Competencies-based innovative learning solutions for co-development of Climate Services in West Africa
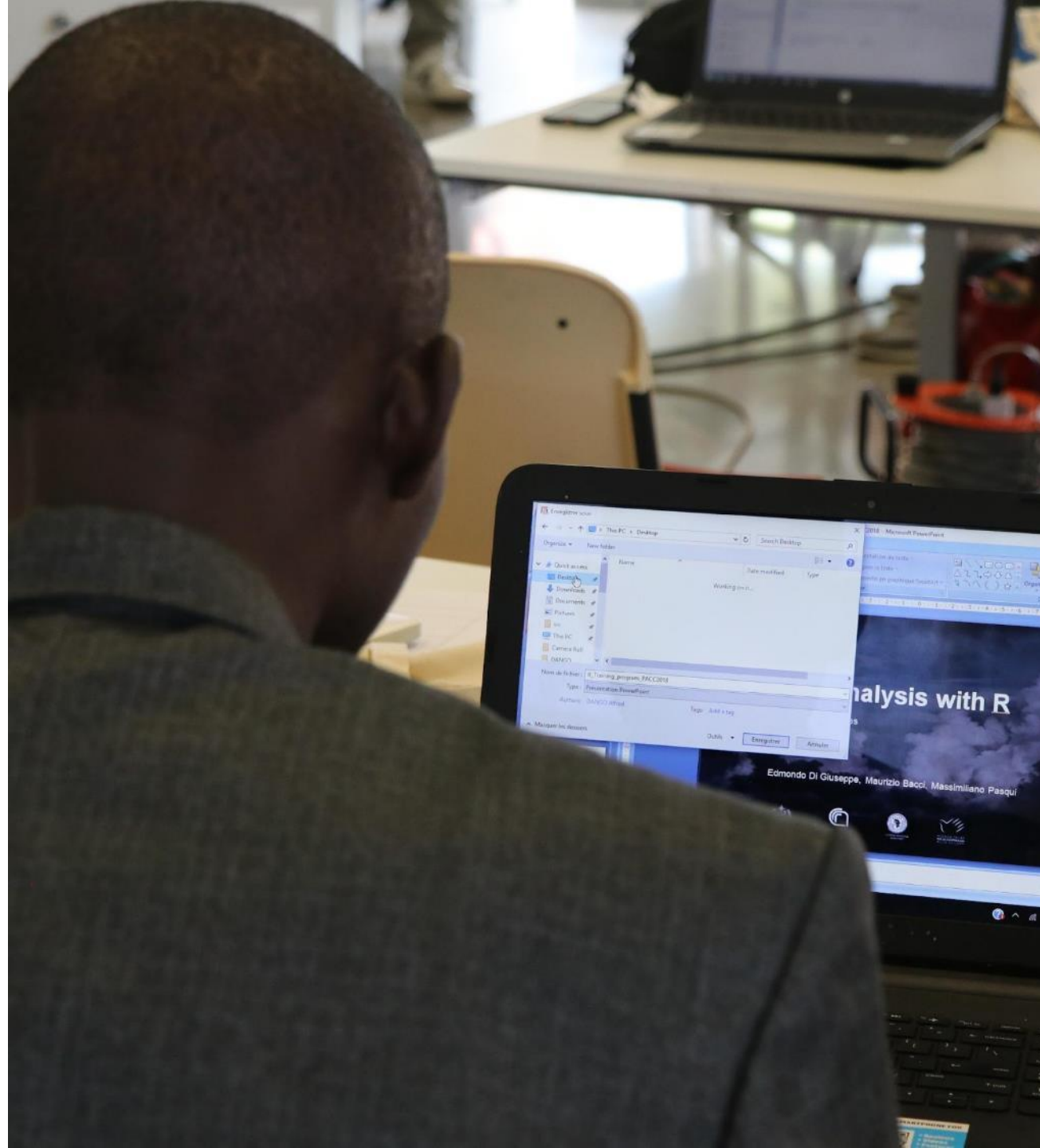
Vieri Tarchiani (1), Elena Rapisardi (1), Patrick Parrish (2), Edmondo Di Giuseppe (1), Maurizio Bacci (1), Marina Baldi (1) and Massimiliano Pasqui (1)

