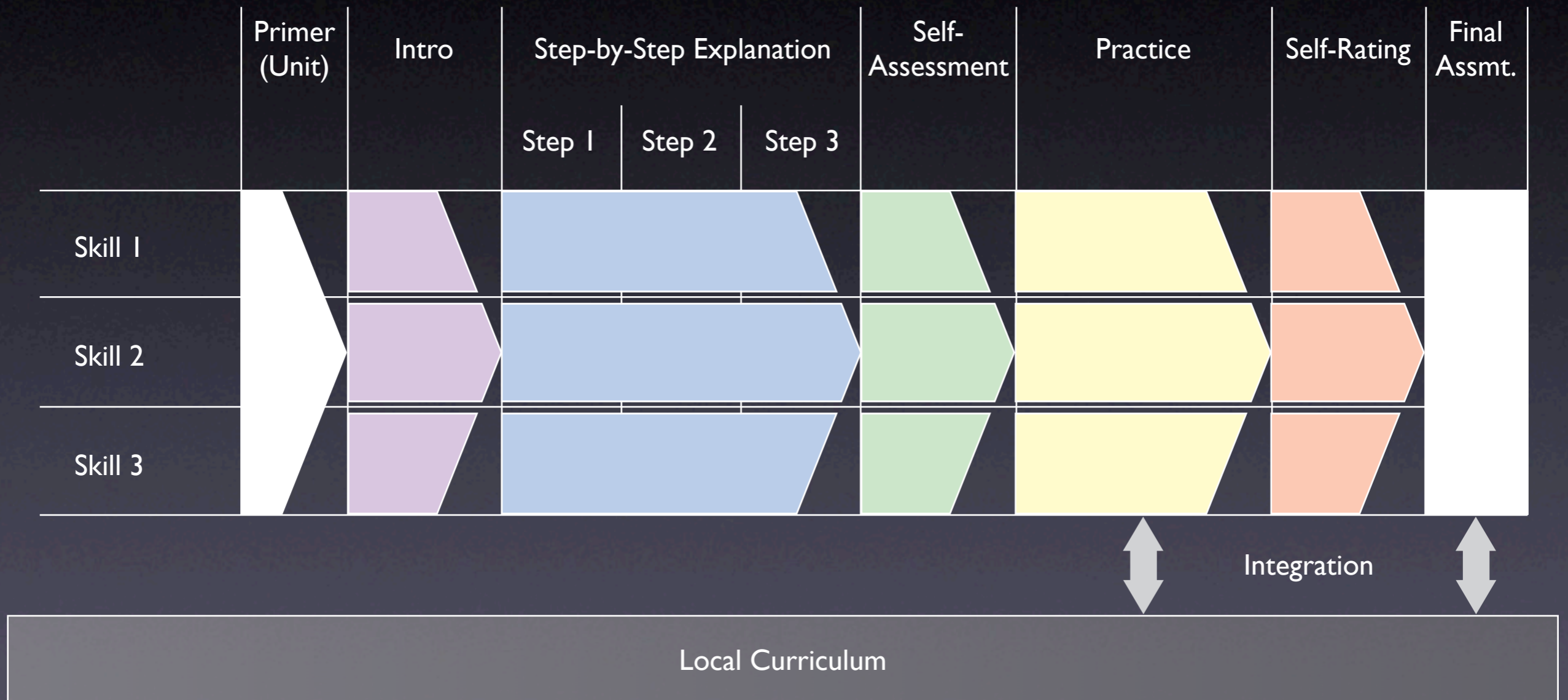
- Doctor-Patient Communication and History-Taking (Prof. Ferenc Follath, Zürich)
- General Examination (Prof. Ferenc Follath, Zürich)
- Pediatrics (Dr. Carmen Casaulta, Berne)
- Emergency (Geneva)
- Psychiatry and Communication (to be assigned)
- Ears, Nose, Throat and Ophthalmology (to be assigned)
- Respiratory System (Prof. Philippe Leuenberger, Lausanne)

Modules

(continued)

- Cardio-Vascular System (Prof. Ferenc Follath, Zürich)
- Abdomen (Berne)
- Neurology (Zürich/Berne)
- Musculo-Skeletal System (Prof. Pierre-André Guerne, Geneva)
- Gynecology and Obstetrics (Prof. Pierre De Grandi, Lausanne)
- Other Diagnostic and Therapeutic Skills (to be assigned)

