

UNFOLD Deliverable D3. Evaluation Plan

Citation for published version (APA):

Blat, J., Navarrete, T., Griffiths, D., García, R., Sayago, S., Tattersall, C., Burgos, D., Olivier, B., Liber, O., & Kew, C. (2006). *UNFOLD Deliverable D3. Evaluation Plan*.

Document status and date:

Published: 22/05/2006

Document Version:

Peer reviewed version

Document license:

CC BY-NC-ND

Please check the document version of this publication:

- A submitted manuscript is the version of the article upon submission and before peer-review. There can be important differences between the submitted version and the official published version of record. People interested in the research are advised to contact the author for the final version of the publication, or visit the DOI to the publisher's website.
- The final author version and the galley proof are versions of the publication after peer review.
- The final published version features the final layout of the paper including the volume, issue and page numbers.

[Link to publication](#)

General rights

Copyright and moral rights for the publications made accessible in the public portal are retained by the authors and/or other copyright owners and it is a condition of accessing publications that users recognise and abide by the legal requirements associated with these rights.

- Users may download and print one copy of any publication from the public portal for the purpose of private study or research.
- You may not further distribute the material or use it for any profit-making activity or commercial gain
- You may freely distribute the URL identifying the publication in the public portal.

If the publication is distributed under the terms of Article 25fa of the Dutch Copyright Act, indicated by the "Taverne" license above, please follow below link for the End User Agreement:

<https://www.ou.nl/taverne-agreement>

Take down policy

If you believe that this document breaches copyright please contact us at:

pure-support@ou.nl

providing details and we will investigate your claim.

Downloaded from <https://research.ou.nl/> on date: 16 Jul. 2023

Open Universiteit
www.ou.nl



**INFORMATION SOCIETY TECHNOLOGIES PROGRAMME
TECHNOLOGY ENHANCED LEARNING**



D3	Evaluation Plan
Project Acronym:	UNFOLD
Contract No:	IST-2003-507835
Delivery Date:	2 nd August 2004

unfold_d5_eval-plan_02aug04.pdf

Project Partners

Partner Org.	Contact Person	Tel	Fax	Email Address
UPF	Dai Griffiths	+ 34 93 542 2173	+34 93 5422517	david.griffiths@upf.edu
Bolton Institute	Oleg Liber	+ 44 1204 903660	+44 1204 399074	o.liber@bolton.ac.uk
OUNL	Rob Koper	+ 31-455762317	+ 31 455762802	rob.koper@ou.nl
EUCEN	Carme Royo	+ 34 93 5421825	+ 34 93 5422975	executive.office@eucen.org

Deliverable Identification Sheet

Project ref. no.	IST-2003-507835
Project acronym	UNFOLD
Project full title	Understanding New Frameworks of Learning Design
Distribution level	PP
Contractual date of delivery	Month 4, 31st May 2004
Actual date of delivery	August 2nd, 2004
Deliverable number	D3
Deliverable name	UNFOLD Evaluation Plan
Type	Report
Status & version	Version 1, final
Number of pages	32
WP / Task responsible	FUPF
Other contributors	OUNL, Bolton Institute, EUCEN
Author(s)	Josep Blat, Toni Navarrete, Dai Griffiths, Rocio Garcia, Sergio Sayago, Colin Tattersall, Daniel Burgos, Bill Olivier, Oleg Liber, Chris Kew,
EC Project Officer	Marco Marsella
Abstract	The plan commences by analyzing the impact on evaluation activities of the particular nature of the activities which are being carried out in the project. It then moves on to identify particular aspects of the project which are to be evaluated, and the methodologies and indicators which are available to do this. A set of evaluation scenarios is identified which will guide evaluation actions in the project. Three periods of evaluation are established, covering taking the evaluation plan up to the end of the project, and corresponding to the deliverables defined in the project work plan. A detailed evaluation plan is defined for the first of these periods, from September to December 2004.
Keywords	Evaluation, UNFOLD, eLearning, standards, learning design
Circulated to partners	This version, 1 st August
Mgt. Board approval	Pending

Table of Contents

1. Introduction	5
2. Executive Summary.....	5
3. UNFOLD: goals and objectives	7
Project goals	7
Approach taken in addressing project goals.....	7
Goals, objectives and outputs.....	7
4. Areas to be evaluated	9
Evaluation level 1: CoP effectiveness.....	9
Evaluation level 2: Value to members	9
Evaluation level 3: Impact on adoption.....	9
5. Evaluating Communities of Practice.....	10
6. Indicators and benchmarks.....	13
Indicators for level 1: CoP effectiveness.....	13
Indicators for level 2: value to participants.....	13
Indicators for level 3: impact on adoption	13
Benchmarking.....	14
7. Evaluation framework	15
Scenarios to be evaluated	15
Evaluation methods	15
Actors in the evaluation.....	17
8. Detailed evaluation scenarios.....	18
Scenario 1: Effectiveness of awareness raising material and Web.....	19
Scenario 2: Resources for each CoP	20
Scenario 3: Infrastructure provided for interactions	21
Scenario 4: Information flows in CoP.....	22
Scenario 5: User group satisfaction with f2f meetings/workshops.....	23
Scenario 6: The usefulness of the CoPs to their participants and organizations	24
Scenario 7: CoP members level of involvement with LD over lifetime of project.....	25
Scenario 8: Level of adoption of LD achieved during the project.....	26
Scenario 9: Effectiveness of UNFOLD with respect to the adoption of LD	27
9. Evaluation timetable and reporting	28
UNFOLD evaluation action plan 1 (September – December 2004).....	29
UNFOLD evaluation action plan 1 in the context of the whole evaluation.....	32
References	33

UNFOLD Evaluation Plan

1. Introduction

This document is the evaluation plan for the UNFOLD project. It is intended to explain the program of evaluation activities in self-contained document, and in a style that enables non-evaluation specialists to understand the techniques to be employed, as well as the relevance of the evaluation.

It is divided into sections which provide easy reference for project workers. Thus the detailed evaluation plan for period one of the evaluation work may be regarded as a separate document which will be consulted by project staff in their evaluation work. Similarly the evaluation scenarios provide a reference document for the development of future evaluation action plans.

This plan will be discussed and revised at the UNFOLD project meeting in Barcelona on 7th September 2004 prior to the implementation of the full evaluation programme. This provides project partners with the opportunity to discuss the actions in detail, and to commit themselves to the programme to be undertaken. In the case of UNFOLD, however, this revision has an additional function. As set out in the project plan, is only in month 7 of the project, July 2004, that partner OUNL start to make a full contribution to the project. Consequently, while they have been as active as possible given their limited resources, they have not been able to devote the effort to evaluation planning which is necessary for detailed planning. The Barcelona meeting, and prior work on this plan, will overcome this structural difficulty.

2. Executive Summary

This plan provides a framework for evaluation work in the UNFOLD project, and for successful completion of the periodic evaluation reports which constitute project deliverables 8.1, 8.2 and 8.3, due in months 12, 18 and 24. The approach adopted is to commence with general observations and reflections concerning evaluation of the project, and on the basis of this analysis define a specific set of detailed evaluation scenarios to guide evaluation work.

Evaluation work in UNFOLD has been divided into three periods, corresponding to the delivery of the three evaluation reports. The first of these evaluation scenarios (September – December 2004) is developed into a detailed evaluation plan. On the basis of the results of this action plan, a plan will be produced for the second period of evaluation. This approach maintains flexibility, and to enable the results of evaluation work to inform subsequent project work and evaluation.

The structure of the plan, and the main conclusions are as follows.

The first sections (3,4, and 5) establish the context for the evaluation.

