

WP5 Validation (M1–M24)

Discover the Cosmos

bm:uk Bundesministerium für
Unterricht, Kunst und Kultur

To systematically authenticate the approaches and the activities of the partners individually and as a whole to identify the impact on the project

A clear procedural and communication structure is established to ensure that the flow of information, activities and data is transparent and effective within the project

Scope and Objectives of WP5

To develop a common training implementation strategy

To ensure the comparability of the workshop/training outcomes

To reach an appropriate number of target users, collect their feedback and improve the project products and services

To develop recommendations and guidelines for sustainable implementation

WP5 Work Plan & Tasks

T5.1 Development of validation plan

- M1-M3 (09.-11.2011)
- Validation Plan: analytically description of all validation activities
- Validation methodology that is based on the VALNET framework (<http://valnet.eu.org>).
- Key areas of validation approach's framework: Policy at national and regional level as regards school-research center collaboration, inquiry-based Pedagogy, Technology-tools, services and infrastructure, Economic- value for money & added value, Educational institution and management of outreach activities, Cultural and linguistic issues.

→ D5.1 Validation Plan (M4)

T5.2 Development of validation & feedback tools

- M4-M5 (12.2011-01.2012)
- Different typologies of feedback tools of validation framework → appropriate tools of different degree of openness: questionnaires, web tools, interviews, feedback sessions during workshops and group discussions → extensive feedback from users

→ **D5.2 Validation Instruments and Feedback Tools (M6)**

T5.3 Localised Validation Plans and Training WSs (1)

- M6-M8 (02.-04.2012)
 - At the beginning of the validation activities, this task provides all work necessary for the localisation of the general validation plan → adjusted and customised to the local circumstances of each country and/or validation context in terms of school curriculum area, specific learning objectives pursued, age and background of users, various cultural issues, etc.
 - Training of local experts from the partner institutions to validate the local and national activities → series of training workshops will be organised centrally
- Process organised locally according to the localised dissemination plans

T5.3 Localised Validation Plans and Training WSs (2)

- M6-M8 (02.-04.2012)
- The national educational authorities will be informed to support and facilitate this process.

→ D5.3 Training Workshops Validation (M8)

T5.4 Validation of local activities

- M9-M22 (05.2012-06.2013)
- Phase A: M9-M12 (05.2012-08.2012)
- Phase B: M13-M22 (09.2012-06.2013)
- In the validation phase, the selected best practices (methodologies, activities and the relative tools) will be exposed to use by large numbers of real users in real settings. In each validation site several iterative tests with numerous visitors in authentic contexts will be performed.
- In the first phase of validation activities, the tests will involve users from a small number of schools, while later on the user basis will become broader to include users from other schools outside the partnership's countries.

→ **D5.4 Validation Report (interim) (M12)**

T5.5 Validation of national activities

- M9-M22 (05.2012-06.2013)
- Phase A: M9-M12 (05.2012-08.2012)
- Phase B: M13-M22 (09.2012-06.2013)
- In the same way as in T5.4 the validation of the National activities will be realised providing significant feedback for the proposed approach and the selected Best Practices.

→ **D5.4 Validation Report (interim) (M12)**

T5.6 Validation of international activities

- M9-M22 (05.2012-06.2013)
- Phase A: M9-M12 (05.2012-08.2012)
- Phase B: M13-M22 (09.2012-06.2013)
- This task coordinated by BMUKK and LBL, will focus on the large scale dissemination events such as international conferences, masterclasses and international contests for teachers and students.

→ **D5.4 Validation Report (interim) (M12)**

T5.7 Integration of results - Validation Report (1)

- M20-M24 (04.-08.2013)
- output of the validation procedure → summarised in a report (D5.5): include the whole pilot phase; include a deep analysis of the elements such as effects on the user and user acceptance of various eScience tools, software application enhancement and features used most during masterclasses, compatibility with existing processes and tools, interoperability issues.

T5.7 Integration of results - Validation Report (2)

- M20-M24 (04.-08.2013)
- Validation report providing significant input to the development of the “Effective Ways of Introducing eScience in Schools” roadmap report since it documents the extensive validation process and its results and will be one of the strongest arguments for the consortium’s set of recommendations.

