

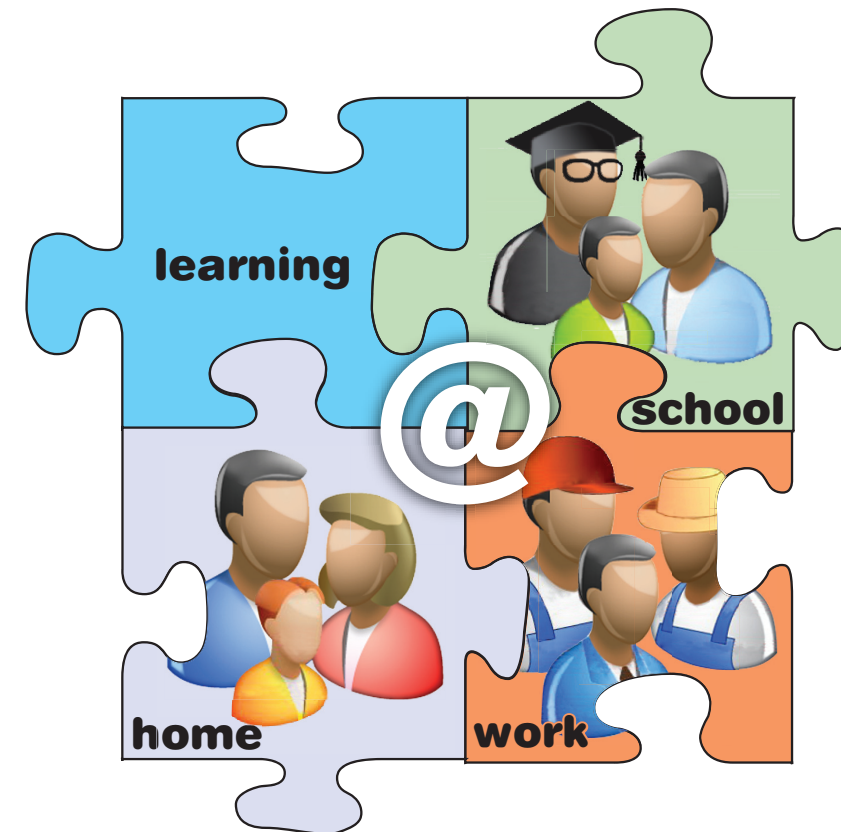


rural wings

scenarios of use

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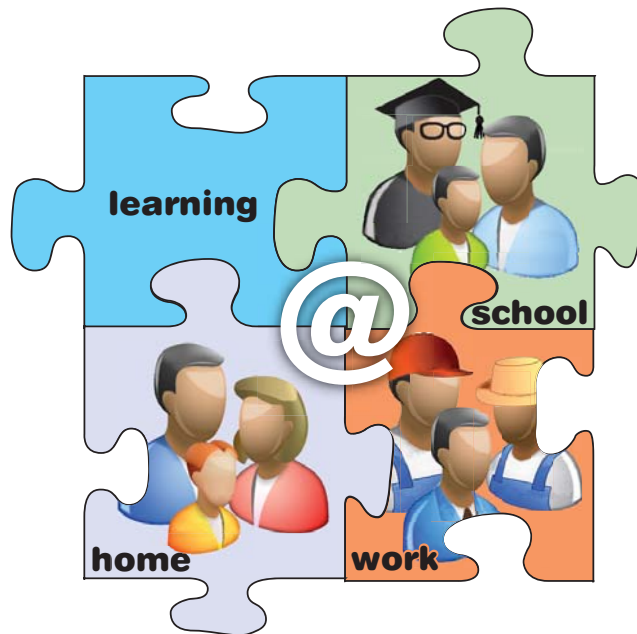
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D4.1: Rural Wings scenarios

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Executive Summary

The aim of the Deliverable D4.1 '*Rural Wings scenarios*' is to present the accomplishments of work done within Work Package 4 '*Scenarios Adaptation and Development*' of the Rural Wings project, in the first preparatory phase preceding the user-centred activities to be implemented in the pilot sites of the project in rural areas across Europe.

This Deliverable constitutes the key element in the process of operationalizing the general conception and design of the project, i.e. in the process of deciding on, and developing, the practical aspects of implementation including the learning-enabling technologies, the learning content, and the people involved in the implementation. To this end, the present document provides a detailed account of the rationale, methodology, and outcomes of the design and development of generic learning scenarios in the Rural Wings project, as well as of the mapping of these generic scenarios with the local circumstances of the countries and pilot sites in which the user-centred activities are going to take place. This information provides the reference point for the preparation and execution of the envisaged activities in the rural communities, whereby the national coordinators will use the provisions of this Deliverable as their main tool.

It should be noted that the scenarios presented here constitute only a starting point in a course of consecutive adjustments and refinements, which will reflect the increasing involvement of the end users in the process of development of the broadband services offered to the rural communities. In line with the broader conception of the project, the scenarios will be subjected to a design-based research approach requiring that feedback from the field be constantly taken into consideration, and users be involved, and monitored, in the design process. This will be achieved through the continuous monitoring and assessment of the implementation of the scenarios in real life settings, as well as through the participation of end users in local focus workshops. In these workshops they will provide the pedagogical and technological teams of the project with insights into their particular needs, offering gradually more and more feedback as their own input in the process of design and redesign of the offered services, so that they best match the local needs.

Introduction

1

The Rural Wings project sets itself the ambitious aim to contribute towards the introduction of a new learning culture among citizens of rural communities, by providing them with opportunities for all to learn through a range of learning methods which will eventually enable them to become independent learners. More specifically, the envisioned learning culture of the rural communities ought to encourage and empower all individuals, in all stages of life, to exploit new technologies in order to invent their own solutions, by designing, creating, and learning independently in new, self-organised ways. These envisioned independent learners, however, should also learn to co-operate better with other local actors, and thus become more active participants in the shared processes of their communities.

To this end, the Rural Wings project demonstrates the use that various new technologies and applications can have as tools in the hands and intellect of inspired citizens of all ages aiming to cover their own needs according to their background and current activities or aspirations. In order to cater for the intrinsic multiplicity of user groups and user needs that such an approach implies, the project seeks to provide a range of learning methods and instructional approaches, corresponding to diverse learning circumstances in the various rural settings.

In the light of these propositions, the learning scenarios are seen as the necessary intermediate step in the path leading from the project's theoretical conception of learning in rural communities, to its practical realisation into a 'virtual learning community' through the implementation of learning activities in the pilot sites. In other words, the scenarios are meant to provide concrete answers as to how the Rural Wings project may achieve its objectives relating to the promotion of lifelong learning in rural communities.

Learning scenarios constitute a central tool in the Rural Wings approach. They form the practical guides which operationalize the theoretical propositions of the project. They provide the national coordinators with the reference point for the preparation and execution of the envisaged activities in the rural communities. These scenarios are hence the national coordinators' main design tool, and are mainly addressed to them. It should therefore be noted that the development of the scenarios of use is an effort of primarily practical value. Although their conception is grounded on a deep understanding of user needs and available possibilities on the basis of relevant academic concepts, the scenarios themselves aim to demonstrate, in practical terms, what exactly should and can be offered to users in rural areas involved in the implementation of the Rural Wings user-centred activities, and the extent and nature of users' involvement in these processes.

The learning scenarios in their current form are meant as initial demonstrators of various possibilities offered for the exploitation of broadband services by rural communities. In the course of the project, feedback from

the implementation of these initial scenarios, and user input through the local focus workshops, will lead to refinements and adjustments, so that the final broadband services respond accurately to the local needs and expectations. Becoming gradually more and more experienced, local users will be encouraged to move away from ready-made solutions to adapt the broadband services according to their own priorities, thus dynamically forming the learning scenarios and realising the expressed preference of the Rural Wings project for a user-centred, design-based research approach requiring that feedback from the field be constantly taken into consideration in a continuous design process.

Background to the development of the scenarios

2

2.1 Defining the implementation parameters

Before one can start ‘translating’ theoretical propositions into practical guidelines, it is necessary to investigate and take into account the characteristics of the real world in which the theory will be implemented. Responding to this self-evident need, the developers of the scenarios of use, in the outset of their effort, recorded various implementation parameters, i.e. characteristics of the actual settings which may turn out to be significant during the implementation of the learning scenarios in real life. The outcome of this attempt has been a generic but enlightening account of the anticipated context of implementation, taking the form of an inventory of implementation parameters, which provided input into the subsequent process of scenario design and development.