(3) *Goals and Objectives*: The goals and objectives of the project are reviewed, and are classified in order to provide a basis for evaluation work. Three levels are identified

- Level one: outputs. These are the contractual outputs of the project.
- Level two: objectives: These correspond to the objectives of the CoPs with regard to their members.
- Level three: goals: These concern the strategic goals of the project in terms of supporting the IMS Learning Design specification.

The (4) *Areas to be evaluated* are then identified for each of the three levels of project activity.

A section on (5) *Evaluating Communities of Practice* provides an overview of the specific challenges raised in evaluating this kind of action. Etienne Wenger's definition of a Community of Practice is adopted, and the differences between the classical single organisation community with a practical focus and the UNFOLD communities of practice are explored. Examples of previous evaluation work which provides a basis for the UNFOLD evaluation are identified, of which two are particularly significant. Firstly the work of Preece and Nonnacke into participation in virtual communities includes metrics for demographic studies and assessment

of the efficacy of community design. Secondly the evaluation of two recent projects, Talking Heads, and Star Science, shows the importance of gathering case studies and other smaller granularity evidence of the value of participation in Communities to the individual participants.

The next three sections (6, 7, and 8) build on the analysis of the context of the evaluation to produce a specific framework for UNFOLD evaluation work.

In the first of these sections (6) *Indicators and benchmarks* are discussed. A variety of indicators are specified ranging from hard data from log files, to the expressed perceptions of participants. The indicators are gathered both from the literature described in the previous section, and from discussions within the project team. Benchmarking is discussed, and the particular problems of benchmarking Communities of Practice in general, and the UNFOLD project in particular. It is concluded that the most effective benchmark is the state of the art at the start of the project.

The (7) *Evaluation Framework* builds on the analysis so far to identify a set of scenarios where the evaluation work of the project will be focused. The evaluation techniques to be used are outlined, and the actors in the evaluation identified. These elements, together with the observations made in previous sections, are brought together to define nine (9) *Detailed evaluation scenarios*.

The final section, (10) *Evaluation timetable and reporting* discusses how the evaluation framework is to be transformed into a detailed plan throughout the project. A table is presented with a detailed schedule of evaluation actions to be carried out in the first period of evaluation, which provides the basis for implementation evaluation work. Eleven evaluation actions are planned, covering all three levels of project activity identified above.

3. UNFOLD: goals and objectives

This section provides an overview of the UNFOLD project. Sub-section 2.1 presents the project definition and the description of the work; 2.2 deals with the participants and the main tasks in which they will be the leader; 2.3 summarizes the main objectives and outcomes of the project.

Project goals

A key aspect for the development of eLearning is that it supports better learning which is in some way better than what has been previously available. Progress towards this goal depends on the adoption of open standards, but so far these limit eLearning to a relatively simple, single learner, 'deliver-and-test' approach, and are a step backwards if we were to consider them from a pedagogic perspective alone. Recent developments however, open the door to sophisticated and diverse pedagogical approaches to eLearning. This is the case with the Educational Modelling Language (EML), established by the Open University of the Netherlands (OUNL), which has been adapted and turned into an IMS Global Learning Consortium specification, named IMS Learning Design (LD). UNFOLD is focusing its efforts on IMS Learning Design, which is the only open specification providing support for multiple users and flexible pedagogies. There is a significant gap between the release of a new specification such as IMS Learning Design and the full realisation of its potential benefits in the teaching and learning practice. UNFOLD will:

- 1 Reduce the time taken in realising the benefits of flexible open eLearning standards in Europe.
- 2 Create an engine for the continuing development of European eLearning practice.
- 3 Provide a model for the rapid realisation of the full benefits of any other eLearning specification.

The definition, implementation and adoption of standards in eLearning involve a hierarchy of groups with very different roles, and highly divergent discourses. They are also relatively few in number and geographically widely distributed. As a result:

- researchers are often not in contact with their peers
- there is a lack of vertical communication between groups
- there is poor communication with other disciplines.

Consequently adoption of standards is slow, and critical mass is hard to achieve. At the same time feedback from users, teachers and learners, is not provided to developers and implementers who need it to produce more effective solutions.

Approach taken in addressing project goals

The definition, implementation and adoption of standards in eLearning involve a hierarchy of groups with very different roles, and highly divergent discourses. They are also relatively few in number and geographically widely distributed. As a result:

- researchers are often not in contact with their peers
- there is a lack of vertical communication between groups
- there is poor communication with other disciplines.

Consequently adoption of standards is slow, and critical mass is hard to achieve. At the same time feedback from users, teachers and learners, is not provided to developers and implementers who need it to produce more effective solutions.

In order to address these challenges UNFOLD builds on existing collaboration to create an open coordination framework, which will create and facilitate communities of practice for the actors involved, and through these:

- exchange and disseminate examples of good practice
- agree consistent interpretations and usage of specifications to establish working interoperability
- provide a focus for studies of issues raised by the specification, implementation and use of eLearning educational standards, in the context of enhancing learning and better pedagogy.

Goals, objectives and outputs

The UNFOLD workplan specifies six project objectives.

- i) To stimulate the formation of a critical mass of researcher , developers, learning designers and – practitioners

- ii) To improve information flows between researchers , developers, learning designers and practitioners working in an emerging field.
- iii) To improve the quality of feedback provided to standard definition bodies on the performance of standards and unmet user needs
- iv) To significantly accelerate up the iterative development cycles of tools and eLearning implementations
- v) To establish best practice in tool design and eLearning using flexible open eLearning standards
- vi) To ensure interoperability of flexible open learning systems implementing standards

Objectives i) and ii) refer to researchers, but these actors should not be included in the core user group. Scientific dissemination of UNFOLD is not a primary goal, as the goal of UNFOLD is to support adoption and implementation. Researchers as such are outside the CoPs, although they may wish to study what the members are doing, and what they are enabling. Similarly UNFOLD may also wish to participate in research, but it is not a core activity. The scientific dissemination of UNFOLD will probably be in the field of learning technology, and possibly education and training, but such dissemination is not verification of our success, which is related to adoption and implementation.

It is noticeable that the objectives above refer to widely differing areas in which the project will have an impact. In order to plan evaluation this needs to be clarified, and three levels of outputs and outcomes are therefore proposed. This framework provides a context for project evaluation enabling planning to be carried out.

The outcomes of the project may be clarified by dividing them into three logical levels, as follows:

Level one (outputs)

Firstly the contractual outputs of UNFOLD are clearly defined in the work plan. They consist principally of holding meetings, facilitating Communities of Practice (hereafter CoPs), and producing the edit proceedings of this work. These can and will be evaluated, both in order to confirm that we have fulfilled our contractual obligations, and also to ensure that these quality of these activities is as high as possible, and improved with each half yearly iteration of the work plan.

Level two (objectives)

The outputs described above are not, however, the desired outcomes of the project. A second level may be defined which is much less tangible, and which addresses the objectives of the CoPs, rather than the contractual obligations of the project. In common with other CoPs, these outcomes are comprised of aspects such as

- learning
- knowledge
- good practices
- personal skills
- organisational capacity

Level three (goals)

In many CoPs in commercial organisations it is assumed that the objectives of CoPs outlined in level two are automatically beneficial for the organisation, although cost benefit analysis may well be carried out. In UNFOLD, however, the goal is to facilitate the adoption of open and flexible eLearning standards, in particular IMS LD, as a means to improving the educational experiences offered to citizens, and, in the final analysis, to thereby make the world better place. This is much less tightly linked to the level two objectives than is the case in commercial organisations. Even if the project is successful in improving the knowledge and skills of participants, it may not be taken for granted that adoption of IMS Learning Design (hereafter IMS-LD) will be accelerated.