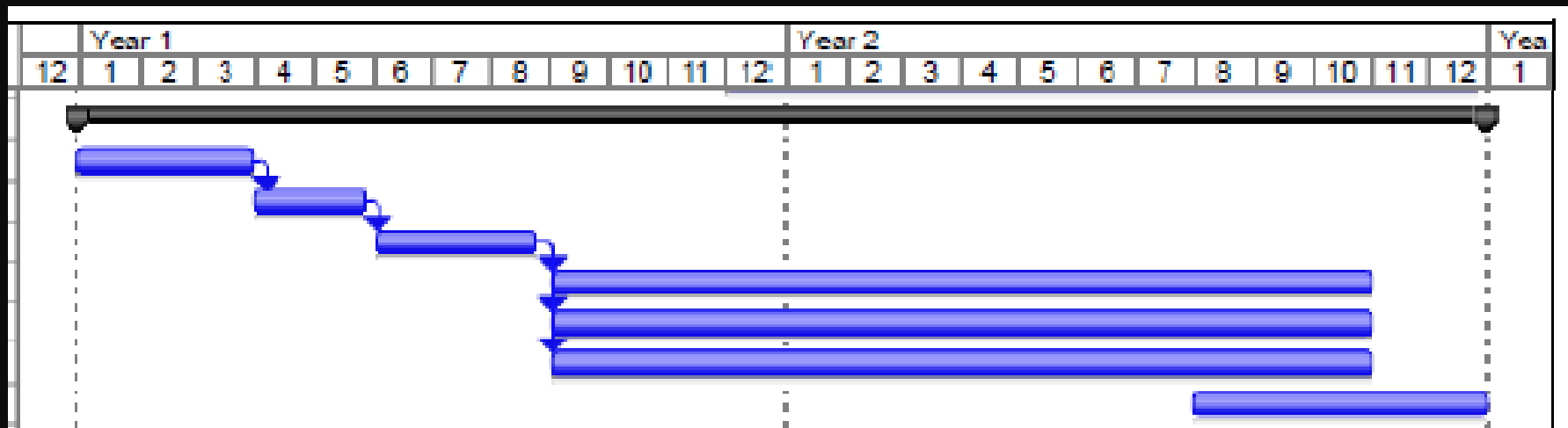
→ D5.5 Validation Report (final) (M24)

WP5 Deliverables

Deliverable Nr.	Deliverable Title	Nature	Dissemination Level	Delivery Date
D5.1	Validation Plan	R	CO	M4 (12.2011)
D5.2	Validation Instruments and Feedback Tools	R	PU	M6 (02.2012)
D5.3	Training Workshops Validation	R	PU	M8 (04.2012)
D5.4	Validation Report (interim)	R	CO	M12 (08.2012)
D5.5	Validation Report (final)	R	CO	M24 (08.2013)

WP5 Timetable

34	WP5 Validation
35	T5.1 Development of validation plan
36	T5.2 Development of validation & feedback tools
37	T5.3 Localised Validation Plans and Training Workshops
38	T5.4 Validation of local activities
39	T5.5 Validation of national activities
40	T5.6 Validation of international activities
41	T5.7 Integration of results - Validation Report



Validation Methodology

References

- VALNET (2001-2002): D2.1 VALNET Validation Framework

In which project is the Valnet Methodology used ?

- InLoT (2007-2008): D1.2 Validation Plan
- KLiC (2010-2011): D5.3 Quality Assurance Scheme
- Pathway (2011 – 2013): D7.1 Validation Plan

The VALNET Validation Framework

VALNET is a high level, guaranteed, homogeneous **validation methodology for ICT school pilots**, funded by the IST program. It is an accompanying measure to facilitate building knowledge about innovation in schools and creating the conditions for schools of tomorrow.

<http://valnet.eun.org>

It comprises:

- A **test bed** made up of a strong network of experienced, highly innovative schools trained in validation
- Clustered groups of schools **implementing one of the most innovative projects** in Europe
- Application of an **adapted validation methodology** in schools
- **Analysis of ICT projects** for schools and their transferability

The VALNET Validation Framework

- Questionnaires
- Web Analytics tools
- Interviews
 - Face to Face during Workshops
 - Skype Interviews / Telephone Interviews
- Feedback sessions during workshops and group discussions
- Observations

Validation Approach

The validation work includes the following steps:

- Localise the validation plan to each country and/or context
- Set up several validation pilot sites
- Run several iterative tests in authentic science learning contexts
- Adjust the methodology and “Discover the Cosmos” service in response to pilot testing feedback
- Communicate the service to all stakeholder groups and potential users, and inviting them to review it and provide feedback, supporting at the same time the establishment and sustainability of a relevant user community.
- Provide multiple inputs to various other aspects of project work: implementation and dissemination.



Validation Approach (cont.)

The validation work is based on the VAL NET framework (www.valnet.eun.org).