Unit and Skill Structure



Accessibility

Four-Tiered
Content Model

Three User
Categories

Anonymous User

General Registered User

Affiliated Registered User

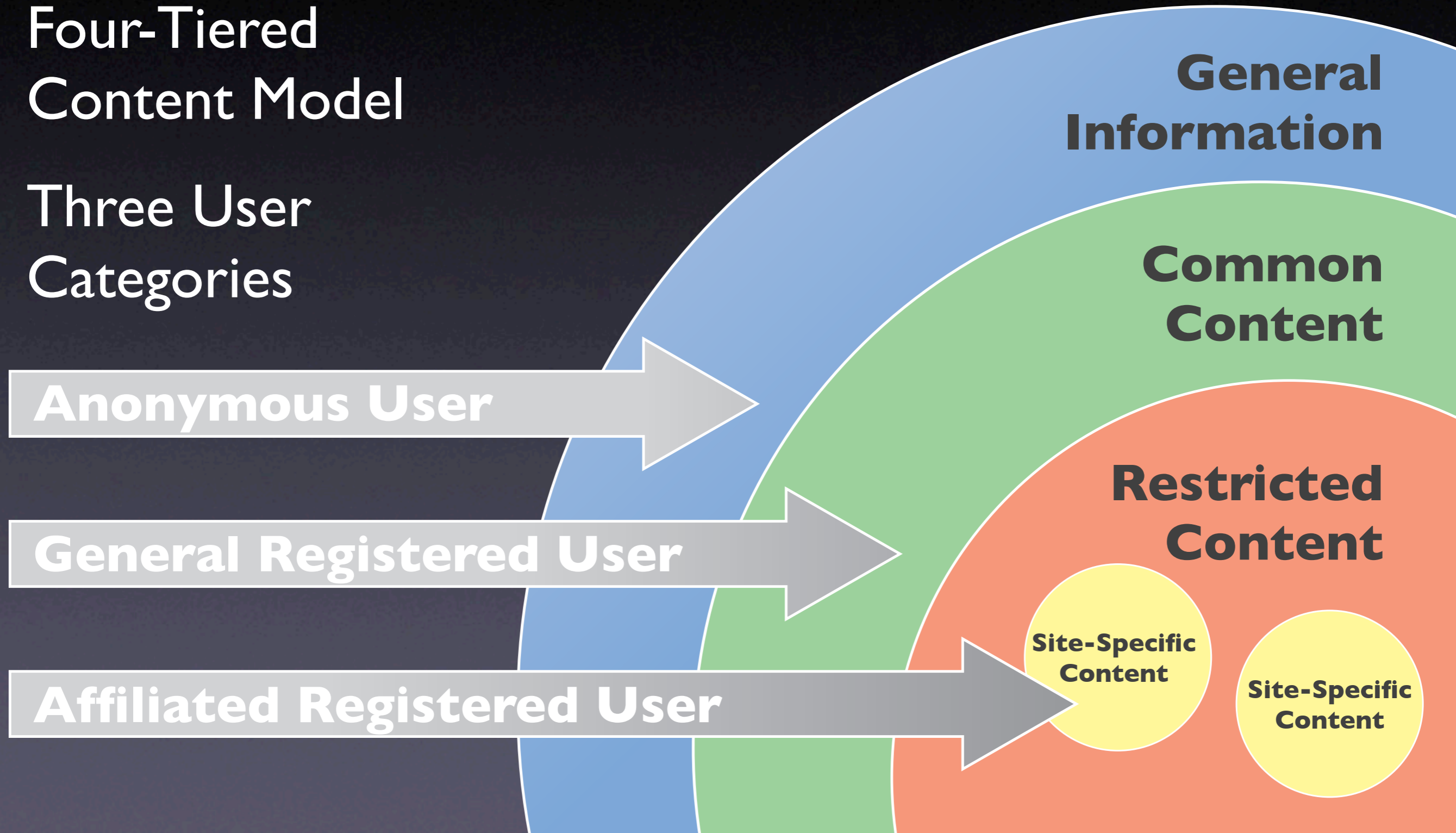
General
Information

Common
Content

Restricted
Content

Site-Specific
Content

Site-Specific
Content






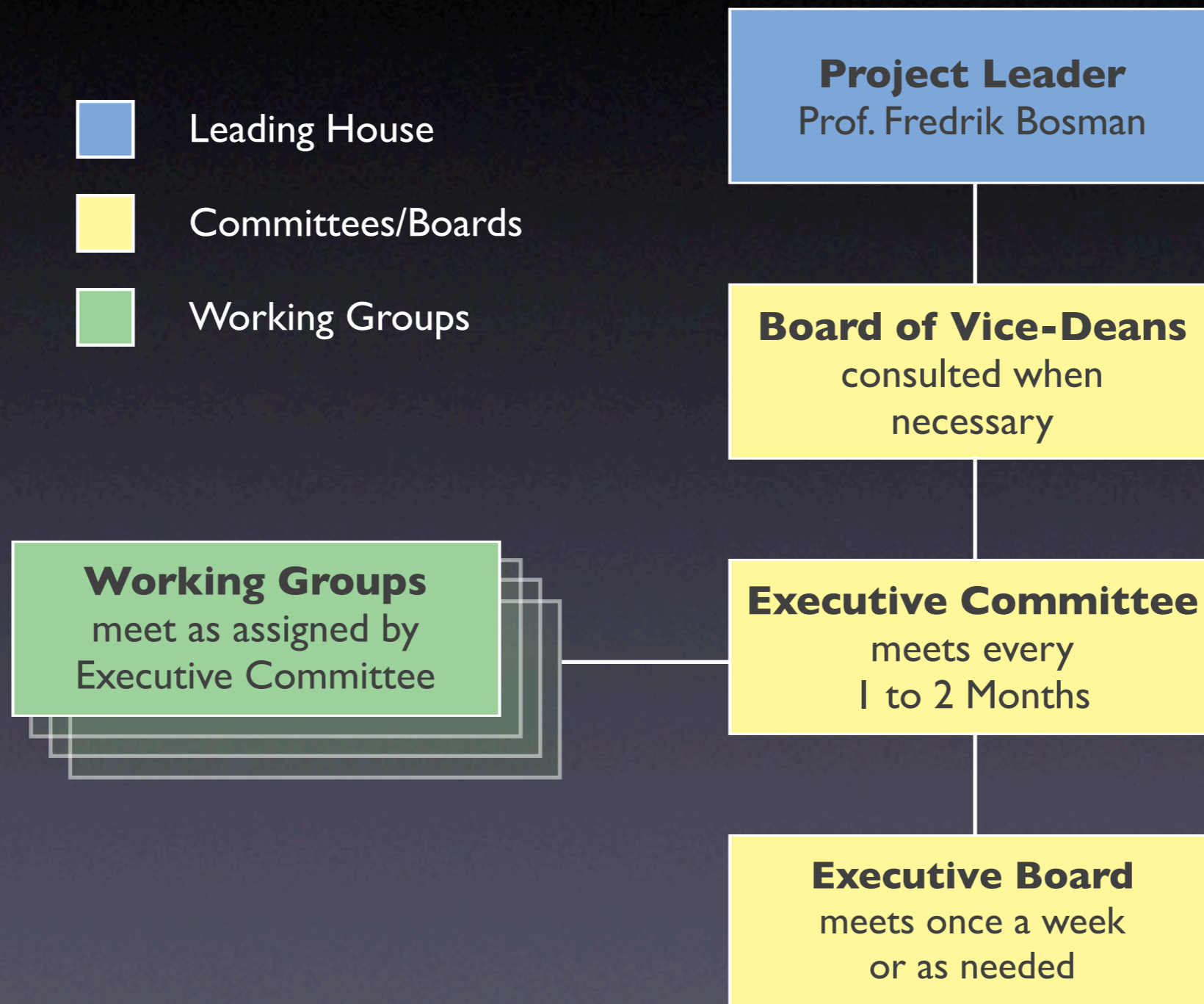
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Project Organization



Steering Structure

-  Leading House
-  Committees/Boards
-  Working Groups



Board of Vice-Deans

Vice-Deans of Education of all project partner faculties:

- Prof. Charles Bader, Medical Faculty, University of Geneva
- Prof. Fredrik Bosman, Medical Faculty, University of Lausanne (Project Leader)
- Prof. Vinzenz Im Hof, Medical Faculty, University of Berne
- Prof. Wilhelm Vetter, Medical Faculty, University of Zürich