4. Areas to be evaluated

In the light of the three levels of project activity, three clearly differentiated areas for evaluation actions may be defined. The project objectives described above are associated with these levels.

Evaluation level 1: CoP effectiveness

The effectiveness of UNFOLD in forming Communities of Practice formation and running their associated events (level one above)

The project objectives associated with this level are:

- *To stimulate the formation of a critical mass of developers, learning designers and practitioners.*
- *To improve information flows between, developers, learning designers and practitioners working in an emerging field.*

Evaluation level 2: Value to members

The value of the CoPs to their members (level 2 above)

No project objectives are specifically at this level, as presumably this "means to an end" function was assumed. Nevertheless, the following objectives should be defined and evaluation actions carried out.

- *To provide learning opportunities for CoP members*
- *To provide useful resources for CoP members*
- *To provide opportunities for skills development*
- *To provide CoP members with access to good practice*

Evaluation level 3: Impact on adoption

The impact of the CoPs against the wider adoption aims of UNFOLD. On pragmatic grounds we exclude the educational and other consequences of adoption of IMS-LD, although this may well be an object of study within the CoPs, particularly the Learning Providers CoP.

The project objectives associated with this level are:

- *To improve the quality of feedback provided to standard definition bodies on the performance of standards and unmet user needs*
- *To significantly accelerate up the iterative development cycles of tools and eLearning implementations*
- *To establish best practice in tool design and eLearning using flexible open eLearning standards*
- *To ensure interoperability of flexible open learning systems implementing standards*

5. Evaluating Communities of Practice

The seminal work in establishing the concept of Community of Practice is usually traced back to a seminal ethnographic study by Orr (1966) which examined how photocopy machine technicians actually learnt. He demonstrated that they learnt by sharing information between them, rather than from the formal structures provided by their employers.

This work was taken up by Seely Brown, for example in (Seely Brown and Duguid 1991), who extrapolated Orr's insights to a wider context. The chief theorist and proponent of Communities of Practice has been, however, Etienne Wenger, who provides a clear statement of the nature of a Community of Practice which has informed not only this evaluation plan, but the whole UNFOLD approach.

“Communities of Practice are groups of people who share a concern, a set of problems, or a passion about a topic, and who deepen their knowledge and expertise in this area by interacting on an ongoing basis.

These people don't necessarily work together every day, but they meet because they find value in their interactions. As they spend time together they typically share information, insight and advice. They help each other and they solve problems, they discuss their situations, their aspirations and their needs. They ponder common issues explore ideas, and act as sounding boards. They may create tools, standards, generic designs, manuals, and other documents, - or they may simply develop a tacit understanding that they share. However they accumulate knowledge, they become informally bound by the value that they find in learning together.” (Wenger, McDermott et al. 2002)

In the original work which established the Community of Practice as an approach to learning, the context was typically technical, where the members of the community were within a single organisation and carrying out a clearly defined activity with easily identifiable indicators and benchmarks. For example (Seely Brown and Duguid 1991) discussed the work of photocopy machine technicians, while Etienne Wenger in his influential *Communities of Practice, Learning, Meaning and Identity* (Wenger 1998) focuses on claims processing. In these environments the success of a Community of Practice is relatively easily measured. If the members of the community learn, then their performance in their jobs will improve, and this can be measured using the assessment procedures of the organisation, benchmarked against previous performance. It is, of course, assumed that improved skills among the Community members help the organisation of which they form part reach its goals.

In UNFOLD the context is very different. The members do not form part of a single organisation, and indeed are widely distributed geographically. Because the task being undertaken (implementation and use of the IMS Learning Design specification) is a new one, there is no established measurement technique, and no benchmark against which performance can be measured. Thus a key task in this document is to identify indicators, and to consider if any benchmarks can be identified.

Moreover, unlike the photocopier technicians and claims processors discussed above, it is not possible to establish an automatic link between learning in the community of practice and progress towards the goals of the project. This is because it would be possible for members to meet their own learning goals, and to improve their skills, without making a significant contribution to the project goal of accelerating the adoption of the IMS Learning Design specification. This linkage therefore has to be addressed in this evaluation plan.

Proper evaluation of Communities of Practice such as those supported by UNFOLD is consequently not simple. Their immediate outcomes are easy to observe and quantify in terms of meetings, exchanges, documents, etc. Their most significant outcomes, however, are intangibles – learning, knowledge, good practices, personal and organisational capabilities, described here as value to members. They may also have further goals beyond these, as is the case in UNFOLD, which aspires to accelerate the adoption of IMS Learning Design.

A relevant body of research is that conducted by Preece and Nonnacke into the levels of participation in online fora and lists, and the factors which mould this. In (Nonnacke and Preece 2000) the authors report that a study of a busy software support community showed that 82% of members were *lurkers* (i.e. observing the community but not participating), while in (Preece 2000) they show how that levels of

lurking in online communities vary extremely, from 99% to 1%. They note that non-participation is may be the result of many factors, both personal and work related. They also stress that lurking can be a satisfactory form of participation for many users. A more recent study (Preece, Nonnecke et al. 2004) reaffirms and extends these conclusions.

(Preece and . 2001) suggests the following metrics, both for demographic studies and to assess the efficacy of community design.

Demography of participants:

Number of members/subscribers in the community

Number of posters by gender, age, occupation (i.e. demography)

Behavior online:

Number of posts per person, connect hours etc.

Number of posters over a period of time (e.g. access to web pages per month)

Number of lurkers – but it is hard to get this information.

Characteristics of interaction:

Number of posters by category of type of communication

Length of message

Number of messages in a thread

Number of threads

How much and what type of moderation?

These metrics will be taken into consideration in the design of instruments to evaluate the effectiveness of the UNFOLD CoPs (evaluation level 1)

(Saint-Onge, Wallace et al. 2003), p.188, also provide some guidelines, which while they are limited in scope provide some useful pointers.

- Establish a routine of seeking constant feedback. Welcome comments throughout the development process, not just at certain points along the way.
- Keep the channels open, acknowledging positive as well as negative comments. Be willing to meet concerns head on in order to make the community a better place for its members.
- Collect statistical data in order to create a baseline. When venturing into new territory, it's important to establish a baseline from the very beginning for measuring progress. ...
- Communicate results. Good news and bad news should be communicated to the various stakeholder groups. Include measures in regular forms of communications, such as newsletters, bulletin boards, and announcements. Did you know that...? Helps frame the progress on an ongoing basis.

As may be seen, these are principally concerned to gather evidence of the value of the community to participants, our Level 2. From these guidelines we note the importance of establishing a baseline at the start of the project, and the focus on gathering comments from users as a basis for establishing the value of participation, and indications of how support for the Community may be improved.

A highly successful project using Communities of Practice is Talking Heads, run by Ultralab¹, an online learning community designed for use by head teachers in England. The evaluation work reported in (Ramondt, Chapman et al. 2002) focuses on two areas:

a) How the Community of Practice was used by the members.

b) The value of the Community of Practice to the use group.

In both these aspects the principal evidence consists of statements by members, gathered in various ways, which describe their activities in the Community and the benefits which have resulted.

¹ <http://www.ultralab.net>
unfold_d5_eval-plan_02aug04.pdf

The Star project is another educational Community of Practice, in this case oriented at science teachers. It is rather different from both Talking Heads and UNFOLD, in that it is a “blended” community, with on-line support for teachers who all live in the same city, and who can therefore meet regularly. In the case of UNFOLD some members of the community will meet regularly, though only at three monthly intervals, while others will never meet in person. The evaluation of the Star project is described in (Jones, McAndrew et al. 2004), an unpublished paper made available to the UNFOLD project by the authors. Like the Talking Heads project, they rely on the statements of participants to provide evidence of the value of the community, though in this case, perhaps because they are working with smaller groups of people, the case studies are more extensive and the feedback is more in depth.