The implementation parameters identified were divided in two major groups:

- those directly referring to the local circumstances; and
- those relating more generally to the project, its priorities and potential.

The identified parameters are presented in the following sections.

2.1.1 The local circumstances: Target groups and ‘learning spaces’

Since the Rural Wings project is targeting all rural citizens without exclusion, more than one distinguishable user group may be defined in each rural community. Therefore, the design of the learning scenarios takes into account the variety of target groups (school students and teachers, administration employees, professionals, entrepreneurs, farmers, etc.), both men and women without discrimination, and the ‘learning spaces’ in which these groups are expected to become active as learners: school, workplace, home. What is more, the design-based research approach adopted by the project also requires that the local settings be taken into consideration, and users be involved, and monitored, in the design process. This will be achieved through the participation of end users in local focus workshops, in which they will provide the pedagogical and technological teams of the project with insights into their particular needs, and gradually more and more feedback, which will form users’ own input into the process of designing and redesigning the broadband services offered, so that eventually they best match the local needs.

Users' interest and motivation

Obviously, the interest that local users may have in specific areas of knowledge or application, and their motivation to be involved in learning activities in these areas, is the driving parameter in the selection of the subject of the learning activities. In the same area parameters also fall such as the local economic situation and tendencies in the labour market (e.g. unemployment and interest in, or need for, career shifts). For the development of the scenarios, work conducted previously in the project for the identification and analysis of user needs has served as the main indicator of the interests and motivation of the various, diverse rural communities across Europe [Deliverables D3.1 *'User needs analysis and user profiles report'* (Hansson et al., 2007) and D3.2 *'Task analysis'* (Pedersen, 2007)] The interconnection of the developed scenarios with the users and their identified and analysed needs is presented further below.

Where need may arise for the selection of a limited number of subjects among several areas of stated interest, the project gives favourable consideration to learning subjects which, on one hand, have a potential for the promotion of innovation, creativity, entrepreneurship, solidarity, community development, as well as the penetration of the Information Society in the rural communities, and, on the other hand, are suitable for distance learning. In this way, the full potential of satellite enabled broadband for innovative lifelong learning activities in rural areas may be better demonstrated to local users, and the relevant benefit may be more clearly recorded and investigated.

Current learning culture

In order to introduce 'a new learning culture' through the design and implementation of the learning scenarios – a central objective for the whole project – it is necessary to find out what the current learning culture of citizens in a rural community is. The learning culture parameters looked into are presented in Table 2.1.

Table 2.1: Implementation parameters

Parameter	Comment
Average educational level of the target group	Including previous formal and informal learning experiences
Exceptional cases of target group members above the average educational level, or with exceptional creativity	These could serve as facilitators/moderators/change agents emerging from within the local group, taking up specific roles assigned to them in the learning scenario
Previous innovative, learner-centred learning experiences	As opposed to traditional education and training; the path to independent, self-directed, inquiry-based, and distance learning may need to be carefully paved
Eagerness to adopt applications in each of the three learning spaces (school, work, home)	Not all three learning spaces may be 'mature' enough to adopt innovative approaches to lifelong learning in a pilot site or country
Readiness for the development of synergies between local stakeholders	The desire of the project to foster synergies across the three learning places through the appropriate scenarios may not be possible in all sites. Where possible, scenarios should make full use of the potential of local leadership and other local entities to act as centres and/or individuals promoting lifelong learning in the whole community

The last point in the above table refers to the role of a local person who will promote and facilitate the change involved in the uptake by the community of the broadband services. Indeed, a crucial 'component' of the current learning culture is the local change agent. The role of such a person in each local community is crucial to the success of the Rural Wings approach. The change agent will be in charge of driving change in the community by first diagnosing and understanding the context and players involved, and then trying to 'convince' them, in a continuous route towards capacity building through ICT, as an integral part of the route to sustainable development (cf. UN World Summit on the Information Society, 2005).

Users' familiarity with ICT

The project aspires to demonstrate to the rural communities, and familiarise them with, the use of a new generation of technologies and applications that can enable people to design, create, and learn in new ways, helping them to become more active participants in their communities. Apparently the current level of familiarity of target users with information and communication technologies is an important parameter influencing the content and level of complexity of the learning scenarios. In particular, the design of the scenarios also incorporates the availability or not of local technical support (cf. applications that may require increased technical support locally, for setup or maintenance of the infrastructure and tools).

Language and other local aspects

The provision of e-content and e-services is typically a highly localised matter, and the field of e-learning is not an exception. Users' linguistic and cultural background are taken into account in the process of decisions regarding which learning scenarios can and should be implemented in each cultural context, given, among other things, the costs of localisation (translation, adaptation, etc.) of content existing in another language, as well as any local sensitivity to certain issues (e.g. due to religion or ethnicity in minority areas).

Building international collaboration

Given the multinational and strongly multicultural nature of the sample of rural sites in which the designed scenarios will be implemented, special attention is paid to a) providing opportunities and motivation for the development of activities and collaboration involving users from as many pilot sites and countries as possible; and b) avoiding the concentration of activities around national nodes, with little or no interaction across the borders.

2.1.2 Beyond the local context: potential and limitations of the available technologies and services

The process of scenario development is the main point where the two driving forces of the Rural Wings project, User Demand and Available Technology, meet. As successful scenarios are perceived those which effectively and efficiently match the needs and potential of the local communities, with the potential offered by the various technologies available, addressing successfully the limitations existing at both sides.

In particular, priority is given to the development of learning scenarios that, on one hand, take advantage of the advanced possibilities offered by broadband connectivity, and, on the other hand, have the flexibility to support smooth realisation of the learning activities even in cases of technical problems (e.g. no internet connection through satellite due to poor weather conditions).

In addition, given the limitations imposed by the definite amount of project resources, the availability of existing methodologies and content within the consortium, which could be adapted to meet the needs in some of the Rural Wings learning contexts, should also be taken into consideration when deciding on the selection of learning scenarios.

2.2 Learning design principles

Building on, but also expanding beyond, relevant work conducted for the analysis of needs (Work Package 3), in the present context a list of pedagogical and organisational principles has been compiled which the scenarios follow and materialise, each one with a special focus and emphasis on certain aspects of learning design that are more relevant to the specific context. The pedagogical and organizational principles followed are presented in Tables 2.2 and 2.3 respectively.

Table 2.2: Pedagogical principles

Principle	Comment
Learner motivation	The learning experience should be relevant to the learner's existing motivation, and encourage the deepening of this motivation
Personalized learning experiences	The individual learner should be presented with content and interaction personally relevant to them. The overall learning design should be adapted to the local context
Challenging learning experiences	Learning should be sought through authentic and meaningful learning activities promoting learner's enjoyment and creative involvement in the learning process
Learner's informed consent	The learner should be informed in advance about the learning activity: its purpose, procedures, activities, equipment, options, conditions, potential benefits and drawbacks
Learner in charge of their learning	Learner's conscious personal investment in the learning effort should be encouraged and facilitated, as well as their stable belief in their personal responsibility and initiative for whatever relates to their own learning
Learner-inventor	Learners should be encouraged and facilitated to use the opportunities and resources on offer to invent their own solutions for their own personal learning needs
Learner-producer	Learners should be encouraged and facilitated to develop gradually into more and more critical and creative users of the opportunities and resources on offer, becoming generators of knowledge and new content rather than remaining consumers of ready-made solutions.
Promotion of lifelong and informal learning	Informal learning should be facilitated even in formal learning contexts, and a culture of 'learning everywhere throughout life' should be promoted
Social learning	Learning through social interaction and collaboration should be encouraged. In online distance education settings, learner's 'social presence' should be supported
Inclusion	Gender-, age- and ethnicity-inclusive approaches should be followed

Table 2.3: Organisational principles

Principle	Comment
User's ICT skills	The learner should be adequately ICT-literate to be able to access and exploit the e-learning resources
User's self-organisation	The learner should be adequately prepared to manage their time and organise their own learning
Addressing resistance to change	Resistance to change is inherent when introducing innovations: new technologies, new ways of working, new ways of learning... Strategies should be incorporated in the design to overcome this resistance
Multidisciplinary learner support	The learning experience should be organised and supported comprehensively and creatively, though multidisciplinary expertise: pedagogical, organisational, technical, administrative. Good organization of the support team is crucial. Team members' roles should be made explicit to the learners.
Efficient learner support	Efficient support on demand, at local and central level, is necessary, providing solutions to arising problems and managing emerging crises
Learner guidance materials	Provision of materials such as a learner guide, outlining for example aim and learning objectives, teaching and learning methods, content and material, type of assessment, technology required, technology skills required, expected study time and study period, support and contact persons for learning instructions, technical issues and administrative issues

2.2.1 Personal empowerment: a core concept

The core educational concept underlying all scenarios is that of personal empowerment. The main subject of empowerment is the individual user. One of the main tools for empowering the individuals is helping them become independent learners.