(1) CNR, IBE, Firenze, Italy (v.tarchiani@ibe.cnr.it),

(2) WMO, ETRP, Geneva, Switzerland (pparrish@wmo.int)

Consiglio Nazionale delle Ricerche
Istituto per la BioEconomia

WORLD METEOROLOGICAL ORGANIZATION

WMO REGIONAL TRAINING CENTER ITALY

Contents

- Needs
- Rationale
- Solutions
- Limitations
- Next steps
- Perspectives
- Acknowledgements

The Challenge of Climate Services

transform information into services tailored to specific users (WMO, 2011)

A two-fold challenge

1 Approaches/methodologies to transform meteo-climatic information into useful "information products" tailored on users' needs
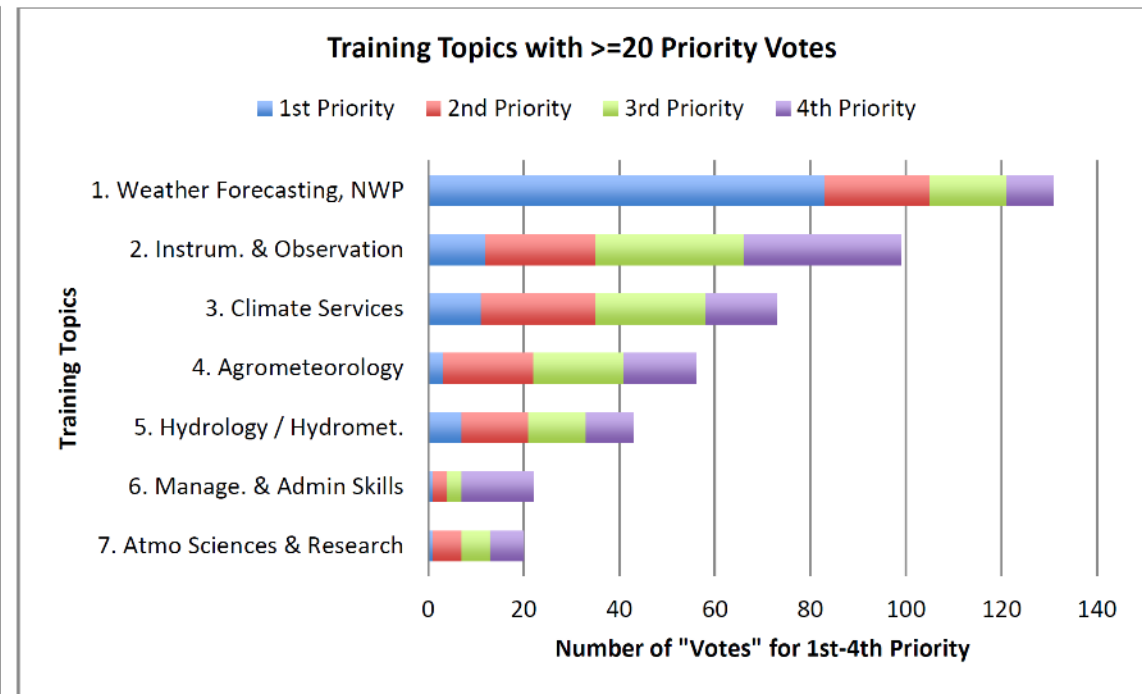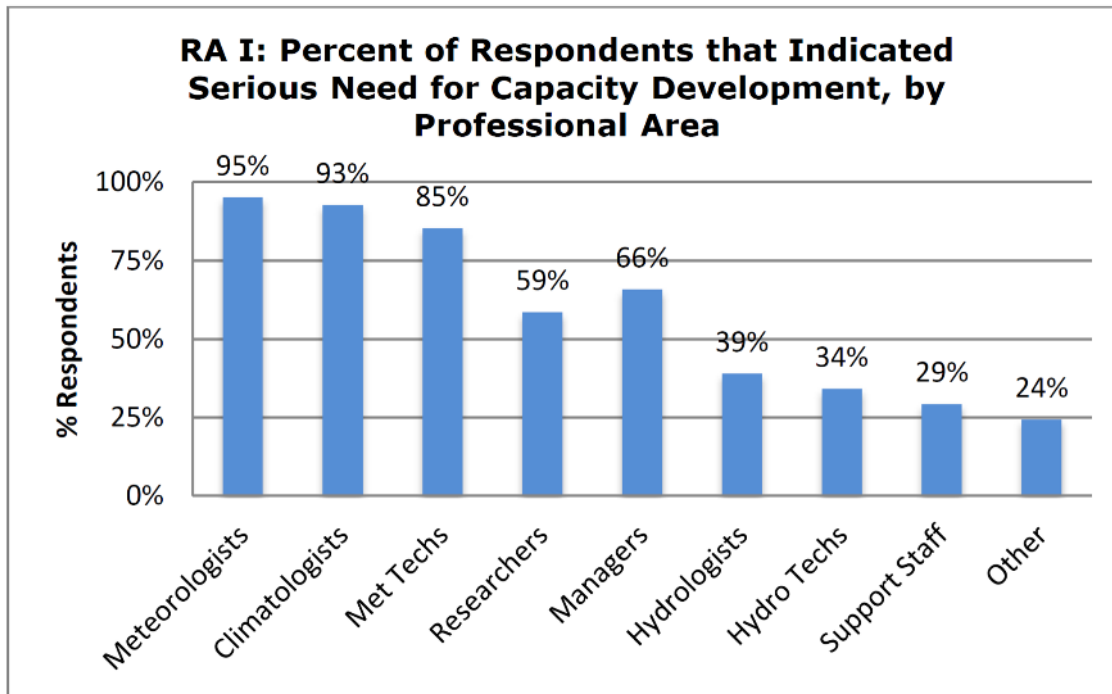
2 Building local capacities through training initiatives and knowledge-sharing tools allowing key users to hone their skills and competences