In this plan we build follow these examples in seeking to build up a body of evidence of the value of the Communities of Practice to the participants. We augment this qualitative approach, however, by gathering quantitative data on levels of participation, and monitor the impact of the project in terms of its stated goals, i.e. supporting the adoption of IMS Learning Design.

6. Indicators and benchmarks

In this section we extrapolate from the analysis of the areas to be evaluated, and identify indicators of success. These are the result of discussion between the project partners, and will enable us to focus the evaluation actions on relevant aspects of the project. Taking the three levels of evaluation in turn we specify the indicators, and describe the benchmarking difficulties.

Indicators for level 1: CoP effectiveness

The indicators for success in CoP effectiveness are largely quantitative.

- The number of people joining the CoPs
- The number attending f2f2 meetings/workshops
- The numbers participating in the online CoPs, and types of organisation, country they represent, their level of involvement with LD and the numbers of their products, designs, LD based learning events (over time)
- The number of exchanges on discussion forums, documents on web site, number of hits on web site
- The level of satisfaction of members regarding materials and resources

We do not know the size of the potential pool of participants (i.e. those interested in IMS Learning Design in Europe and around the world) and consequently we cannot establish a satisfactory level of participation. Nor do we know the degree of interest of those who register for the site, and so we cannot establishment a satisfactory level of participation for registered participants.

The concept of "community" is not easy to pin down, and less so in an on-line environment. Consequently it is not an easy matter to decide if a community has indeed formed. [Whittaker, 1997 #4] specifies five characteristics of online interaction which contribute to the creation of the phenomenon, which provide a structure for observation of community interactions.

1. A sense of community among the participants
2. Social networking: this may include, for example, an economy of 'public goods' in the form of exchanges of information
3. Shared discourse
4. Social control (for example control over undesirable behaviour)
5. Membership trajectories – involving patterns of participation and non-participation.

While the first point may seem to be self-referential, we understand it to mean that the participants state that they feel that a community exists.

http://dis.shef.ac.uk/stevewhittaker/community_sigchi97.html

Indicators for level 2: value to participants

Indicators for level 2 are of two types.

- 1) Objectively identified outcomes of project activities (e.g. problems solved, contacts made, actions taken...) These may be reported by participants, observed by project workers, or identified in studies.
- 2) Expressed perception of participants. The participants will be requested to report on the outcomes of the project for themselves as individuals, and, if appropriate for their organisations. The focus will be on identifying experience of the CoPs, in terms of their learning, knowledge, good practices, and personal and organisational capabilities.

There are no initiatives which are directly comparable to UNFOLD, and so there is no established level of user satisfaction, or standard instruments which can be used to establish these levels.

Indicators for level 3: impact on adoption

Our evaluation work should seek to determine if we are making a positive contribution to the adoption of standards, and on this basis we can make a recommendation as to the value of adopting CoPs for the implementation of other specifications and standards. This is particularly true because IMS are considering doing something internationally, and will be very interested in the results of what we are doing.

The indicators which we have identified are:

- The level of adoption of LD achieved during the project, in terms of implementations, plugfests,

- number of UoLs, and how often they are used with learners.
- The range of learning supported (pedagogical approaches, cultural diversity)
- If UNFOLD puts forward a proposal for revision of LD, that would be a strong indicator that the project has made a contribution to moving the specification forward.
- Practical interoperability of systems.

UNFOLD is involved in an innovative approach to the adoption of standards. Most specifications which have become de facto or actual standards have done so without the benefit of a coordinated approach to adoption. One exception is SCORM, which has had millions of dollars in funding through ADL to roll out the specification and support adoption, and because of this it is in some respects an appropriate yardstick for success. It should be remembered, however, that Learning Design is more complex specification, both for authoring and the creation of tools, and that the level of funding for SCORM is orders of magnitude greater than that which UNFOLD enjoys. Moreover it is only after some years of funded support that SCORM is now starting to enjoy widespread adoption. Consequently, despite the apparent parallels, SCORM does not offer a good benchmark for UNFOLD, except in as much as it demonstrates that the task being undertaken is extremely demanding, and that the success of SCORM has been at a very high price. No pro-rata figure for increase in adoption can be extrapolated, and indeed on this basis the conclusion may be drawn that, given the enormous funding provided for SCORM, any noticeable increase in adoption which could be ascribed UNFOLD would be a satisfactory outcome. We could also compare the adoption of Learning Design with that of unsupported specifications, although accurate comparison may be hard and remote. For example, the Wireless LAN 80211b specification has received support for information flows relating to the specification, but this is outside our area, and would need a benchmark which we do not have. Uncontrollable variables relating information flows include the workload of the user group, and on the existing links between members.

Benchmarking

Given the difficulties in finding appropriate benchmarks, this plan proposes to establish a baseline, and assess progress in relation to this. In doing so we follow the advice on evaluating Communities of Practice provided by (Saint-Onge, Wallace et al. 2003) above, *When venturing into new territory, it is important to establish a baseline from the very beginning for measuring progress*. This will be done for all levels of evaluations:

- CoP effectiveness: Level of participation after launch. Degree of participation. Number of members attending initial launch meeting. Method: analysis of servers and feedback from first meeting.
- Value to members: Levels of members use of IMS Learning Design, and their skills. Method: Questionnaires administered at first meeting and on-line.
- Impact on adoption: Level of adoption of IMS Learning Design at start of project. Method: a survey has already been carried out on tools implementation, and this has been discussed on-line on the UNFOLD server. This will be expanded to include UoPs implemented, and UoPs used with learners.

7. Evaluation framework

This section identifies scenarios to be evaluated, the techniques to be employed, and the actors who take part.

Scenarios to be evaluated

Discussion between partners led to the identification of the following scenarios for evaluation.

CoP effectiveness

- Perceived quality of awareness raising materials
- Usefulness of awareness raising materials
- Use of the UNFOLD as an information resource.
- Use of resources for each CoP
- Level of satisfaction with resources for each CoP
- Level of satisfaction with infrastructure provided for interactions
- Levels of activity in the on-line CoPs
- User group satisfaction with f2f meetings/workshops

Value to CoP members

- The usefulness of the CoPs to their participants and organisations
- CoP members' level of involvement with LD over the lifetime of the project.

Impact on adoption

- Level of adoption of LD achieved during the project
- Range of learning supported (pedagogical approaches, cultural diversity)
- Effectiveness of UNFOLD with respect to the adoption of LD

Evaluation methods

We use two well-established distinctions between types of evaluation methods.

Firstly, following the widely used distinction established in (Bhola 1990) we distinguish

- Formative evaluation: a method of judging the worth of a program while the program activities are forming or happening. Formative evaluation focuses on the process, and is valuable in raising the awareness of the participants regarding what they are doing, how they are progressing, and how improvements may be brought about.
- Summative evaluation is a method of judging the worth of a program at the end of the program activities. The focus is on the outcome, and on establishing the achievements of the project.

Secondly we distinguish qualitative and quantitative evaluation.

- In *quantitative evaluation* the emphasis is on numerical analysis by the evaluation team of observations and responses to instruments. Quantitative methods aspire to be objective, but have the drawback that many aspects of participation in UNFOLD are not easily addressed by such methods.
- In *qualitative evaluation* the focus is on aspects of the project which depend on the experiences of individual participants, particularly with regard to knowledge, attitudes and skills. The aspiration is not to achieve objectivity, but rather obtaining a rich picture of project activity and its achievements, accepting and indeed valuing the subjective nature of the evidence.