For an Independent Learner (Or Self-regulated Learner) learning is viewed as an activity that he does for himself in a proactive way rather than as a covert event that happens to him in reaction to teaching. He self-generates thoughts, feelings, and behaviours that are oriented to attaining goals (Zimmerman, 2000). This learner is proactive in his efforts to learn because he's aware of his strengths and limitations and because he's guided by personally set goals and task -related strategies. The independent learner monitors his behaviour in terms of his goals and self-reflects on his increasing effectiveness. This enhances his self-satisfaction and motivation to continue to improve his methods of learning.

In order to become an independent learner, one should develop drive and motivation to learn, i.e., be aware of their interests and care for what they want to know. Lacking this drive would at most nurture a user who can apply technical skills using ICT, but practically will not.

Another prerequisite for becoming an independent learner is the ability to interact with one or more types of groups at various belonging levels:

- Specific limited belonging, e.g. in order to get a specific piece of information or exchange some specific

data.

- Temporary belonging, e.g. a group of students for a specific course.
- Full belonging, e.g. being part of a community of bloggers.

Such belongings help in motivating the learner, and, moreover, in involving them in a dialogue that in turn helps in keeping them updated and regularly examining their own ideas and knowledge.

Personal empowerment can take place by strengthening users on two levels:

1. Social/communal level of empowerment:
 - a. User ability to be involved in social aspects of his/her life.
 - b. User commitment to a social cause.
 - c. User overall care for his/her surroundings.
 - d. User ability to be aware of, raise and maintain his/her own personal voice in the ongoing dialogues of his/her belonging groups.
2. Selfhood level of empowerment:
 - a. Self-awareness:
 - User awareness of his/her action and learning styles.
 - User awareness of his/her capacities
 - User awareness of his/her interests
 - b. Self-regulation:
 - User ability to plan, i.e.:
 - (1) have a sense of reality – orientation,
 - (2) ability define goals in relation to reality,
 - (3) ability to plan HOW to achieve the goals
 - (4) ability to execute the plan.
 - Emotional management (the ways in which people influence their own feelings and expressions).

Interacting at these belonging levels, as well as knowing their interests and what they want to know, the learning individual can become a truly independent learner.

2.3 Scenarios: the meeting point of user needs and available technologies

The development of the scenarios of use stands at a crucial point in the course of the Rural Wings project. This is where the conducted analysis of user needs informs the selection of the broadband services that seem to respond better to the local circumstances of the users, and where the decisions are made about how end users will be involved in extended episodes of use of these services in order to get acquainted with the new possibilities, and, gradually, come to a point of user maturity whereby they will invent their own solutions to cover their own particular needs. In the following sections, the selection of the first demonstration applications is presented, as well as the way in which the corresponding scenarios of use match with the identified user needs. What should be highlighted, however, is that the scenarios presented at this initial stage are only a starting point for the pilot implementation of concrete demonstration cases in the pilot sites. Through the evaluation of the implementation experiences and the user feedback generated in the local focus workshops, the end users will gradually become more and more involved in a process of transforming and probably further localising the scenarios, so that they describe activities that best respond to the various local needs, priorities, and circumstances.

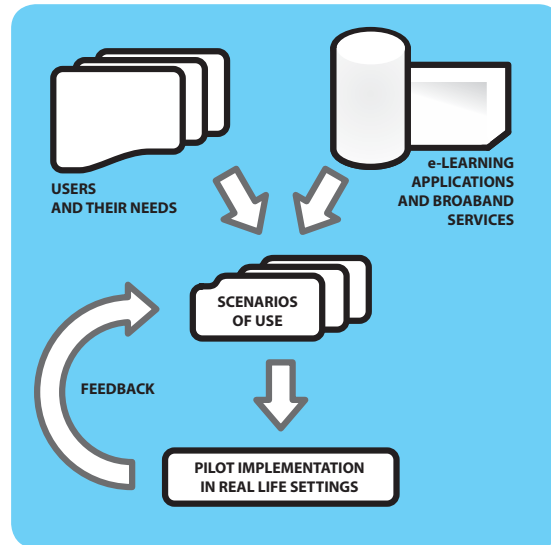


Figure 2.1: *Scenarios of use are the point where broadband services and applications, user needs, and continuous user feedback meet and interact*

2.3.1 The proposed applications

The Rural Wings consortium brings together expertise and past experience in various forms of e-learning, which have been tried in the framework of past projects and proven successful and useful for users in rural and disadvantaged contexts. The corresponding tools and applications constitute an important asset in the overall design of user-centred activities in Rural Wings: by making such tools and applications of proven value and user acceptance available to people in the rural communities, the consortium intends to achieve a first familiarisation of the various user groups with some characteristic possibilities and opportunities available, at various levels of difficulty, user effort demand and prerequisite experience. Based on the first experiences of using such applications and tools, users will gradually discover the various solutions technology can offer to their own problems, becoming more and more independent and creative in the use of ICT. Thus, the applications and tools already available within the Rural Wings consortium per se do not constitute an end; the scenarios are not based on them.

The scenarios developed exploit these readily available good-quality resources to address what users really perceive as relevant learning – or indeed what the consortium knows, based on past experiences, users may perceive as worthy learning experiences when they get to know the technology better. Thus, the existing offer of ICT applications and tools merely provide a means, a first stable step, a starting point demonstrating available options to the users. Of course, in this introductory phase of user-centred activities, the ICT instances that may be of use are not limited to an exclusive list of applications. The tools and applications provided by the consortium members can be combined in complementary ways with other resources freely available, most remarkably over the internet, while recommendations of other known “best of breed” applications that may be used in the context of Rural Wings can easily be integrated into the developed scenarios.

Another aspect of the selection of the proposed applications is that which aims at the demonstration of the use of broadband services for covering the learning needs of rural areas at various levels of bandwidth, from the lower through to the upper limits of broadband. Thus, the applications involved in the scenarios of use range from rather low-demand web portals and web-based services, to bandwidth-consuming video streaming and videoconferencing applications, so that the trials with real users will reflect the various instances on the spec-

trum of bandwidth needs.

The scenarios clearly use the available tools and applications as demonstration cases, and encourage the discovery and integration of other content into the usage schemes by national coordinators and the end-users themselves – in particular in the framework of localisation processes, in which national, regional or local resources are taken on board to address the local needs more closely, transforming the generic scenarios into context-specific learning modules. To mention a most obvious example from the field of formal education, the conception and development of the learning-at-school scenarios foresees that the national coordinator, together with the local coordinators / change agents will adapt the chosen scenarios to reflect the provisions of the national curriculum and exploit any already available relevant content, such as existing national e-learning resources tailored for primary, secondary and higher education. In adult education, a corresponding example of scenario localisation may well relate to cultural differences between learners, or the local peculiarities of the work force and the labour market.

Further, it should also be noted that the scenarios of use do not imply any application-bound cost for the end-user, at least for the duration of the project. After the end of the project, it is expected that users will be technologically literate and mature enough to select which digital applications and services respond to any given local needs, and thus may deserve the investment of paying for using them, or may indeed be replaced by other, freely available user-accepted options.