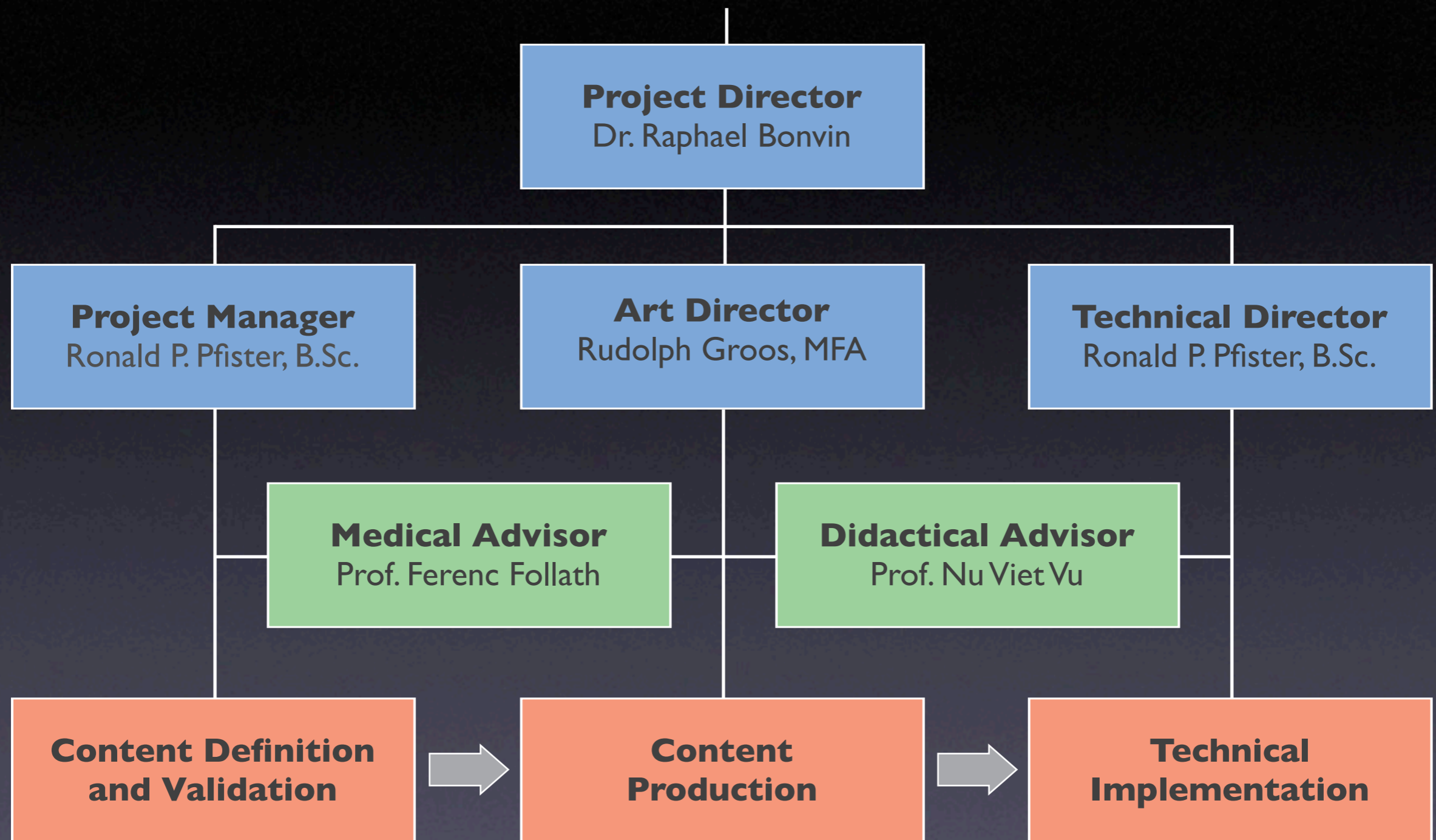
Executive Committee


- Prof. Fredrik Bosman, Medical Faculty, University of Lausanne (Project Leader)
- Prof. Ferenc Follath, Medical Faculty, University of Zürich
- Dr. Peter Frey, Abteilung für Unterrichts-Medien (AUM), University of Berne
- PD Dr. Philippe Huber, Unité de Développement et de Recherche en Education Médicale (UDREM), University of Geneva
- Executive Board

Executive Board

- Dr. Raphael Bonvin, Unité de Pédagogie Médicale (UPM), University of Lausanne (Project Director)
- Ronald P. Pfister, B.Sc., Halimedia (Project Manager, Technical Director)
- Rudolph “Boy” Groos, MFA, Centre d’Enseignement Médical et de Communication Audio-Visuelle (CEMCAV), University Hospital of Lausanne (Art Director)
- Natacha Légeret, Unité de Pédagogie Médicale (UPM), University of Lausanne (Administration)

Executive Board Structure



 Leading House

 Working Group Leaders

 Main Project Areas

Advisors

Medical Advisor:

- Prof. Ferenc Follath, Medical Faculty, University of Zürich

Didactical Advisor:

- Prof. Nu Viet Vu, Unité de Développement et de Recherche en Education Médicale (UDREM), University of Geneva

Local Content Assistants

- Dr. Maria Pia Bianchi (Geneva)
- lic. phil. Liliane Follath (Zürich)
- Dr. Patrick Kupper (Lausanne)
- Dr. Tamara Rordorf (Zürich)
- Dr. Erik Strauch (Berne)
- Dr. Monika Witzig (Zürich)

External Partners

- Amazing Technologies (Software Development)
 - Dr. Daniel Mischler
 - Cyrill Rüttimann
- Solution Park (Multimedia Development)
 - dipl. Ing. ETH Thomas Gabathuler
 - Wolfgang Glutz

External Partners

(continued)

- EduTech, Swiss Virtual Campus (Platform Advising)
 - Dr. Jacques Monnard
- CenTEF, University of Lausanne (Advisory Board)
 - Dr. Bahram Zaerpour