Given the focus on

Quantitative techniques

Log file analysis. Quantitative technique.

Log files analysis is a quantitative⁴ technique. Log files store information related to the actions which carry out in a web site. The type of information which can be analyzed includes the sections visited, the number of clicks, etc.

We plan to use log files to evaluate the use of the UNFOLD infrastructure. The log files will be created in the UNFOLD web site, and we will use them to evaluate, for example, how many resources have been consulted, what sections are the most visited, and patterns of use.

Structured Questionnaires.

Structured questionnaires are a quantitative evaluation technique which can be used either to obtain information from a very large numbers of users, or to capture in-depth information. Questionnaires are generally better for gathering unambiguous, factual data (which may also involve explicit metrics) than for opinions or descriptions that require explanation. Data can be gathered from each respondent in far less time than with an interview or focus group but there is a danger of low response rates from large samples, which may produce unrepresentative results. Questionnaires typically include both 'closed' questions, which allow only a limited range of answers, and 'open' questions with free-form results. These require more thinking and more time on the part of the respondent and are therefore less likely to be answered.

We plan to use structured questionnaires to evaluate UNFOLD events. They will also be used to evaluate the Web sites and their components (learning design resources, forums, etc) of the web site.

The in person administration of the forms will be at the in-person events.

The way in which the structured questionnaires will be administered is yet to be finalised. One option, which will be discussed at the Project Meeting in Barcelona, 7th December, is to persuade the members to respond to the questionnaire by restricting access to the site if they do not respond.

Alternatively the criteria could be number of posts.

We can provide users with a number of opportunities to fill in the form before they are obliged to do so. Clearly, if we do this, it is essential that the form is quick and easy to complete.

Survey

Within the context of UNFOLD, a survey involves using the resources of the Web, email and libraries to establish as accurately as possible the state of adoption and implementation of IMS Learning Design. To increase reliability a protocol should be established, which will ensure a degree of internal consistency in the results over the period of the project.

Talk through

In this usability evaluation technique a small number of users are asked to carry out a set of defined tasks using a Web site or application. While they are carrying out the tasks the evaluation monitor asks them to verbalise what they are thinking, and the doubts they have about the application. A structured questionnaire is also administered. The session is filmed, and the results of the questionnaire combined with analysis of the users' interaction with the application. The result is a prioritised list of the most frequently occurring problems, with suggestions for solutions.

Qualitative techniques**Semi-structured interview.**

The semi-structured interview is a technique which is frequently used in social communication. It will enable us to collect subjective data about the user such, such as work experience, opinions, feelings, suggestions, which are hard to obtain using other methods. It should be recognised, however, that quantitative data is not obtained, and that the results are difficult to generalise.

We plan to conduct semi structured interviews with the different target users groups of UNFOLD: developers, learning designers and practitioners. These will enable us to establish how useful and effective UNFOLD is in addressing their various needs.

Usability inspection

In this technique a usability expert analyses an application or Web site, using a set of guidelines. It is also known as *heuristic analysis*. It is valuable for identifying severe usability problems, but is

not appropriate for answering specific research questions. It depends substantially on the skill of the expert, and different experts may produce different results.

Focus group.

A focus group is a particular kind of interview, typically involving 6 to 12 participants and a moderator (Nielsen, 1993).. It is an open-ended group discussion guided by the moderator, which typically lasts at least an hour. Recording of the session is a substantial aid to analysis. The technique gives participants substantial control over the direction to be taken by the evaluation, as they outnumber the moderator, and this sometimes leads to unexpected results being uncovered. The participants also tend to provide checks and balances on each other, disagreeing with extreme views.

Observation of meetings

Notes will be taken of the proceedings of the meetings, and, if the attendees give permission, they may also be recorded, so that the content of the discussions is not lost. In this evaluation technique, however, we focus not on the content of the discussions, but on the types of input provided by the attendees (points of information, questions, suggestions to guide the community, etc.) and the interpersonal processes involved (how many people participate, the role of the facilitator, etc.). This technique can provide valuable feedback on the functioning of the CoP. It may be regarded as a simple form of ethnography.

It will be important to explain this action to all attendees, so that they are aware of the note taking and observation, and can approve or disapprove the process.

Case studies

A case study involves the development of detailed knowledge about a single case, in context, often using a variety of data collection techniques. This is likely to be outside the scope of the present evaluation. It is however, planned to gather a larger number of less detailed reports, in which a single participant explains the outcomes of participation in the project.

Actors in the evaluation

The evaluation leader is the UPF team. UPF will co-ordinate all the evaluation actions by defining the instruments and procedures to be carried out, circulating these documents to all the partners and reporting the results into Deliverables and internal documents. An evaluation work group will be formed, with one representative from each partner, to implement the UNFOLD Evaluation Plan. The evaluation workgroup will be constituted at the Barcelona project meeting, 7th September 2004.

The potential subjects in the evaluation studies are the members of the UNFOLD Communities of Practice, and, to a lesser extent, the project staff, particularly the facilitators.

FUPF will work closely with all the partners in order to achieve effective evaluation of the project.

Partners FUPF, OUNL and Bolton Institute are all responsible for a Community of Practice each.

Coordinated by FUPF, each partner will have responsibility for maintaining information on the user group corresponding to that CoP, and will liaise with the user group, to arrange evaluation activities.. Partners will also have responsibility for carrying out evaluation actions on the telematic infrastructure which they have developed and are using, with the support and assistance of the other partners and FUPF as coordinators.

Partner EUCEN has no responsibility for a Community of Practice, but may be called upon to make contact with their own user group of members.

The evaluation actions and reports will mainly be carried out and directed by designated evaluation monitors, who administer instruments, or conduct an observation. Each partner will also provide evaluation monitors to carry out evaluation actions as necessary

8. Detailed evaluation scenarios

In this section we take bring together the aspects of project evaluation identified above to define evaluation scenarios, which can guide the evaluation team in the creation of instruments to carry out the evaluation. We add additional elements, transforming the objectives into evaluation questions, and discussing benchmarks and timing, and discuss any anticipated problems to be overcome. We also combine some of the scenarios identified in the previous section in the interests of maintaining a concise structure. Not all the scenarios will be evaluated using all the techniques identified, as this would be too great a task for the resources of the project. This report will prioritise the evaluation questions and methods available and provide an initial timetable, to be revised at the Barcelona Meeting, 7th September 2004, and in the light of subsequent results.

Scenario 1: Effectiveness of awareness raising material and Web

In this scenario we evaluate the awareness raising materials and web. These are intended to raise the profile of both the project and the IMS LD specification. However, these material might be effective or ineffective in a number of different ways, such as, as indicated in the *questions to be answered* below.

Evaluation level	Level 1, CoP effectiveness
Actors involved	<ul style="list-style-type: none"> - Users interested in eLearning, but not members of CoPs (respondents) - CoP members (respondents) - evaluation team (design instruments and analyse results.) - facilitators (evaluation monitors)
Questions to be answered	<ul style="list-style-type: none"> - Are the resources and Web of good quality? - Do they meet the needs of the user group? - Are the resources and Web well designed and easy to navigate? - What additional materials or functionality would be valuable?
Indicators	<ul style="list-style-type: none"> - Frequency of use of the resources and Web, in terms of registered users. - Quality of awareness raising materials as reported by users - Feedback from users in both structured and unstructured contexts
Benchmarking	No benchmark available. Evaluated in terms of expressed satisfaction of user group.
Evaluation methods available	<ul style="list-style-type: none"> - Structured questionnaire - focus group at face to face meetings - (phone) semi-structured interviews (in case to holding a focus group is too difficult, we can conduct a phone interview with some of the users) - (e-mail) questionnaires (for the same reason) - Usability inspection - Talk through
Outcomes	The outcomes of this evaluation scenario will be principally formative, and will identify improvements which can be made to the awareness resources and Web.
Timing	Six monthly intervals. The timing depends to some extent on the rhythm of production of new materials, and the rate at which new users join.