2.3.2 The connection with the users and their needs

A central driving force in the Rural Wings project is its aspiration to provide users in rural areas with advanced ICT-enabled learning opportunities delivered through satellite DVB-RCS internet access technologies, by engaging genuinely **user-centred** methodological approaches which will secure the **relevance of the various implemented applications with the real needs of the users**. As a direct consequence of this priority, the developed scenarios of use directly refer to the user groups, and are closely linked with the users needs, identified earlier in the course of the project (Deliverable D3.1 *'User needs analysis and user profiles report'*). Though further elaboration of this previous work, the present document is proposing a taxonomy which systematically organises the target rural settings and groups, the needs addressed and the proposed principles followed. Based on this taxonomy, the developed scenarios can be precisely anchored on the wider project perspective. At the same time, this taxonomy may also prove useful for the systematic, meaningful-to-the-user structuring and organisation of the content that will become available to the end users in the Common Access Point developed within Work Package 5 of the Rural Wings project.

The target groups and their settings

In line with the overall conception of the Rural Wings project, as well as in the light of the conducted analysis of user needs, the scenarios bear relevance with various target groups, in various learning contexts (Table 2.4). They address the needs for learning and personal and professional development of a range of users:

- Students
- Teachers
- Farmers
- SME entrepreneurs
- Doctors and health personnel
- Local administrators and public authorities personnel
- Rural citizens active in their private space.

In this way, all the types of rural settings identified in Deliverable D3.1 *'User needs analysis and user profiles*

report’ are covered, namely:

- Communities with an interest expressed by rural schools / educational establishments
- Communities focused on agriculture
- Communities focused on non-agricultural rural entrepreneurship and/or holiday use of the rural area
- Communities with interest in local governance initiatives and innovation
- Remotely located research stations

Table 2.4: Target groups and their settings

	Interest expressed by rural schools / educational establishments	Com-munities focused on agriculture	Communities focused on non-agricultural ru-ral entrepreneurship and/or holiday use	Communities with interest in local governance initiatives and innovation	Remotely located research stations
Students	●	○	○	○	○
Teachers	●	○	○		○
Farmers	○	●	○	○	
Entrepreneurs	○	○	●	○	
Health personel	○	○	○	○	○
Local administrators and public authorities personnel	○	○	○	●	
Rural citizens active in their private space	○	○	○	○	○

● = interest from the user group is expected in this setting
○ = interest from the user group is possible in this setting

The user needs addressed

Special attention has been paid to grounding the selection and orientation of the scenarios on the four basic categories of needs (*‘Education’*, *‘Involvement’*, *‘Business’*, and *‘Communication’*) and the actual needs identified in Work Package 3 (Hansson *et al.*, 2007). These have been further elaborated in the present context to produce a comprehensive, structured list of the detailed needs that the scenarios ought to address, codified into an inventory of rural citizen’s needs for broadband-enabled lifelong learning and development, as presented in Table 2.5.

¹ The ‘types of rural communities’ identified in Deliverable D3.1 ‘User needs analysis and user profiles report’ are re-named here as above, for the sake of clarity.

Table 2.5: Rural citizen's needs for broadband-enabled lifelong learning and development

Learning More and better learning opportunities: Need to support and enhance formal and informal learning in the school, in the workplace, at home – eventually 'learning everywhere'.	Enhanced access to education
	Enhancement of formal learning – access to rich educational resources
	Teacher training provision
	Farmer training provision
	Professionals training provision (health personnel, local administrators)
	Enhanced opportunities for informal learning in a person's private space and time
	Promotion of new knowledge in remote areas - Enhanced activity of remotely located research centres
Governance More and better governance opportunities: Need to support and enhance rural citizens' possibilities for communication with the various levels of government, and for their information about local, regional and national initiatives	Locals' enhanced access to public services and information
	Better local government - Knowledgeable and creative local government personnel
	Citizens' enhanced involvement in local, regional, national initiatives and issues
Economic Growth More and better economic growth opportunities: A need to enhance rural citizens' opportunities for entrepreneurship and economic growth	Promotion of state-of-the-art agricultural practices - Knowledgeable and creative farmers
	Promotion of rural tourism - Knowledgeable and creative local entrepreneurs
	Promotion of innovative rural businesses - Knowledgeable and creative local entrepreneurs
Communication More and better outward communication opportunities: A need to enhance rural citizens' feeling of access to, and communication with, the world beyond their local settings	Communication with others via e-mail, ip phone, video – regionally, nationally, internationally
	Access and use of up-to-date information on the internet
	Opportunities to follow the fast pace of world developments and global change

2.3.3 Rural Wings users: Actors in three interconnected learning spaces

Organising the various possible learning circumstances of the user groups addressed into three major learning contexts, the scenarios distinguish three different, yet strongly interrelated, 'learning spaces':

- learning@school
- learning@work, and
- learning@home.

Obviously, each of the above user groups may find interest in learning activities positioned under more than one learning space. Table 2.6 presents the anticipated spaces in which each group may develop learning activities:

Table 2.6: User groups in the learning spaces			
	learning@school	learning@work	learning@home
Students	●		●
Teachers	●	●	●
Farmers		●	●
SME Entrepreneurs		●	●
Doctors and Health personel		●	●
Local administrators and public au- thorities personnel		●	●
Citizens active in their private space			●

By definition overlaps are expected between the three spaces, and most notably between the home, on the one hand, and the school and workplace settings, on the other hand: apparently, all those active at school or work may well act as learners in the informal learning context of their homes, too. More than this, the interconnection of the three contexts is actively sought in the project and promoted by the scenarios, as to some extent such an integrated approach can guarantee the establishment and proliferation of a lifelong learning culture in the community. It may help individuals realise that learning is not to take place only in that place which each individual has predominately associated with learning activities and experiences. Learning can and ought to be a continuous, lifelong learning process, which cuts across the boundaries of the various contexts in which a person operates in the course of a day – or indeed in the course of their lives.