The Validation Network (VAL NET) project is designed to provide a framework for a number of validation and dissemination activities and providing the consortium partners with comprehensive but concrete, useful and effective support in their process of validation of the innovative applications. The process starts with the definition of the evaluation objects and the five dimensions through which it is proposed to explore innovation:

- **Pedagogical,**
- **Organisational/Institutional,**
- **Technology,**
- **Economic and**
- **Cultural/Linguistic.**



Validation Approach (cont.)

The resulting matrix represents the heart of the approach and it portrays the full and complete picture of the framework. For each evaluation object

- **Products / Resources**
- **Services**
- **Results**

The main innovation aspects are identified taking as a focus of analysis the above mentioned dimensions. For each innovation aspect the data to be collected, the evaluation criteria and the possible sources of evaluation/validation both human and material (e.g teachers, learners) are suggested in broader categories.

Definition of the Evaluation Objects:

Objects of the evaluation framework:

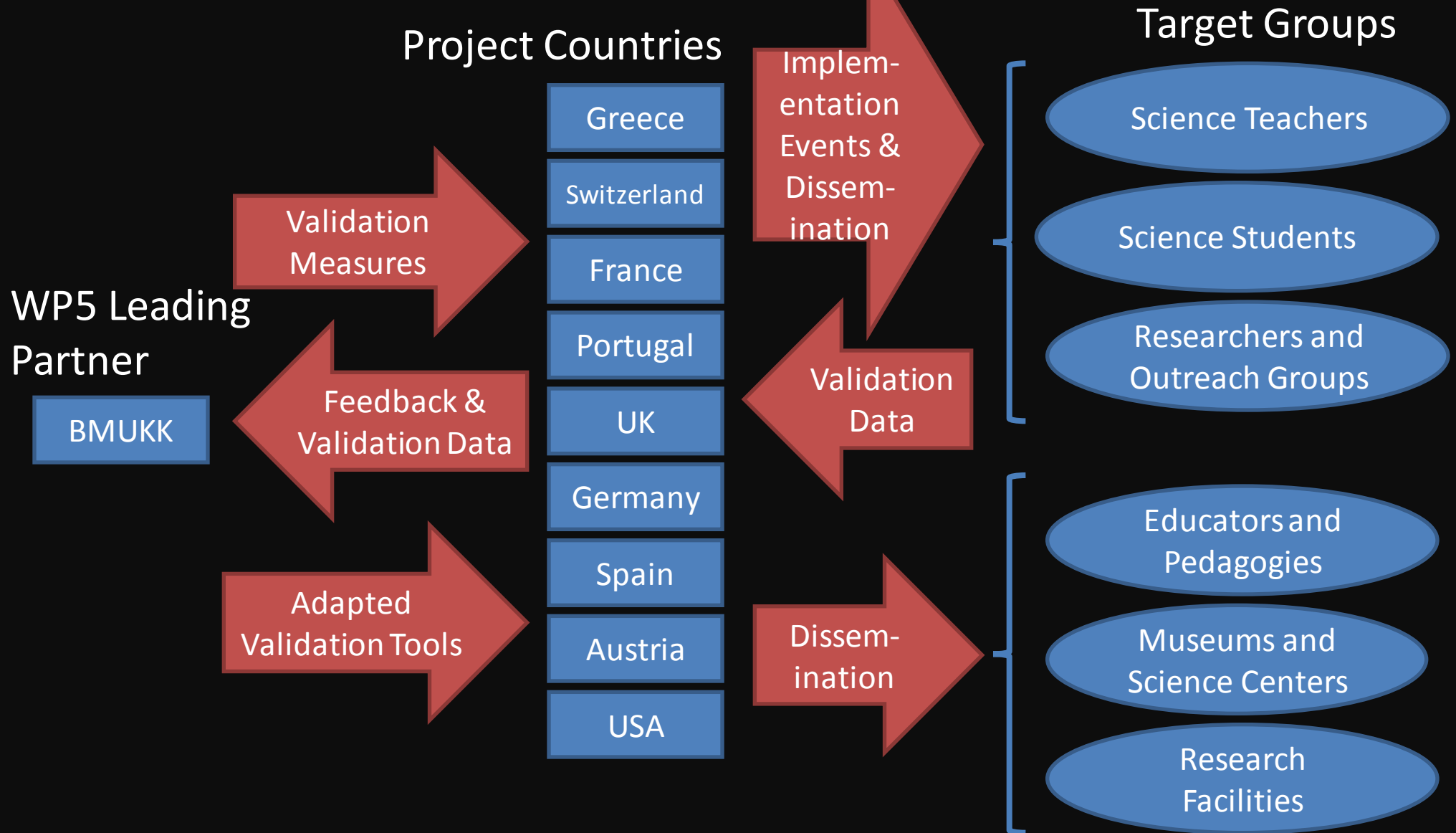
- Product / Resources
- Services
- Results