Kick-Off Meeting

- Project kick-off: two-day meeting involving external experts from different key areas
- Motto (quote by Tim O'Reilly):

"The key to success is being open to being surprised, and not having a fixed idea about what's interesting."
- Outcome: unified project vision

Kick-Off Meeting

(continued)

List of Participants

Prof. Harold Lyon (USA)

Dr. Patrick Kupper (Berne)

Prof. Pie Bartholomeus (NL)

Dr. Annie Sandberg-Tschopp

Prof. Jaap Klein (NL)

(Moderator)

Prof. Nu Viet Vu (Geneva)

Gilles Allenbach (Lausanne)

Dr. Martin Fischer (DE)

Daniel Mischler (Amazing Technologies)

Dr. Karen Pierer (Basel)

Thomas Gabathuler (Solutionpark)

Dr. Pieter Van-Dijken (Lausanne)

VSL Executive Committee

Management Tools

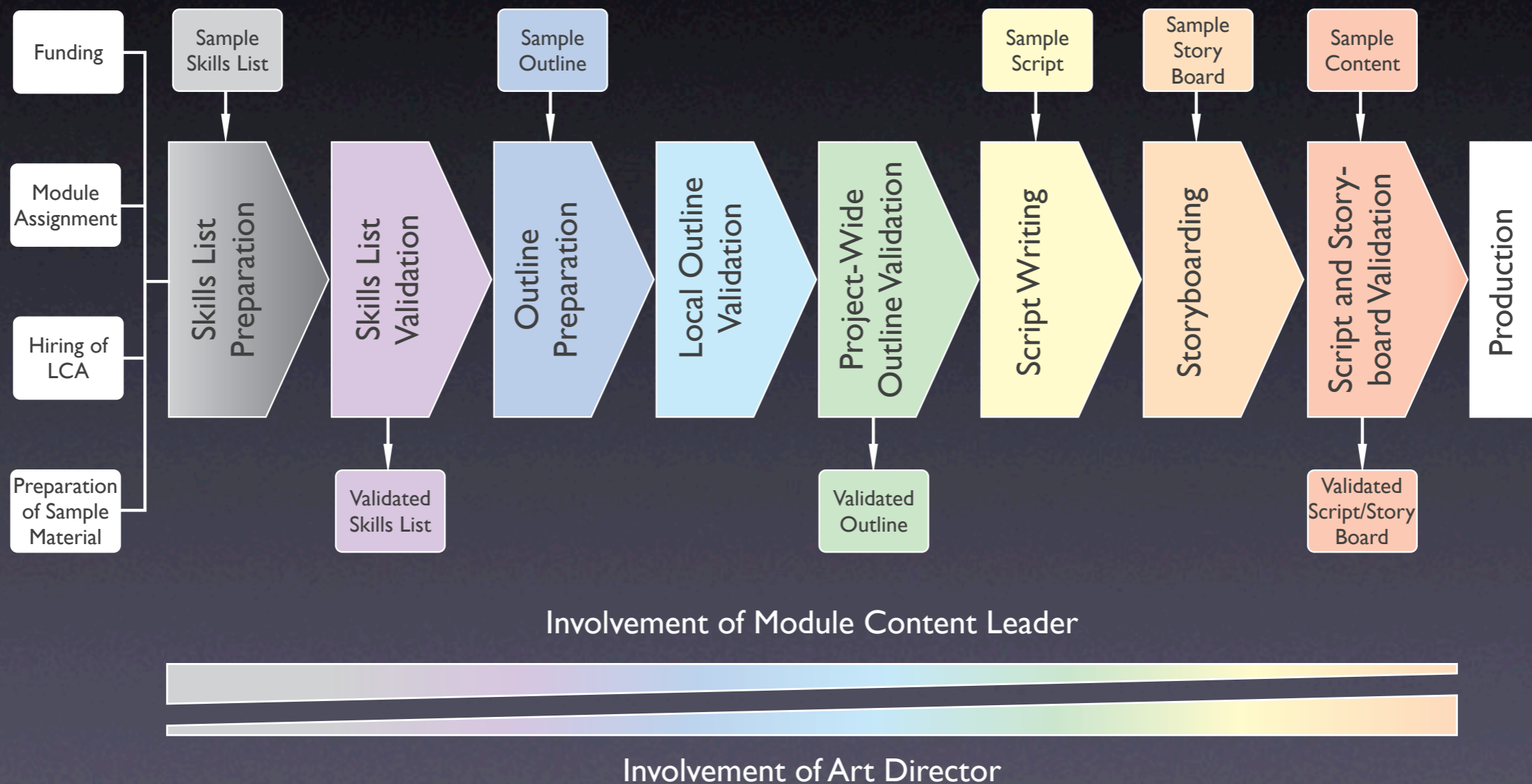
- Monthly site visits
- Validation process of defined and produced content, involving experts from all five medical faculties of Switzerland
- Risk-analysis
- Reliance on existing competences

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Content Definition and Validation



Content Definition Workflow



Content Definition Tool (CDT)

- Development of an interactive tool for..
 - Content definition
 - Content validation

CDT: LCA Interface

The screenshot displays the VSL Content Definition Tool interface. The main window is titled "VSL Content Definition Tool" and contains a menu bar with "File", "Edit", "Tools", "Font", and "Help". The current module is "Doctor-Patient Communication and History-Taking".