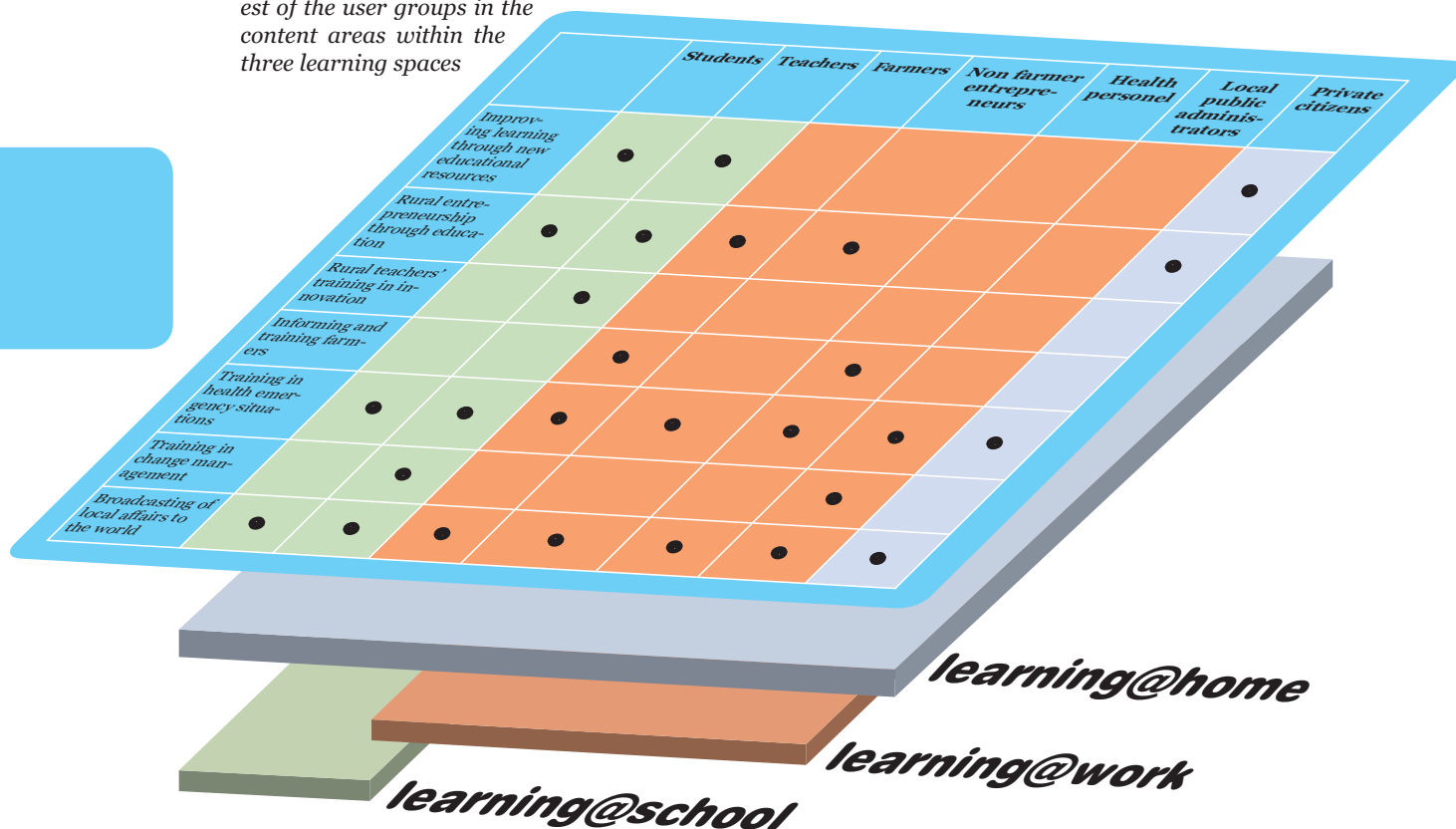
2.3.4 Content areas

As a result of the cross-section of the identified user needs and the various applications readily available, the scenarios could cover a range of areas of knowledge and skill, approaching them from different perspectives. The content areas that could be covered are the following:

- Improving school through new educational resources
- Rural entrepreneurship through education
- Rural teachers’ training in innovation
- Informing and training farmers and agriculturalists
- Training in health emergency situations
- Training in change management
- Broadcasting of local affairs to the world.

The graph in Figure 2.2 presents the possible interest of the various user groups in the above areas, within the context of the three learning spaces.

Figure 2.2: Possible interest of the user groups in the content areas within the three learning spaces



2.3.5 The scenarios developed for the first phase of implementation

Based on the above background analysis, the following scenarios have been developed for the first phase of pilot implementation:

- Entrepreneurship education: A rural e-shop run by students
- Access to education: A virtual music school for rural students
- Students broadcasting local affairs through their own WebTV programme
- Better education: Enriching science learning and scientific activity in remote rural areas
- Rural school teacher training
- On-the-field personalized communication and training services for farmers
- Health emergency training
- Addressing change and innovation competences in rural communities
- Alexander, the local educational leader

- Lisa, the university student
- Martin, the farmer
- Ann, the pensioner
- Elsa, the doctor

The scenarios developed cover all three learning spaces (school, workplace, home). Although several of these scenarios can lead to the realisation of learning activities in more than one learning space, their main relevance to the three learning spaces is represented in Table 2.7.

Table 2.7: Main relevance of the scenarios to the learning spaces

	learning@school	learning@work	learning@home
Entrepreneurship education: A rural e-shop run by students	●		
Access to education: A virtual music school for rural students	●		
Students broadcasting local affairs through their own WebTV programme	●		
Better education: Enriching science learning and scientific activity in remote rural areas	●		
Rural school teacher training	●	●	
Addressing change and innovation competences in rural communities		●	
Health emergency training		●	
On-the-field personalized communication and training services for farmers		●	
Alexander, the local educational leader			●
Lisa, the university student			●
Martin, the farmer			●
Ann, the pensioner			●
Elsa, the doctor			●

The scenarios developed in this first phase of the project have been selected to comprehensively cover all identified rural settings, target groups and user needs. The mapping of the rural settings, of the target groups, and of the user needs with the developed scenarios is depicted in Tables 2.8 and 2.9.

Table 2.8: The rural settings and target groups mainly addressed by the developed scenarios

	Rural students' e-shop	Virtual music school	Students' WebTV	Enriched science education	Teacher training	Farmer training	
Rural school	●	●	●	●	●		
Agriculture-oriented community	●		●			●	
Entrepreneurship-oriented community	●		●				
Interest in local governance			●				
Remote research station			●	●			
Students	●	●	●	●			
Teachers	●	●	●	●	●		
Farmers	●		●			●	
Entrepreneurs	●		●				
Health personnel							
Public administrators			●				
Private citizens	●	●	●	●	●	●	

	Health emergency training	Change and innovation	Alexander, the educational leader	Lisa, the university student	Martin, the farmer	Ann, the pensioner	Elsa, the doctor
	●	●	●			●	●
	●				●	●	●
	●	●				●	●
	●	●	●			●	●
	●			●			●
	●			●			
	●	●	●				
	●				●		
	●						
	●	●					●
	●	●	●				
	●	●	●	●	●	●	●

Table 2.9: The needs addressed by the developed scenarios

	Rural students' e-shop	Virtual music school	Students' WebTV	Enriched science education	Teacher training	Farmer training	
Access to formal education		●		●			
Access to educational resources (formal learning)	●	●	●	●			
Teacher training	●	●	●	●	●		
Farmer training						●	
Professionals and administrators training							
Opportunities for informal learning (in private)	●	●	●	●		●	
Activity of remotely located research centres			●	●			
Locals' access to public services and information			●			●	
Knowledgeable and creative local government personnel			●				
Citizens' involvement in local, regional, national initiatives	●		●			●	
Knowledgeable and creative farmers	●		●			●	
Knowledgeable and creative entrepreneurs (tourism)			●				
Knowledgeable and creative entrepreneurs (innovation)	●		●				
Communication with others (regionally, nationally, internationally)	●	●	●	●	●	●	
Access to and use of up-to-date information on the internet				●	●	●	
Opportunities to follow world developments and global change	●		●				

	Health emergency training	Change and innovation	Alexander, the educa- tional leader	Lisa, the university student	Martin, the farmer	Ann, the pensioner	Elsa, the doctor
	●						●
				●			●
			●				
	●	●					●
	●		●	●	●	●	●
	●						●
					●	●	
	●	●	●				
					●		
		●					
		●					
	●	●	●	●	●	●	●
	●		●	●	●	●	●
		●	●				●

Structure of the scenarios

3

The learning scenarios provide concrete instruction design models for the different ‘learning spaces’, making the rationale, learning goals, learning activities, participants’ roles, and processes to be followed in each case, explicit (Figure 3.1).

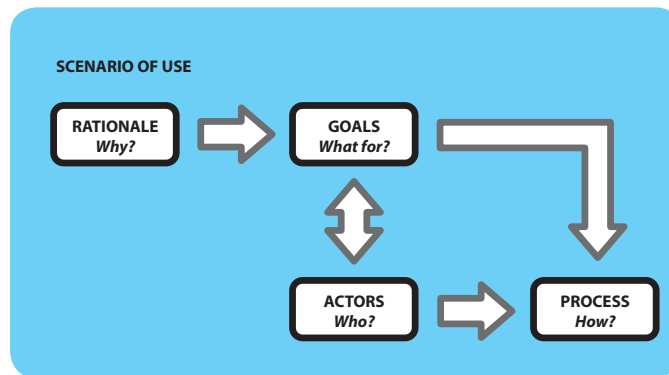


Figure 3.1: The elements of the learning scenarios

To make the multiple functions of a scenario best visible and the scenario easily usable by the various types of its potential users, the following structure of the information included has been devised and used consistently for the presentation of the scenarios developed for the three learning spaces (school, workplace, home):

- **Scenario title:** each scenario is given a clear title, demonstrative of its purpose and content focus.
- **Rationale:** this is a short text briefly describing the context, content, and purpose of the scenario.
- **Space of implementation:** in this field a table presents the learning space (school, work, home) in which the activities described in the scenario are mainly expected to take place, as well as the spaces in which the activities could also, or might possibly take place.
- **Rural settings and user groups addressed:** a table presents the identified rural settings (Rural

school, Agriculture-oriented community, Entrepreneurship-oriented community, Interest in local governance, Remote research station) in which certain user groups (Students, Teachers, Farmers, Entrepreneurs, Health personnel, Administrators, Private citizens) are expected to, or may possibly be, interested in the scenario.