Scenario 2: Resources for each CoP

This evaluation is distinct from Scenario 1, because both the users, the resources, and the use to which they are put are different. Each community of practice has its own resources which are particularly focused on the needs of that community. They are not intended to raise awareness of the project, but are rather the raw materials for the work of the CoP. It should be noted that to a substantial degree these resources will be the result of the work of the CoP. Consequently this evaluation is in part formative, that is to say, it is intended to guide the future development of the CoP as well as to assess the past, and this is reflected in the *questions to be answered*. It may also not be appropriate to include it in the first period of evaluation.

Evaluation level	Level 1, CoP effectiveness
Actors involved	<ul style="list-style-type: none"> - Members of each CoP (respondents) - evaluation team.(design and analysis of instruments) - CoP facilitator (evaluation monitor)
Questions to be answered	<ul style="list-style-type: none"> - Are the resources appropriate to the needs of members of the CoP? - Are the resources of good quality and clearly presented? - What additional resources would be valuable? - How should they be created
Indicators	<ul style="list-style-type: none"> - Frequency of use of the resources and Web, in terms of registered users. - Feedback from users in both structured and unstructured contexts
Benchmarking	No benchmark available. Evaluated in terms of expressed satisfaction of user group.
Evaluation methods	<ul style="list-style-type: none"> - questionnaire administered to participants after they have been participating for a time (at least one month) - focus group at face to face meetings - log files of access to resources
Outcomes	The outcomes of this evaluation scenario will be principally formative, and will serve to identify improvements which can be made in the resources provided for each CoP, and the way in which the resources are identified, created, posted and used.
Timing	<ul style="list-style-type: none"> - Quarterly meetings - regular administration of questionnaire to all new users (provisionally six monthly, but depending on response)

Scenario 3: Infrastructure provided for interactions

The on-line activities of the CoP will be mediated by a web site with conferencing facilities provided, and access to discussion materials, CoP documents, and resources. In this scenario we seek to establish if the solution which we have implemented is effective, and how it could be improved. We also evaluate the effectiveness of the technology used to support the CoPs. We plan to carry out some trails with varying structures and facilitation techniques to provide formative evaluation results.

Evaluation level	Level 1, CoP effectiveness
Actors involved	<ul style="list-style-type: none"> - CoP members and facilitators (respondents) - CoP facilitators (delivery of instrument to CoP members) - UNFOLD evaluation workgroup (development of instruments) - CoP infrastructure developers (receive results)
Questions to be answered	<ul style="list-style-type: none"> - Do the online facilities provided to the CoPs meet the needs of the CoP participants in their online activities? - Is the system easy to use? - Is the system hard to learn? - Is the system consistent? - Is the system well integrated? - What improvements could be made to the system? - How effective and usable is the technology used to support the CoPs
Indicators	<ul style="list-style-type: none"> - Expressed opinions of the users - Levels of use (although this is dependent on, for example, the selection of suitable topics, the success of awareness raising, etc.)
Benchmarking	No benchmark available. Evaluated in terms of expressed satisfaction of user group. Trials of revised infrastructure will use earlier results as a benchmark.
Evaluation methods	<ul style="list-style-type: none"> - permanent link for feedback on the site - focus group at face to face meetings - heuristic inspection - structured online questionnaires
Outcomes	The outcomes of this evaluation scenario will be principally formative, and will provide a framework for improving the infrastructure provided for CoPs as the project progresses.
Timing	<ul style="list-style-type: none"> - Heuristic inspection for each version of the system. - Open questionnaires with selected members at face to face meetings - Structured questionnaires can be combined with resources questionnaire

Scenario 4: Information flows in CoP

This scenario will enable us to monitor the levels of activity on the UNFOLD project servers, and the degree to which people are participating in on-line interactions. This will provide basic information, which then needs to be contrasted with results from other actions which provide evidence of the quality of the interactions and their consequences.

Evaluation level	Level 1: UNFOLD CoP effectiveness
Actors involved	- System administrator - Evaluation team
Questions to be answered	- How many people is the project reaching? - What is the geographic spread of participants? - What sectors do the participants come from? - What proportion of the participants are active, and to what extent? - How can the flows of information be characterised in terms of their social function and content? - How do changes in the structure of the infrastructure and facilitation interventions change the levels of information flows and their character?
Indicators	- Levels of activity in the on-line CoPs and face-to-face meetings.
Benchmarking	There is no benchmark for activity in CoPs. There is a quality / quantity problem. Small number of good quality interactions is better than many unproductive interactions. A high level of activity does not necessarily indicate success, and so results must be analysed in conjunction with Level 2 studies. We note that Nonnecke and Preece (2001) report that “Lurkers reportedly make up the majority of members in online groups and discussion lists In a logging study of 109 support DLs, we found that lurking varies for different DLs, ranging from as much as 99% to a low of 1%”
Outcomes	The outcomes of this evaluation scenario will provide valuable feedback to facilitators on the levels of activity in the CoPs, and the types of interactions. Comparison between the CoPs will enable the best practice from each CoP to be applied across the project.
Evaluation methods available	- analysis of records of CoP interactions (both online and face to face) - analysis of log files - data gathered on joining CoP - structured online questionnaires
Timing	6 monthly, to coincide with summaries of CoP activities

Scenario 5: User group satisfaction with f2f meetings/workshops

This scenario will enable the project team to assess how successful they have been in the organisation of face-to-face events, identify unmet needs, and plan for measures to improve performance. Observation of CoP proceedings will provide valuable feedback for facilitators, and can also be contrasted with on-line interactions.

Evaluation Level	Level 1: CoP effectiveness
Actors involved	Attendees at UNFOLD f2f events (respondents) Evaluation team (design of instruments and analysis of results) CoP facilitators (evaluation monitors)
Questions to be answered	- Do the regular UNFOLD F2F events produce valuable outcomes for the participants? - Are the events well organized? How could they be improved? - Are the facilities satisfactory? How could they be improved? - Were the formal inputs (if any) valuable and interesting?
Indicators	Expressed opinions of participants
Benchmarking	No benchmark available. Evaluated in terms of expressed satisfaction of user group, and compared across events.
Evaluation methods available	Structured questionnaires Focus group Semi-structured interviews (phone) Observation of proceedings
Outcomes	The results from this evaluation scenario will be used to improve the quality of the service provided to the user group at each successive meeting. They will also provide a record of project achievement to be incorporated in the final evaluation report.
Timing	During and after each event

Scenario 6: The usefulness of the CoPs to their participants and organizations

It has been shown by experience in commercial organisations that activity in CoPs will only be condoned by employers if it is shown to be of value not only to individuals, but also to the organisation which pays the salary of the participant. This action will enable us to assess if participation in the UNFOLD project is effective these actors, and also provide the project with evidence which can be used to attract new members and to provide input into the sustainability plan.