Needs 2

Status of Human Resources in National Meteorological and Hydrological Services 2017

→ In Region I 93% of climatologists need capacity development

→ Climate services is the 3rd priority over the 18 topic areas

(Source: WMO ETR-21, 2017)

Rationale 1

WMO defined a competency framework for climate services personnel
Competencies for Provision of Climate Services
link **https://bit.ly/2k1tVvT**

reviewed by the commission in July, 2014

revised in January, 2015,

approved by the EC-68 in June 2016,

included in the Technical Regulations (WMO-No. 49), Volume I, 2018.

Rationale 2

RTC Italy previous training courses on Climate Services for West Africa

4 **Courses**

1 **Conference**

- 2 WMO Regional Training Centers
- 17 countries
- More than 100 trained experts
- 70 days of distance learning
- 320 hours of front training
- More than 40 trainers involved

Climate services and applications:

- Disaster risk reduction
- Water management
- Climate Change
- Rainfed agriculture

Rationale 3

*The recommendation of the **International Conference on Climate Services for West Africa** in Rome, Italy, 2019 gathering the Directors of Meteorological Services of 17 CILSS/ECOWAS Countries*

→ contribute to the operational implementation of the WMO Global Campus,

→ encourage multilateral collaboration among RTCs and other training institutions

→ provide an open platform for sharing training contents, tools and learning technologies that all providers and users can use.