- **Involved actors:** In this section the characteristics (e.g. demographic information, educational background, motivation) of the actors involved in the scenario are presented.
- **Specific goals:** The purpose and intentions of the scenario are presented here in the form of specific goals/objectives.
- **Connection with the identified user needs:** The identified user needs that are addressed by the scenario are selected out of a list.
- **Connections with the curriculum:** The links of the proposed scenario with certain areas of the school curriculum or other formal education curriculum are mentioned here.
- **Types of learning supported:** Out of a list of main pedagogical approaches the most relevant to the approach adopted in the scenario are marked.
- **Temporal mode:** It is marked if the scenario foresees time-independent activities, e.g. asynchronous interaction with others, or time-dependent activities, e.g. synchronous interaction with others, or both.
- **Prerequisite competence:** This field describes the knowledge and skills that the involved actors may need to possess in order to participate in the activities effectively.
- **Applications involved:** This field describes technological solutions identified that can be used for the implementation of the scenarios
- **Narrative description:** This is main part of the scenario, in which the activities proposed are described in detail.
- **Evaluation parameters:** This field provides information about the parameters of the proposed implementation that should be particularly focused upon in the evaluation.
- **Relevant resources:** Additional information or resources about

This systematic structuring of the scenarios serves as a common framework for the anchoring and practical presentation of all scenarios to all stakeholders, allowing at the same time for internal differences which may exist between the various scenarios due to the very different contexts they may refer to. At the same time, this organisation of the information may also prove useful for the systematic, meaningful-to-the-user structuring and organisation of the content that will become available to the end users in the Common Access Point developed within Work Package 5 of the Rural Wings project, as a realisation of these scenarios.

The learning@school scenarios of use

4

4.1 Introduction to the learning@school scenarios

The learning@school scenarios aim to demonstrate the ample possibilities offered to rural teachers and students in various levels of education for good-quality, innovative learning and teaching activities through the exploitation of the satellite broadband connection. As is true for all scenarios of use developed in the project, the learning@school scenarios are only indicative of a much wider range of possible broadband-enabled educational activities. Their role is to familiarize users in schools with a new culture of exploiting new technologies and the fast internet in order to achieve better access to, or enhanced quality of, education, so that they gradually move from the demonstrators described here to more autonomous, user-generated applications that will emerge through experience, reflection, and exploration of the vast educational resources of the internet. To facilitate this gradual approach, each of the learning@school scenarios is assigned a level of difficulty which largely reflects the previous experience that may be required from the user.

The choice of content knowledge and skills associated with the developed scenarios has been done on the basis of two principles: a) introduce teachers and students to tested and proven innovative educational applications known to the project consortium, so that the first experience is gained by the users in a 'safe' technological environment of controlled quality; and b) give priority to areas and intervention that are known to be of high European relevance, and priorities themselves of the European Union.

The first scenario presented demonstrates a way in which the rural school can work together with the surrounding local community to teach students, as well as local citizens, modern entrepreneurial skills incorporating the use of the internet, a necessary tool for regeneration and local development in disadvantaged rural areas. Then, the possibilities are demonstrated for access to educational provision that might have even been impossible in remote areas so far, through the example of a rural virtual music school. The need for amplifying and empowering the communication channels between rural Europe and the rest of the world is covered by a scenario demonstrating how students can broadcast local affairs and their own views, aspirations and concerns through their own WebTV programme – again involving the local community in their learning and creation activities. Finally, the example of science education is used to show how teaching and learning in a whole curriculum area can be enhanced through various applications, at various levels of difficulty, each one contributing to good quality state-of-the-art rural education in a different way.



Entrepreneurship education: A rural e-shop run by students



Level of
difficulty



Rationale

School students, guided by their teacher and in close collaboration with the local farmers and entrepreneurs, use simple web-based e-shop resources to promote and sell products of their area, buy products of other areas, and monitor the progress of their business.

Involved actors

- Teachers in primary or secondary schools who wish to teach entrepreneurship skills (including various literacy, numeracy and communication skills), in an innovative and stimulating way, applying a cross-curricular approach and community-based learning.
- Students in the upper grades (age 11-12 students) of primary school, or in secondary school, who need to acquire the relevant knowledge and skills, and who are interested in developing innovative activities in the school and in collaboration with the surrounding community.
- Farmers and entrepreneurs who wish to get acquainted with the possibilities offered for the promotion and sale of their products over the internet.



Specific goals

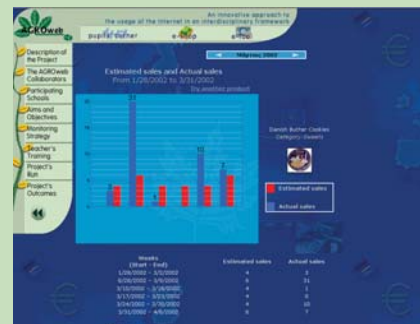
- To bring closer together school education and real world experiences, transferring the reality of modern economy practices into the classroom.
- To demonstrate how rural citizens can cooperate towards a common aim (e.g. to develop the local economy), and how this effort can be supported through the creation of horizontal links between the school and the local community.

Connections with the curriculum

Teaching of entrepreneurship education, mathematics, writing, and ICT in various combinations in a cross-curricular fashion, depending on the exact curriculum level (from the upper grades of primary school to secondary and higher education).

Prerequisite competence

- Teacher's and students' basic ICT skills
- Student's standard literacy and numeracy skills for these levels



Applications involved

The Agroweb e-shop web-based platform, available at www.ea.gr/ep/agroweb

Narrative description

The school teacher gets informed by the National Coordinator and/or the local change agent about the possibilities offered for promotion and commercial activity over the internet, and is presented with the AgroWeb application. This is essentially an children-safe and children-friendly e-shop designed to serve as a tool for students, a distributed learning environment facilitating the learning process. Beyond supporting the self-evident functions of product promotion, product description, ordering, and transactions, the AgroWeb e-shop also includes facilities for the production of graphical representations of the sales of a product to allow students to compare actual and anticipated performances and, generally, tools corresponding to those used for the monitoring of the financial activity of a real shop. It also supports the development of communication and collaboration links between young people not only locally (i.e. within the classroom, the school and the local community), but importantly also between different communities and cultures. Students collaborate with each other and with the local community (through their teacher, parents and relatives) in order to decide which local products to promote. After selecting the products, they collect and organize information about each of them. They are asked to provide the product description, following a predefined scheme, or indeed by proposing changes or additions to that scheme. The description includes information about: a) the category in which the product or produce belongs (e.g. Cheese, Sweets, Honey, Soft drinks, Olives, Olive oil, Ham, Soap, Vegetables, Beer, Wine, ...); b) the name of the product or produce; c) the indicative price; d) the shipping/package weight; e) a short product description; and f) the product image, or other visual information available. As soon as the product information is uploaded in the e-shop, students continue with its promotion in the virtual market: They design and develop promotion campaigns for their products using ICT, communicating with other groups in other communities in their own or other countries. They also monitor the performance of the product in the market, and readjust their selling strategy when necessary. In parallel, they act as buyers of the products promoted by other groups of students. It is possible that parents react sceptically towards the involvement of students in commercial transactions. It should be noted and made clear to all involved parts that it is possible to operate the e-shop without real money transactions, for educational purposes only. However, it is a fully functional, secure e-commerce application, which could be used at the same time by the local adult population for real sales of their produce and products.

Implications for evaluation

Evaluation should focus on how this innovative initiative is perceived by the teacher, the students, and by key persons in the local adult community (parents, farmers, entrepreneurs) at the outset, and after it is fully implemented. User input for possible improvements both in the application, the use of the satellite broadband link, and the educational approach should be particularly sought.