Evaluation level	Level 2: Value to CoP members
Actors involved	<ul style="list-style-type: none"> - Members of each CoP (respondents) - CoP facilitator (administration of instruments) - UNFOLD evaluation team (designers of instruments, analysis of results)
Questions to be answered	<ul style="list-style-type: none"> - Have the CoPs opened up new possibilities for the participants? - What outcomes can be identified from participation in UNFOLD? - What has the balance been between effort put in and benefit received?
Indicators	<ul style="list-style-type: none"> - Identified outcomes of project activities (e.g. problems solved, contacts made, actions taken...) - Perception of participants
Available evaluation methods	<ul style="list-style-type: none"> Structured questionnaires Focus group Semi-structured interviews Analysis of CoP online interactions Observation of face to face meetings Short case studies
Outcomes	<p>This scenario will result in two types of outcomes</p> <ul style="list-style-type: none"> a) formative evaluation results will be reported to the CoP facilitators to help guide the CoPs towards activities which best meet the needs of the user group. b) provide a body of evidence will be gathered with which to assess the degree to which UNFOLD project activities have addressed the goals of the project.
Benchmarking	<ul style="list-style-type: none"> Cost benefit analysis UNFOLD activity. Comparison with other ways of achieving the same results (individual study and Web search, cost of training, consultancy, hiring staff, etc.)
Timing	Six monthly

Scenario 7: CoP members level of involvement with LD over lifetime of project

The pragmatic goal of the UNFOLD project is to accelerate adoption of the IMS LD specification. This will manifest itself at the level of CoP members in terms of a deepening level of involvement in Learning Design over the duration of the project. We are seeking an overview, and will combine this with illustrative case studies.

Evaluation level	Level 2: Value to CoP members
Actors involved	CoP members (respondents) Facilitators (evaluation monitors) Evaluation team (design of instruments, analysis of results)
Questions to be answered	- Have members made use of the opportunity to deepen their understanding of Learning Design, and to use it? - How has their level of involvement with LD varied over the lifetime of the project
Indicators	- Number and scale of Learning Design related activities reported by members - Level of understanding and adoption of the LD specification
Benchmarking	Current levels of implementation, adoption and understanding of the specification. Not all participants can be expected to show a pattern of increasing involvement, as many will join with a mistaken idea of what the project can offer, and what the relevance is to them. Nor is it possible to exclude other reasons for increasing involvement in IMS Learning Design. Because of this small scale case studies are important in establishing causality.
Evaluation methods available	- Structured questionnaires - Semi-structured interviews - Focus group
Outcomes	Reports on this scenario will be valuable to the project management team in assessing the degree to which the project is attaining its larger objectives, and will provide evidence of the value of the UNFOLD model for supporting specifications.
Timing	6 monthly, to coincide with summaries of CoP activities At the end of the project, as a summary

Scenario 8: Level of adoption of LD achieved during the project

In this scenario we address the same goal as Scenario 7, that is to say the increasing adoption of IMS Learning Design, but we address it not at the level of the individual, but rather at the industry and institutional level. The user group

Evaluation level	Level 3: Impact on adoption
Actors involved	CoP members (respondents) Facilitators (evaluation monitors) Evaluation team (creation of instruments, evaluation monitors, analysis) Project staff (surveys)
Questions to be answered	- To what extent has the UNFOLD project accelerated the adoption of LD in industries, universities,...? - Which are the main problems which UNFOLD have found in carrying out these tasks? - How many tools (designs, unit of learning,...) have been created since UNFOLD was launched? - How many plugfests have been held, and how satisfactory were the results - How many UoLs have been created, and often have they been used with learners - What kinds of pedagogical approaches have been undertaken? Is there a relationship between cultural diversity and range of learning approaches? How great is it? Has it increased over the life of the project?
Indicators	Number of implementations Number of plugfests Number of UoLs and their use Pedagogical approaches identified in UoLs and tooling Range of cultural diversity in UoLs and tooling
Benchmarking	The state of learning design at the start of the project
Evaluation methods	Structured questionnaires Interviews Focus group Survey of state of the art and number of implementations
Outcomes	Reports on this scenario will be valuable to the project management team in assessing the degree to which the project is attaining its larger objectives, and will provide evidence of the value of the UNFOLD model for supporting specifications. The reports will also be valuable in raising awareness of the project and its activities, and as inputs to the CoPs.
Timing	State of the art survey at start of CoP activities 6 monthly, to coincide with summaries of CoP activities At the end of the project, as a summary

Scenario 9: Effectiveness of UNFOLD with respect to the adoption of LD

In this evaluation scenario we draw together the results of the project, and evaluation work carried out throughout the project, to reach a summative conclusion on the effectiveness of UNFOLD and the approach which it has taken to adoption.

Evaluation Level	Level 3, impact on adoption
Actors involved	Evaluation team (design of evaluation action and instruments, analysis) Project staff (surveys)
Questions to be answered	<ul style="list-style-type: none"> - Is the model of supporting the adoption of an eLearning specification proposed by UNFOLD an effective one? - Which aspects of UNFOLD activity have been most effective in achieving these goals? - In what ways could the UNFOLD approach be improved?
Indicators	Results of UNFOLD project as analysed in previous evaluation actions.
Benchmarking	<p>Comparison of the effectiveness of UNFOLD with respect to the adoption of LD against ADL+ SCORM and against unsupported specifications.</p> <ul style="list-style-type: none"> - LIP is only supported by CETIS - SCORM supported by ADL. - IMS LD is supported principally by UNFOLD <p>This is complicated by many other variables, such as the quality of the specification, financial and organisational barriers to adoption, etc.</p>
Outcomes	A report on the effectiveness of the project. The audience for this report is not only the Commission, but also specification developing bodies such as IMS and CEN/ISSS.
Evaluation methods available	<ul style="list-style-type: none"> - Surveys - Cost / benefit analysis. - Analysis of UNFOLD evaluation results throughout the project, (in order to identify the most effective actions) - Focus group
Timing	End of project

9. Evaluation timetable and reporting

The timetable for UNFOLD evaluation is to some extent determined by the project structure. This sets out that phase two starts in month 6, when project infrastructure and resources have been prepared and work with users commences. There are then three six-month reporting periods, and at the end of each of these an evaluation report will be submitted. The final report will include overall conclusions from the evaluation. The pattern of project activities will be similar for all three periods, and so it is inevitable that there will be some repetition of evaluation activities. Indeed this is desirable if we are to obtain information about changes in the performance of the project and the quality of its outcomes. However the pattern of activity will also change as the project progresses, with benchmarking actions at the start of the project to establish the current situation, a greater focus on formative evaluation in the middle section of the project, and an emphasis on summative evaluation at the end in order to provide an overview of project effectiveness.

In the following section a detailed plan is provided for the first period of evaluation work, from September to December 2004.

This plan is subject to review at the working meeting in Barcelona, 7th September 2004.