Left Panel: A tree view shows the hierarchy of communication components. The selected item is "Vertiefendes Gespräch z", which includes sub-items like "Vertiefendes Gespräch z", "Klinische Untersuchung", "Erklären und gemeinsames", "Gemeinsames Planen", and "Sitzung Beenden". Below this is a "Learning Objectives" section with an "Add" button and a list containing "Lernziel 1".

Center Panel: The "Skill" editor for "Vertiefendes Gespräch zum aktuellen Problem". It includes fields for "Name", "Code" (AKTPRO), "Competence" (3), and "Priority" (+++). A "Detailed Description" text area contains the following text: "Diese Skill zeigt, wie das jetzige Leiden erhoben wird. Der Student lernt, Ueberleitungen zwischen den einzelnen Gesprächsteilen zu formulieren und während des Gesprächs auf verbale und nicht-verbale Kommunikationszeichen zu achten. Ausserdem wird die unterschiedliche Sichtweise einer Krankheit aus Arzt- und aus Patientensicht näher beleuchtet." Below this is a "Script of Skill Introduction" text area with a rich text editor (bold, italic, list) and a "Media" button. The script includes a film title "„Jetziges Leiden – so befragt man richtig“" and a dialogue between a doctor and a patient.

Right Panel: An "Info" panel for the component "Vertiefendes Gespräch". It has buttons for "Comment", "Feedback", and "Validation". A "Validations" dropdown menu is set to "Script Preparation", and the text "No validations available." is displayed below.

CDT: Web Interface

Virtual Skills Lab - Private

http://vsl1.unil.ch/cgi-bin/WebObjects/VSCPrivate.woa/1/wo/heaLb6TleVBI6j4BU6h5aM/8.0.5

Skill: Vertiefendes Gespräch zum aktuellen Problem (AKTPRO)

Level of Confidence: 3 VSL Priority: +++

Detailed description:

Diese Skill zeigt, wie das jetzige Leiden erhoben wird. Der Student lernt, Ueberleitungen zwischen den einzelnen Gesprächsteilen zu formulieren und während des Gesprächs auf verbale und nicht-verbale Kommunikationszeichen zu achten. Ausserdem wird die unterschiedliche Sichtweise einer Krankheit aus Arzt- und aus Patientensicht näher beleuchtet.

Feedback:
0 thread(s) available

Validations:
Show

> **Learning Objectives**

Steps

Step 1: Patientensicht/ärztliche Sicht **Step Type: Undefined**

Description:

Hier wird das 'disease/illness Modell' nach Stewart und Roter erklärt. Es zeigt die unterschiedlichen Sichtweisen einer Krankheit aus Patienten- und aus ärztlicher Sicht und geht auf die Wichtigkeit der Integration dieser beider Sichtweisen ein. Nur so ist eine gute Kommunikation zwischen Arzt und Patient möglich.

Virtual Skills Lab

Module: [Doctor-Patient Communication and History-Taking](#)

Status: [Script Preparation](#)

User: [Ronald P. Pfister](#)

Logged-in since: 10 October 03, 09:34

[Log out!](#)

- > Unit: [Einleitung](#)
- > Unit: [Sitzung Beginnen](#)
- > Unit: [Gründe der Konsultation](#)
- ▼ Unit: [Vertiefendes Gespräch](#)
 - Skill: [Vertiefendes Gespräch zum aktuellen Problem](#)
 - Skill: [Vertiefendes Gespräch zur erweiterten Anamnese](#)
- > Unit: [Klinische Untersuchung](#)
- > Unit: [Erklären und gemeinsames Verständnis erreichen](#)
- > Unit: [Gemeinsames Planen](#)
- > Unit: [Sitzung Beenden](#)

> [Bookmarks](#)

> [General VSL Information](#)

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Development and
Production



Content Production

Video, audio and graphics production is carried out at production centers with considerable experience:

- Centre d'Enseignement Médical et de Communication Audio-Visuelle (CEMCAV), University Hospital of Lausanne
- Abteilung für Unterrichts-Medien (AUM), University of Berne