Relevant resources

The Agroweb Handbook, available at www.ea.gr/ep/agroweb/htmls/books/Handbook.pdf



Entrepreneurship education: A rural e-shop run by students

Space of implementation

	Mainly	Partly	Possibly
Learning at school	●		
Learning at work			●
Learning at home		●	

Rural settings and user groups addressed

	Rural school	Agriculture oriented community	Entrepreneurship oriented community	Interest in local governance	Remote research station
Students	●	●	●		
Teachers	●	●	●		
Farmers		●			
Entrepreneurs			●		
Health personnel					
Administrators					
Private citizens		●	●		

- = Expected interest in this scenario
- = Possible interest in this scenario

Identified user needs addressed

Learning - More and better learning opportunities	Access to education	
	Access to educational resources (formal learning)	●
	Teacher training (formal learning)	●
	Farmer training (formal learning)	
	Professionals and administrators training (formal learning)	
	Opportunities for informal learning (in private)	●
	Activity of remotely located research centres	
Governance - More and better governance opportunities	Locals' access to public services and information	
	Knowledgeable and creative local government personnel	
	Citizens' involvement in local, regional, national initiatives	●
Economic growth - More and better growth opportunities	Knowledgeable and creative farmers	●
	Knowledgeable and creative entrepreneurs (tourism)	
	Knowledgeable and creative entrepreneurs (other innovation)	●
Communication - More and better outward communication	Communication with others (regionally, nationally, internation.)	●
	Access to and use of up-to-date information on the internet	
	Opportunities to follow world developments and global change	●



Types of learning supported

Individual learning	
Collaborative learning	●
Learning by doing	●
Exploratory learning	
Community-based learning	●
Multidisciplinary learning	●
Teacher-led learning	●
Self-paced learning	

Temporal mode

Asynchronous interaction / time-independent activity	●
Synchronous interaction / time-dependent activity	●

Access to education: A virtual music school for rural students



level of
difficulty



Rationale

Students in remote rural areas with no or little chance so far to receive good quality music education, get access to a series of new options for technology-enhanced music learning:

- Independent music learning and self-practicing
- Asynchronous distance music education
- Learning music synchronously in a classroom.

Involved actors

- Teachers in primary or secondary schools who wish to introduce innovative, student motivating ways of teaching a series of cross-curricular skills and knowledge, bringing school learning in contact with entertainment, the contemporary media culture, and the local community surrounding the school.
- Students in the upper grades (age 11-12) of primary school, or in secondary school, who need to acquire the relevant knowledge and skills, and who are interested in developing innovative activities in the school and in collaboration with the surrounding community.
- Local actors, e.g. farmers, entrepreneurs, local community authorities, who wish to get acquainted with the possibilities offered by new technologies for the promotion the area and of local people's views and needs over the internet.



Specific goals

- To provide people living in remote rural communities with opportunities to learn music effectively, using new technologies, in the first place, to get access to music teaching resources, and, further, to gain better quality music learning experiences through their contact with contemporary, stimulating music learning approaches.
- To help music teachers and music education providers get access, and offer good quality music learning experiences, to remote rural people who have had little, if any, possibilities so far to participate in music classes.

Connections with the curriculum

Teaching of music, and in particular of the instruments recorder, clarinet, flute, and saxophone, in various institutional circumstances; possible connections with other curriculum areas such as IT through the application of cross-curricular teaching approaches.

Prerequisite competence

- Basic ICT skills
- Basic score reading and other corresponding content-related skills

Applications involved

- the VEMUS (Virtual European Music School) system, available at www.vemus.org

Narrative description

Music is a universal language, something everybody understands and enjoys. It is thus one of the things that bind together people from different places, backgrounds and cultures. Nowadays, everyone, including music students and teachers, is getting increasingly familiar with new technologies, and the opportunity to use the internet for the provision of music education is gaining supporters, in particular among remotely situated potential learners. This scenario describes how the satellite broadband networks of Rural Wings foster equal opportunities for access to good quality music education.

A music teacher, teaching recorder, clarinet, flute, or saxophone in a remote rural area, is presented with the possibilities offered by the VEMUS music learning environment. This integrates e-learning components to augment music teaching in different learning settings: it supports activities in music classrooms, as well as self-study in the lab or at home, while teachers and students are encouraged to participate in the building of a learning community. It should be noted that the music teacher could also be based in an urban centre, regularly travelling to villages to teach, or receiving students in his classes who travel for their music education. In this case the teacher would use the technology to minimise the need for his physical presence in the musical education of his remote rural students.

There are three different options available to the remote rural teachers and students of music, which can be used in any combinations. These options are presented below.

Independent music learning and self-practicing

Beginner students of music are provided with a complement to conventional music teaching, in the form of an ICT application assisting them when practicing at home or in the lab, thus making practising sessions much more informative, constructive and enjoyable.

The teaching and learning activities supported include:

- Evaluating student's performance
- Detecting errors
- Prioritizing and selecting information to display to the student
- Showing information to the student in the appropriate form
- Grading the student's performance.



Asynchronous distance music education



Groups of remote music students and teachers are supported and involved in common activities asynchronously. Users, who may be at music school or in remote settings, are provided with access to content, content authoring tools, and collaboration opportunities.

Even students and classes from different countries can be brought together and collaborate. They may select and exchange popular songs from their countries, learn how to play the songs helped by their teachers and the software, and periodically go online to follow each other's progress.

Users may make use of the following features on the web:

- an open content repository
- authoring tools augmenting the content repository
- asynchronous communication tools
- tools allowing remote coaching of students and monitoring of their progress through time.

For example, remotely located students can be supported by:

- Studying the same song separately
- Practicing at their own time and pace, communicating with each other regularly
- Uploading a new performance to a shared workplace, every time a student makes progress
- Downloading and importing the performance of someone else into their own environment, playing on top of it, using it as accompanying music
- Providing feedback to their peers.

Learning music synchronously in a classroom

Music teaching in group settings may be enhanced through ICT providing aids supporting the teacher and tools supporting collaborative learning.

In this synchronous technology-enhanced music learning experience:

- Students share a common workspace and a common view of the music score.
- The teacher adds annotations on the score, which automatically appear on all students' screens.

- While a student performs, the teacher and the other students can see his/her performance and related information (e.g. visualizations, page turning) on their screens.
- The system evaluates the performance and the teacher uses graphical elements to explain “hard-to-learn” points.
- The performance and all materials produced are automatically stored and made accessible to students for further reference.



Implications for evaluation

Evaluation should focus on how these innovative music teaching approaches are perceived by the teacher and the students, as well as by other people in the local community (e.g. parents) at the outset, and after they are fully implemented. User input for possible improvements both in the application, the use of the satellite broadband link, and the educational approach should be particularly sought.

Relevant resources

The VEMUS manuals



Access to education: A virtual music school for rural students

Space of implementation

	Mainly	Partly	Possibly
Learning at school	●		
Learning at work			
Learning at home		●	

Rural settings and user groups addressed

	Rural school	Agriculture oriented community	Entrepreneurship oriented community	Interest in local governance	Remote research station
Students	●	●	●	●	●
Teachers	●	●	●	●	●
Farmers					
Entrepreneurs					
Health personel					
Administrators					
Private citizens	●	●	●	●	●

- = Expected interest in this scenario
- = Possible interest in this scenario

Identified user needs addressed

Learning - More and better learning opportunities	Access to education	●
	Access to educational resources (formal learning)	●
	Teacher training (formal learning)	●
	Farmer training (formal learning)	
	Professionals and administrators training (formal learning)	
	Opportunities for informal learning (in private)	●
	Activity of remotely located research centres	
Governance - More and better governance opportunities	Locals' access to public services and information	
	Knowledgeable and creative local government personnel	
	Citizens' involvement in local, regional, national initiatives	
Economic growth - More and better growth opportunities	Knowledgeable and creative farmers	
	Knowledgeable and creative entrepreneurs (tourism)	
	Knowledgeable and creative entrepreneurs (other innovation)	
Communication - More and better outward communication	Communication with others (regionally, nationally, international.)	●
	Access to and use of up-to-date information on the internet	
	Opportunities to follow world developments and global change	



Types of learning supported

Individual learning	●
Collaborative learning	●
Learning by doing	●
Exploratory learning	
Community-based learning	
Multidisciplinary learning	
Teacher-led learning	●
Self-paced learning	●
Blending informal and formal learning	

Temporal mode

Asynchronous interaction / time-independent activity	●
Synchronous interaction / time-dependent activity	●

Students broadcasting local affairs through their own WebTV programme



level of difficulty



Rationale

Students collaborate to present to the public films created by them, promoting aspects of school life, everyday life, the cultural heritage, and current activities and events taking place in their rural communities

Involved actors

- Teachers in primary or secondary schools who wish to introduce innovative, student motivating ways of teaching a series of cross-curricular skills and knowledge, bringing school learning in contact with entertainment, the contemporary media culture, and the local community surrounding the school.
- Students in the upper grades (age 11-12) of primary school, or in secondary school, who need to acquire the relevant knowledge and skills, and who are interested in developing innovative activities in the school and in collaboration with the surrounding community.
- Local actors, e.g. farmers, entrepreneurs, local community authorities, who wish to get acquainted with the possibilities offered by new technologies for the promotion the area and of local people's views and needs over the internet.