Rationale 4

Building a dedicated platform

to ensure an equal opportunity to climate knowledge in a long term learning perspective

to facilitate and increase the access to valuable learning content by single users and NMSs

to harmonize the basic level of knowledge among students and prepare them to the frontal training process
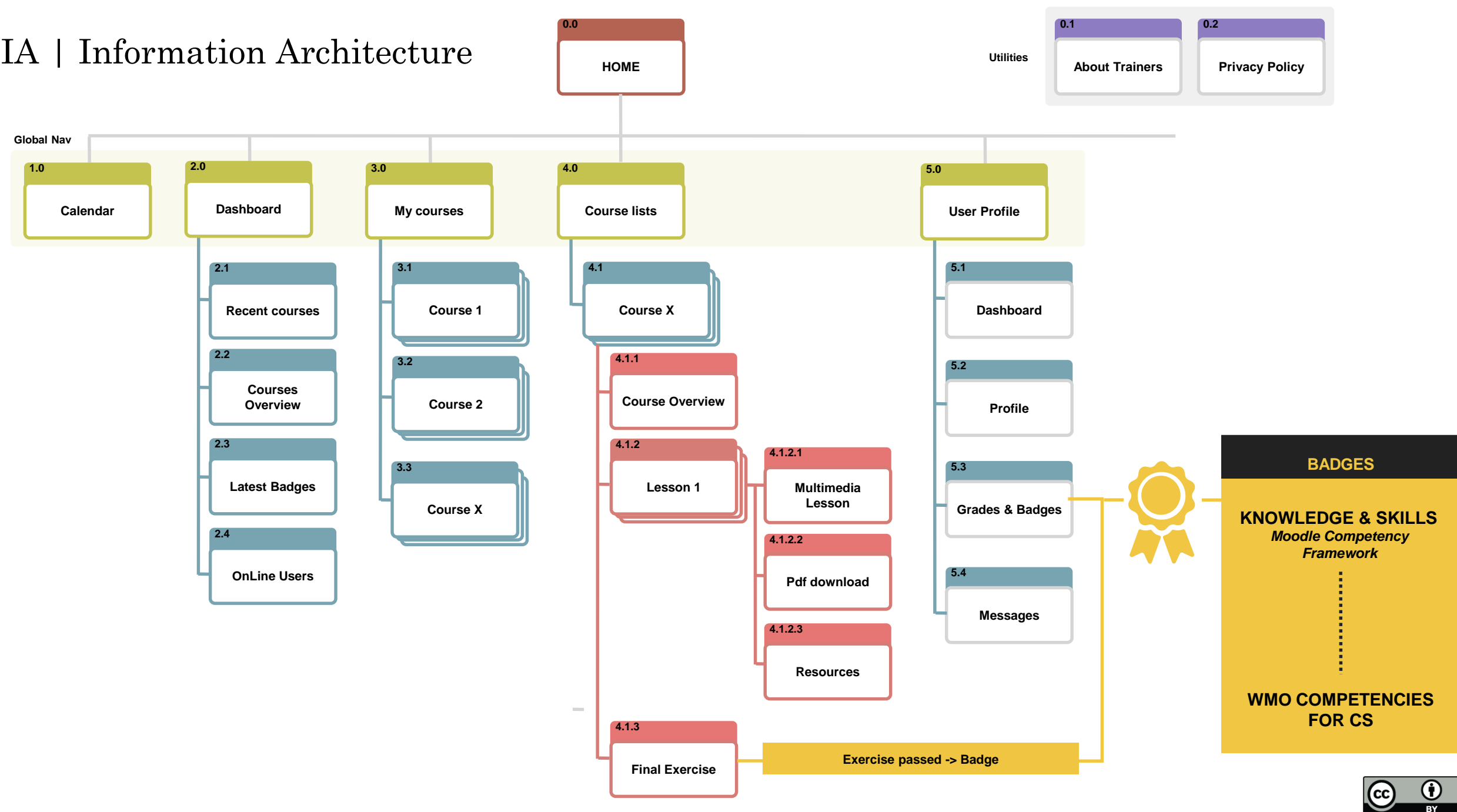
icon: elearning by SBTS from the Noun Project

Solutions 1

Knowledge-Based Distance Learning Initiative, developed with Moodle Platform using the COMPETENCY FRAMEWORK functionality:

→ Track the learning progress

→ Certify (badges) the knowledge and skills achieved

→ Link with WMO Competencies for CSP

IA | Information Architecture

0.0 HOME

Utilities

0.1 About Trainers

0.2 Privacy Policy

Global Nav

1.0 Calendar

2.0 Dashboard

3.0 My courses

4.0 Course lists

5.0 User Profile

2.1 Recent courses

2.2 Courses Overview

2.3 Latest Badges

2.4 OnLine Users

3.1 Course 1

3.2 Course 2

3.3 Course X

4.1 Course X

4.1.1 Course Overview

4.1.2 Lesson 1

4.1.2.1 Multimedia Lesson

4.1.2.2 Pdf download

4.1.2.3 Resources

4.1.3 Final Exercise

5.1 Dashboard

5.2 Profile

5.3 Grades & Badges

5.4 Messages

Exercise passed -> Badge

BADGES

KNOWLEDGE & SKILLS
Moodle Competency Framework
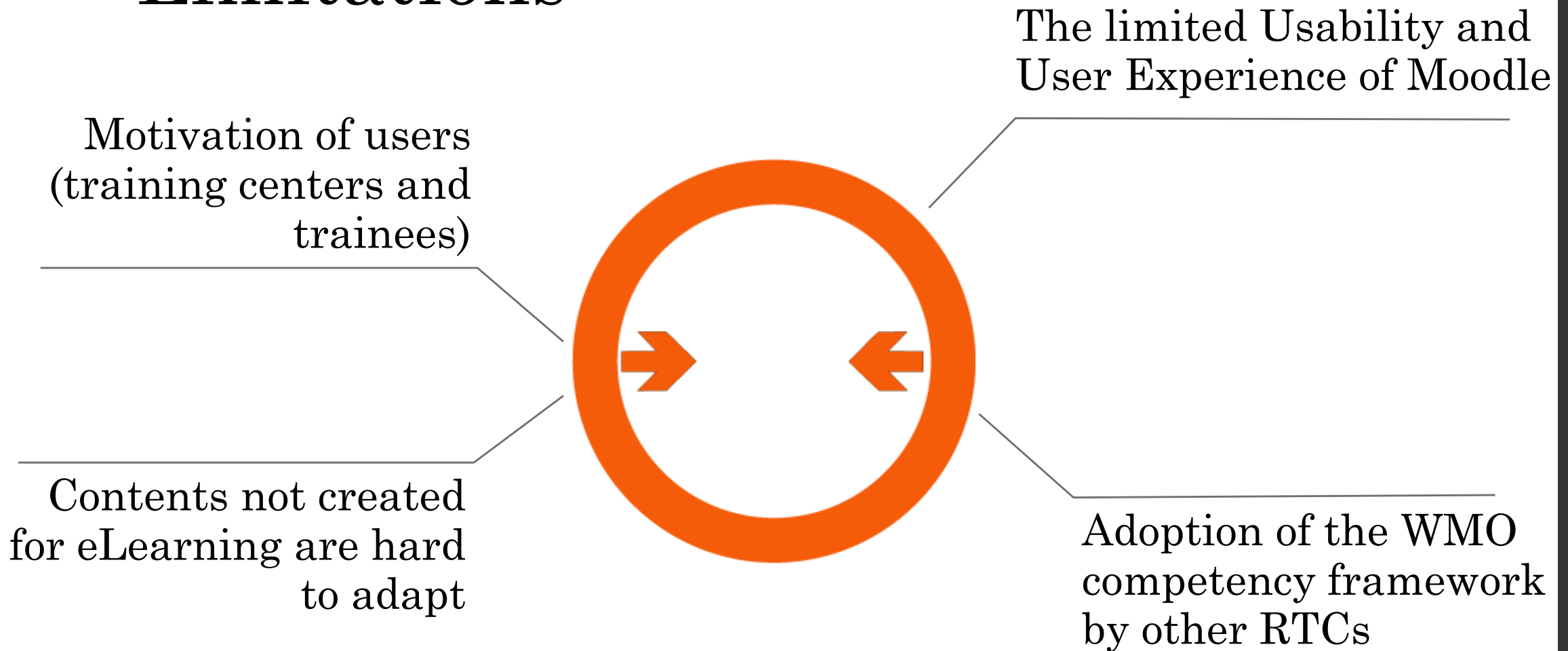
WMO COMPETENCIES FOR CS