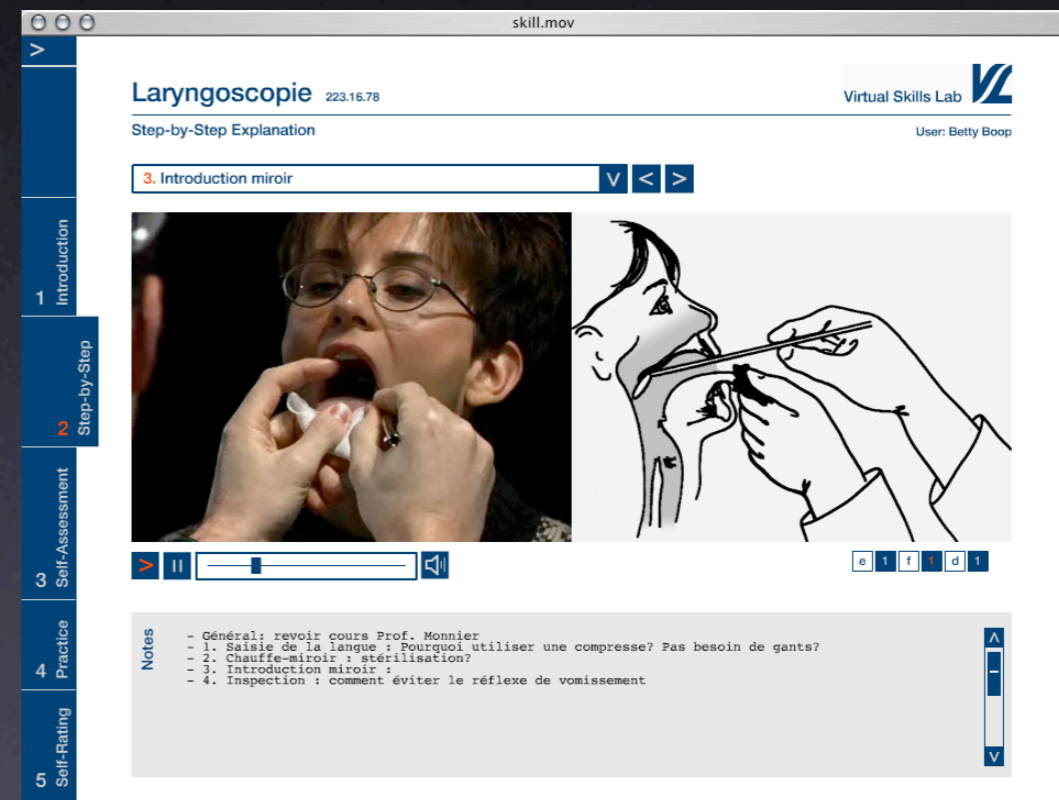
Graphic Design Team

- Béatrice Boog, AUM, Berne
- Philippe Clavel, CEMCAV, Lausanne
- Wolfgang Glutz, Solutionpark, Zürich
- Rudolph “Boy” Groos, CEMCAV, Lausanne
- Hans Holzher, AUM, Bern

User Interface Development



Navigation and tools
(web-based)



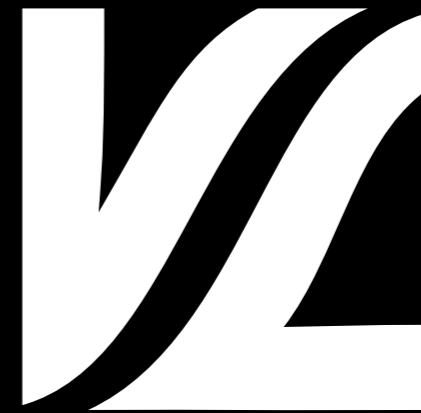
Skill content
(QuickTime client)

E-learning Platform

- Existing E-learning solutions are too restrictive
- Developing a tailor-made solution based on:
 - FrontBase (SQL database server)
 - WebObjects (web application server)
 - QuickTime, MPEG4 (media architecture)
 - Mac OS X Server (robust BSD-UNIX-based server operating system)