This evaluation objects could be divided in following sub-objects: →

Object	Sub-Object
Products / Resources	<ul style="list-style-type: none">• Technological Platforms• Learning Management Systems• Methodological Tools• Educational Products• Web Sites• Teacher Support Material• Online Presentation Material• Online Tests, Exercices, Guidelines
Services	<ul style="list-style-type: none">• Information• Support• Network• Communication• Training of Teachers and other Involved Staff
Results	<ul style="list-style-type: none">• Output• Outcome• Impact

WP5 Validation

Target Groups



How to get the validation data?

Target Groups	Type of Validation	Gathering data through
<ul style="list-style-type: none">• Science Teachers• Science Students• Researchers and Outreach Groups	Quantitative	<ul style="list-style-type: none">• Questionnaire• Web Analytics Tools
	Qualitative	<ul style="list-style-type: none">• Questionnaires• Interviews• Video-taping

Implementation Activities (National)

Partner Country	Indicative Number of Schools	Training and Demonstration Activities (Indicative Number of Events) Estimated Number of Participants per event: 20-30	Indicative Number of Students and Teacher Contests
Germany	50	10 Workshops and Seminars	2
Greece	100	20 Workshops and Seminars	3
UK	100	20 Workshops and Seminars	2
Spain	50	10 Workshops and Seminars	1
Switzerland	50	20 Workshops and Seminars	2
Austria	100	20 Workshops and Seminars	2
France	50	10 Workshops and Seminars	2
Portugal	100	20 Workshops and Seminars	2
USA	100	20 Workshops and Seminars	2
TOTAL	700 schools	150 activities (3000-4500 participants)	18 contests

Implementation Activities (International)

	Annual International Conferences	Training Activities (Number of Events)	Masterclasses	Students and Teachers Contests
Partner Countries (e.g. Greece, Germany, Spain, Austria)	1	3 International Summer and Winter COMENIUS Schools (40-50 Participants from different European Countries)	2 International Master Classes (6000 Students from 23 countries)	2 European Students and Teachers Contests
Switzerland		2 International Science Teachers Summer Schools (CERN) (40-50 Participants from different European Countries)		
TOTAL	1	5	2	2

Performance Indicators

The Quantitative and Qualitative Performance Indicators of the project

Involvement of WP4, WP5 & WP6

WP	Quantitative Indicators	Value
4	Number of Implementation Activities (Local Level)	700 (in schools)
4	Number of Implementation Activities (National Level)	50
4	Number of Implementation Activities (International Level)	10
4	Teachers in international summer schools	250
5	Presentations of evaluation results (WP5) at major conferences	4
5	Publication of evaluation results (WP5) in peer-reviewed journals	2
6	Number of schools continuing with the <i>Discover the COSMOS scenarios beyond end of project</i>	30% of those involved in the WP4 pilots

The Quantitative and Qualitative Performance Indicators of the project

Involvement of WP4, WP5 & WP6

WP	Qualitative Indicators	Measure
5	<i>Discover the COSMOS creates meaningful scenarios that engage both teachers and students and have a transformative effect on the introduction of eScience in the classroom.</i>	Interim and Final Evaluation Reports (WP5).
5	eScience applications (WP2,4) allows teachers greater control and flexibility in the management of learning.	Modelling observed outcomes against interventions and predicted outcomes . Mapping teachers behavioural change (WP5)
6	<i>Discover the COSMOS creates scenarios for the effective introduction of eScience in schools.</i>	Delivery of the Roadmap document “Effective Ways of Introducing eScience in Schools” (WP6)

Timeframe	Validation Activity
05.2012-08.2012 M9-M12 Phase A	1st Pilot Phase with participating institutions • Testing phase of the validation tools during training workshops
08.2012-09.2012 M12-M13	Analysis of 1st Pilot Phase • Revision of the validation tools • D5.4 Validation Report (interim)
09.2012-06.2013 M13-M22 Phase B	2nd Pilot Phase with target group users • Qualitative and quantitative validation of the user centered activities
06.2013-08.2013 M22-M24	Analysis of collected validation data
08.2013 M24	Final validation report • D5.5 Validation Report (final)

Contact & Links

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