UNFOLD evaluation action plan 1 (September – December 2004)

Evaluation action plan, period 1 (September – December 2004)						
<i>Action and lead partner</i>	<i>Place</i>	<i>Month</i>	<i>Scenarios addressed</i>	<i>Comments</i>	<i>Tasks</i>	<i>Days effort</i>
1. First structured questionnaire for CoP members FUPF	Barcelona event Online	9 - 11	1. Effectiveness resources 3 Infrastructure CoPs 4. Information flows (user information) 5. Satisfaction with f2f meetings 6. Value to participants 7. Level involvement with LD 8. Level of adoption 9. Identify UoLs	We wish to avoid overloading the members with questionnaires, so this questionnaire will include a wide range of questions. If the questionnaire is too long or time consuming, some of these may have to be dropped.	Develop instrument and trial Administration in Barcelona Online administration Analysis and reporting	2 1 2 2
2. Observation at Barcelona meeting FUPF	Barcelona event	9	1. Effectiveness awareness raising resources 3 Infrastructure CoPs 4. Information flows (user information) 5. Satisfaction with f2f meetings 6. Value to participants 7. Level involvement with LD 9. Identify UoLs	An evaluation monitor will be present at all sessions to note down key interactions. If participants are willing an audio recording will be made of all sessions, to provide back up and confirmation of the observers report. The report will be posted for approval by participants prior to publication. Information will be gathered which may be of use in all the scenarios in the previous column, but the focus of this action is principally on information flows.	Preparation Observation Analysis and report writing	1 3 2
3. Focus group at Barcelona meeting FUPF	Barcelona event	9	1. Effectiveness resources 3 Infrastructure CoPs	This focus group will consist of a short plenary session in which feedback is obtained from members present at the meeting.	Preparation Analysis and reporting	0,5 1
4. Usability inspection of www.unofld-project.net FUPF	online	9	3. Infrastructure for CoPs	This action is intended to identify any major usability actions which there may be, and so indicate priority areas for action.	Preparation Inspection Analysis and reporting	1 1 1

<i>Action and lead partner</i>	<i>Place</i>	<i>Month</i>	<i>Scenarios addressed</i>	<i>Comments</i>	<i>Tasks</i>	<i>Days effort</i>
5. Benchmark studies Bolton	online	9-10	7. Level of members involvement 8. Level of adoption achieved	These studies will establish the baseline of use of IMS LD, and provide a benchmark for future evaluations.	- Literature search - Web search and preparation of working notes - Mail and phone contacts with experts - Analysis and report writing	1 2 2 3
6. Usability trials of www.unfold-project.net	Barcelona	10-11	1. Effectiveness awareness raising resources 3 Infrastructure CoPs	These trials will provide in depth feedback on the usability of the main UNFOLD web infrastructure, and priorities for action.		
7. Log analysis of use of UNFOLD servers FUPF, OUNL	Online	10 (trial) 12	1. Awareness resources 3. Infrastructure CoPs 4. Information flows	Results from all three project servers will be obtained and collated	Planning Implementation of mechanisms Analysis	1 3 2
8. Semi-structured interviews with members FUPF	UNFOLD events and telephone	9-12	1. Effectiveness awareness raising resources 3 Infrastructure CoPs 5. Satisfaction face to face 6. Value to members 7. Level of involvement with LD	The practicality and methodological coherence of this technique has been questioned for the context of UNFOLD, and will be reviewed at the project meeting, 7 th September.	- Preparation and identification of respondents - Arranging and carrying out interviews - Analysis and report writing	1 2 3
9. Observation at Berlin meeting FUPF	Berlin meeting	12	1. Effectiveness awareness raising resources 2. CoP resources 3 Infrastructure CoPs 4. Information flows (user information) 5. Satisfaction with f2f meetings 6. Value to participants 7. Level involvement with LD 9. Identify UoLs	An evaluation monitor will be present at all sessions to note down key interactions. If participants are willing an audio recording will be made of all sessions, to provide back up and confirmation of the observers report. The report will be posted for approval by participants prior to publication. Information will be gathered which may be of use in all the scenarios in the previous column, but the focus of this action is principally on information flows.	Preparation Observation Analysis and report writing	1 3 2

<i>Action and lead partner</i>	<i>Place</i>	<i>Month</i>	<i>Scenarios addressed</i>	<i>Comments</i>	<i>Tasks</i>	<i>Days effort</i>
10. Focus group at Berlin meeting FUPF	Berlin meeting	9	1. Effectiveness resources 2. CoP resources 3 Infrastructure CoPs	This focus group will consist of a short plenary session in which feedback is obtained from members present at the meeting.	Preparation Analysis and reporting	0,5 1
11. Structured questionnaire OUNL	Berlin	12	1. Effectiveness resources 2. CoP resources 3 Infrastructure CoPs 4. Information flows (user information) 5. Satisfaction with f2f meetings 6. Value to participants 7. Level involvement with LD 8. Level of adoption 9. Identify UoLs		Develop instrument and trial Administer Analysis	3 1 1
UNFOLD evaluation plan				This UNFOLD evaluation plan, D3	Research, planning, consultation, writing	20
Coordination FUPF				Day to day management and coordination of the evaluation process	Coordinating, organising, monitoring and assessing on-going evaluation work. Planning for the next phase	20
Report writing FUPF and all partners		13		A report on the work carried out in this phase of evaluation will be prepared for month 13, January 2004	Coordination and compilation of results Analysis Report writing Revision by all partners	2 1 2 2
Approximate total effort						97

UNFOLD evaluation action plan 1 in the context of the whole evaluation

Effort

The total effort for evaluation in UNFOLD is planned to be as follows:

Planned person months for Workpackage 6, Evaluation					
	FUPF	OUNL	Bolton Institute	EUCEN	Total
WP 6 Evaluation	10	3	5	0	18

FUPF has the majority of the effort, and this is reflected in the leadership of planned evaluation work.

There is a total of 18 months effort for this workpackage, which will be distributed approximately equally, but with an intensified effort in the final period. This gives an approximate 110 working days on evaluation in each period. The anticipated effort for this present action plan is 97 days, leaving some margin for error and changes.

Evaluation periods 2 and 3

Following review of the evaluation work in this period, a new evaluation action plan will be produced for the following 6-month period. Six months later the final evaluation action plan will be produced.

This approach to planning will enable the project to respond to the developing evaluation needs. The framework of evaluation levels and scenarios provided in this document, however, provides an overarching structure which will ensure that the coherence evaluation process is maintained, and that it remains focused on the priority areas identified for evaluation.

It may, nevertheless, be foreseen that many key elements of this evaluation plan will also feature in future plans, in particular the structured questionnaires and evaluation of face-to-face events. It is also foreseen that the final plan will include a focus on the impact of the project on adoption, as is set out above in this plan.

References

- Bhola, H. S. (1990). Evaluating "Literacy for development" projects, programs and campaigns: Evaluation planning, design and implementation, and utilization of evaluation results. Hamburg, UNESCO Institute for Education; DSE [German Foundation for International Development].
- Jones, A., P. McAndrew, et al. (2004). Communities of Practice in practice: a case study of two communities of science teachers, The Star Project.
- Nonnecke, B. and J. Preece (2000). Lurker Demographics: Counting the Silent. CHI'2000, Hague, The Netherlands.
- Preece, J. (2000). Shaping Communities: Empathy, Hostility, Lurking, Participation. CPSR DIAC2000: Shaping the Network Society: The Future of the Public Sphere in Cyberspace, Seattle.
- Preece, J. and I. E. . (2001). Online communities: Usability, Sociability, Theory and Methods, *Frontiers of Human-Centred Computing, Online Communities and Virtual Environments.* Springer Verlag: Amsterdam, 263-277.
- Preece, J., B. Nonnecke, et al. (2004). The top 5 reasons for lurking: Improving community experiences for everyone, *Computers in Human Behavior*, 2.1. **2004.**
- Ramondt, L., C. Chapman, et al. (2002). Talking Heads Report, Ultralab. **2004.**
- Saint-Onge, H., D. Wallace, et al. (2003). Leveraging Communities of Practice for Strategic Advantage. Butterworth-Heinemann.
- Seely Brown, J. and P. Duguid (1991). Organizational learning and communities-of-practice: Toward a unified view of working, learning, and innovation, *The Institute of Management Sciences (now INFORMS).* **2004.**
- Wenger, E. (1998). Communities of Practice: Learning, Meaning, and Identity, Cambridge University Press.
- Wenger, E., R. McDermott, et al. (2002). Cultivating Communities of Practice: A guide to managing knowledge, Harvard Business School Press.