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Implementation

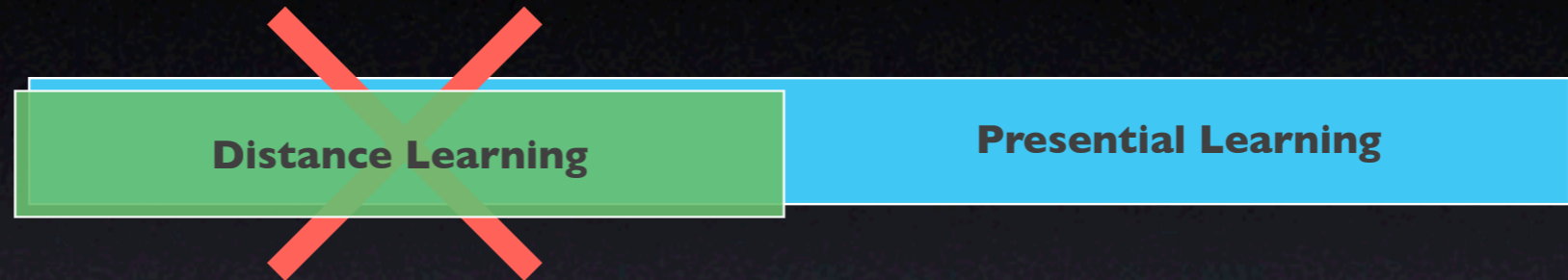


Curriculum Integration

- Top-down approach (Vice-Deans of Education, Curriculum Committees)
- Bottom-up approach (validation by experts, teachers training)
- Customisation (early involvement with local curriculum designers)
- Grassroots approach (marketing of VSL to faculty and students)
- Early (μ)-piloting by partners

Integrating Distance and Presential Learning

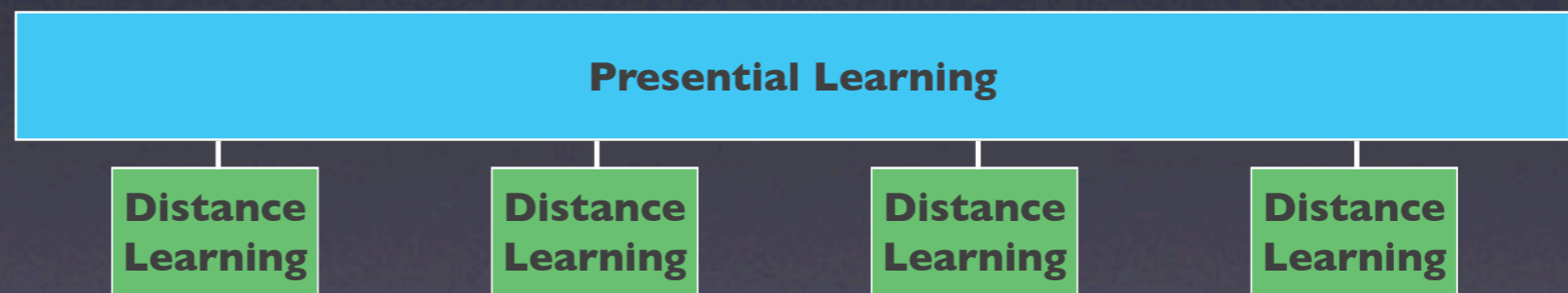
Substitutive



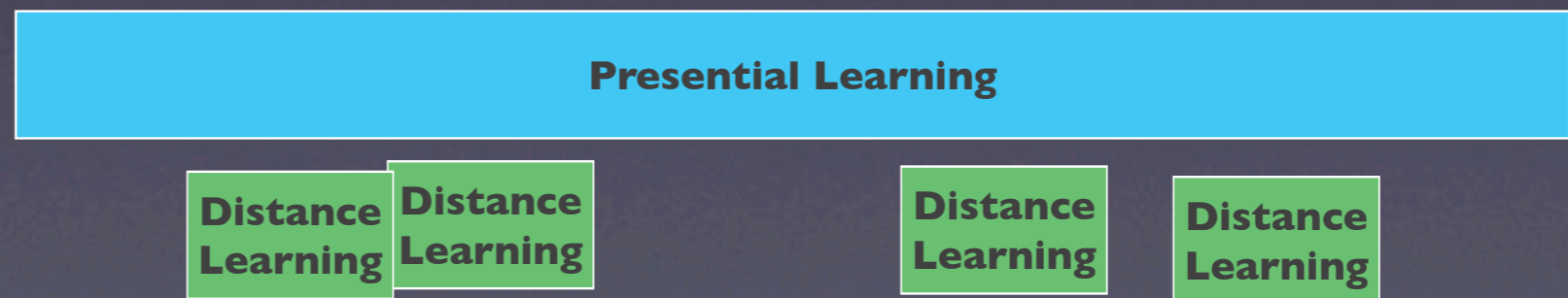
Sequential



Parallel



Stand-Alone



Evaluation

Evaluation program of project in general and curriculum integration in particular:

- Prof. Nu Viet Vu, UDREM Geneva
- Starting Q1/2004

Availability

- End of production: June 2004
- Implementation: 2004-2005
- www.virtualskillslab.net

Long-Term Perspective

- Expanding the content to remaining medical skills (Levels 1, 2)
- Opening VSL to other professions (e.g. nursing)
- National and international diffusion of VSL
- Exploring new possibilities (e.g. haptic-devices)



Thank you for your attention!

Please feel free to ask questions or to provide feedback!

info@virtuallskillslab.net