Solutions 2

Courses

- Introduction to Climate Variability
- Climate Modelling Principles
- Seasonal Forecast Basics
- Basics of Agrometeorology
- Climate Data Analysis SW and Tools
- Drought Management and Forecasting

- Monitoring Soil moisture
- Impacts of Climate Change
- Climate Risk Reduction Basics
- Extreme events definitions and tools
- Introduction to Climate Communication

Limitations

The limited Usability and User Experience of Moodle

Motivation of users (training centers and trainees)

Contents not created for eLearning are hard to adapt

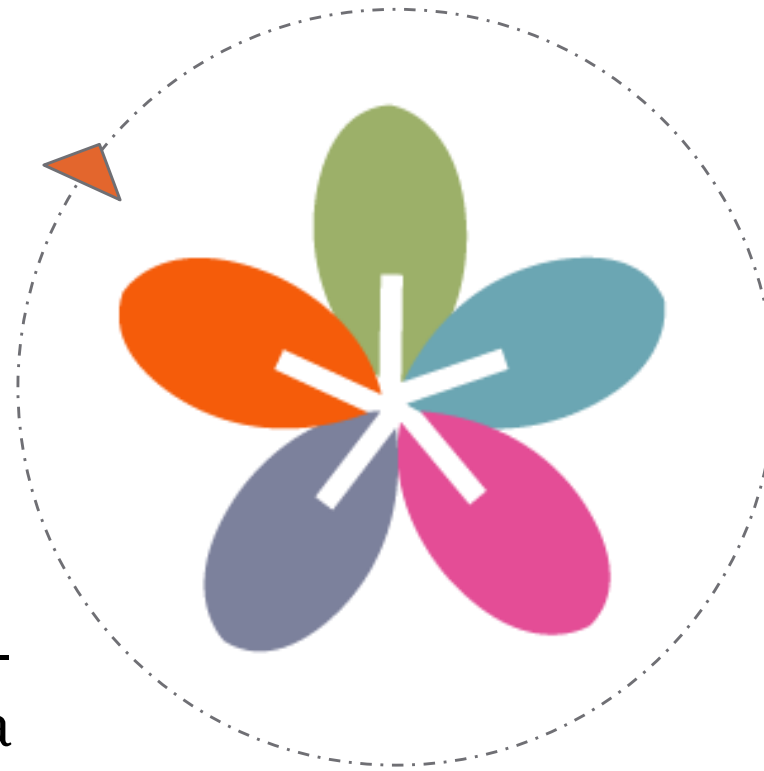Adoption of the WMO competency framework by other RTCs

Next steps

Public Landing Page providing information, tutorials and enrolling procedure

Single sign-on

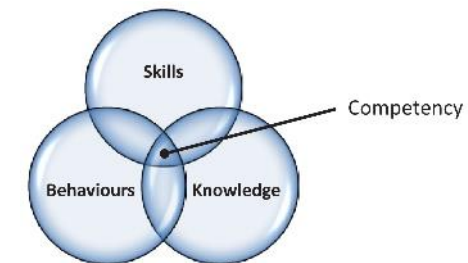Launch of TOPACs platform December 2019

A blended course on how-to create multimedia contents for eLearning

Define learning paths for specific initiatives or programmes

Conclusions and perspectives

- Starting point → common language → better cooperation and exchange between the different Climate Services training initiatives

- Integration of learning resources for CS under WMO (coherent framework): Central platform vs distributed deployments

- Competencies, knowledge and skills

- Common Certification and OpenBadges

The Open Badges Ecosystem (by Erik Knutson, Concentric Sky, licensed CC-BY)

Acknowledgements

PACC-RRC Project   Government of Italy

Contacts

Vieri Tarchiani   Istituto per la BioEconomia – Consiglio Nazionale delle Ricerche
v.tarchiani@ibe.cnr.it
+39 055 3033711