Specific goals

- To give to remote rural students, teachers, and citizens channels of communication with the world, and in particular ways of reminding urban centres about the existence, needs and creative powers of rural populations.
- To bring closer together school education and real world experiences such as the contemporary media, transferring the production of audiovisual content into the classroom, and exploiting entertainment for educational purposes.
- To demonstrate how rural citizens can cooperate towards a common aim such as the promotion of the local area and its assets, and how this effort can be supported through the creation of horizontal links between the school and the local community.

Connections with the curriculum

Teaching of content knowledge in various curriculum subjects, such IT and media, native language, English, com-



munication, arts, etc., through integrated cross-curricular approaches.

Prerequisite competence

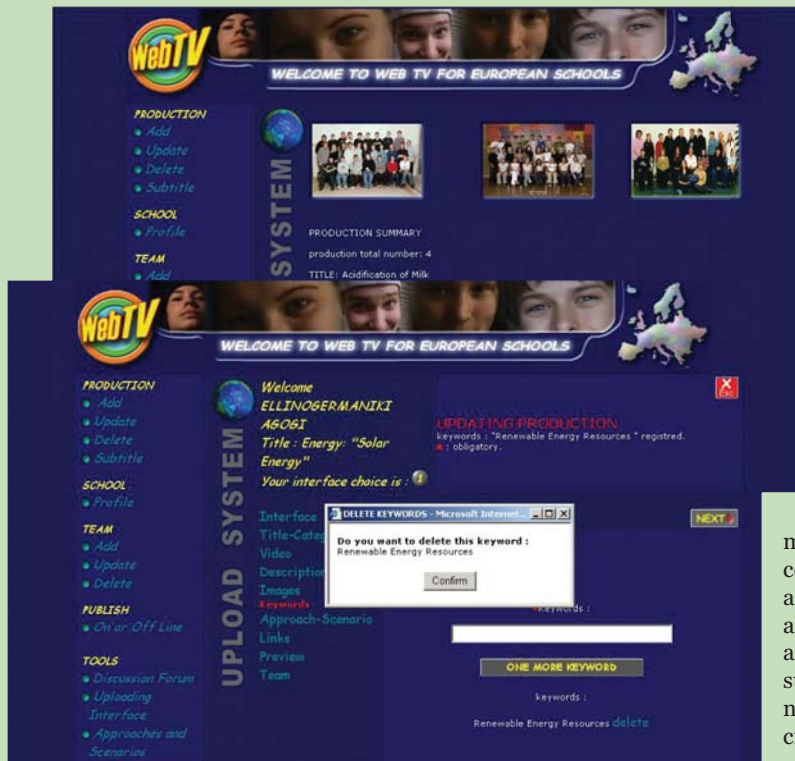
- Basic ICT and media production skills
- Any relevant content knowledge necessary for the handling of the production theme by the students

Applications involved

- The WebTV platform, available at www.dbc-stream.com/video

Narrative description

The rural teacher is introduced into the possibilities offered by the new technologies for professional-level. Using the possibilities offered by new technologies for the easy creation, editing, and publication of rich audiovisual materials, students in rural schools, supported by their teachers and in collaboration with various interested local actors, produce their own films and make them public through a WebTV channel dedicated to the Rural Wings communities. In this way they construct themselves a channel for communicating their messages to the world, while also learning in various fields of knowledge in pleasant and motivating ways that combine education with entertainment.



Before the actual publication of the student generated films, a lot of pedagogical work takes place in and around the school. The whole approach emphasises collaboration between peers taking over specific roles in a well-managed production team, so that the resulting product can be of good quality, and, even more importantly, be a 'voice' spoken to the world representing all students. In addition, this collaborative effort constitutes an excellent tool for the realisation and deepening of collaborative learning activities in the classroom. Collaboration can be extended to include collaborative production projects involving more than one school, in more than one country. In this way, this activity acts as a stimulus for intercultural dialogue and as the starting point for discussions and exchange of ideas about issues such as culture, Europe, local, regional national and European identity. A special emphasis should be in place on stu-





students' freedom to express themselves and their equal opportunities within the group to actively participate in the design and implementation of the audiovisual production project.

As a first step, students select the theme of the production. This could be any aspect of their lives: their school life, everyday life in their rural community, the cultural heritage of their place, tourist attractions, current activities and events. Teacher guides the students to include in their design decisions all those elements that will make the student production attractive and at the same time educational both for its creators and audience. At this stage, the teacher can decide if the project of producing the audiovisual content will be embedded

in the school curriculum (e.g. a production bound with a specific curriculum subject), or the framework will be broader and less prescribed in terms of curricular areas covered.

Next, students write the scenario, incorporating into it all the relevant material they manage to collect, including texts, pictures, sound and video clips from the internet, encyclopaedias, etc. The teacher offers guidance for proper and effective use of language and communication techniques in the scenario writing process. When the scenario is available, it is realised into a film (digital video) shot by the students. Roles are distributed, the scenes are

prepared and eventually shot. Students then edit the digital audiovisual content using ICT tools. After the montage, they add music –which could even be composed by them – and subtitles in English, so that the final product can reach audiences outside their linguistic community. In this whole process, the students participating in the production of the film learn how to examine systematically a subject and present it effectively to others by making use of the many communicative tools the contemporary audiovisual

media offer.

When the audiovisual material is ready, students use online uploading tools, in which user-friendly interfaces allow them to automatically publish their multimedia content in a dedicated database



and, through them, to the world. To do this, students get authorised access to the WebTV web environment constituting the multimedia channel through which the remote rural communities and their members publish, through different technical options and facilities, audio- and audiovisual programs. The uploading interface provides students and teacher with help and guidance in all stages of preparation and uploading of the content. Data verification and optimization of the content takes place, to ensure that the presentation is clear and the quality will be as good as possible. When the content takes the final format, it is stored automatically in the database, carrying specific information for each item, such as date of creation, subject, duration of program, nationality, language, profile information about the creators, etc.

Users of the World Wide Web can then retrieve the audiovisual content of their choice by formulating relevant requests in a website. Next to each entry, they can find information about the production, its content, the creators and their contact details, etc.

As the production of stand-alone clips and films progresses and the student teams become more familiar with the task and more effective, the accumulating content and experience can lead into the broadcasting of a full WebTV channel, including even live broadcasts, with a programme reflecting the remote rural communities and their problems, activities, and aspirations, responding to rural students' and citizens' needs for education, information, communication and entertainment. In this progressive process, the school teams will get more and more involved in projects shared with other actors in the local communities, such as the local government, farmers, and entrepreneurs wishing to present and promote the area and its assets to the world.

Implications for evaluation

Evaluation should focus on how these innovative learning-through-entertainment activities are perceived by the teacher and the students, as well as by other people in the local community (e.g. parents, local actors who can provide themes and/or content for the films) at the outset, and after they are fully implemented. User input for possible improvements both in the application, the use of the satellite broadband link, and the educational approach should be particularly sought.

Relevant resources

- The WebTV Implementation Guide and Guide of Good Practice, available at www.ea.gr/ep/webtv/out.html
- The WebTV teacher training materials, available at www.ea.gr/ep/webtv/tt.html.



Students broadcasting local affairs through their own WebTV programme

Space of implementation

	Mainly	Partly	Possibly
Learning at school	●		
Learning at work			
Learning at home			●

Rural settings and user groups addressed

	Rural school	Agriculture oriented community	Entrepreneurship oriented community	Interest in local governance	Remote research station
Students	●	○	○	○	○
Teachers	●	○	○	○	○
Farmers	○	○	○	○	○
Entrepreneurs	○	○	○	○	○
Health personnel	○	○	○	○	○
Administrators	○	○	○	○	○
Private citizens	○	○	○	○	○

● = Expected interest in this scenario

○ = Possible interest in this scenario

Identified user needs addressed

Learning - More and better learning opportunities	Access to education	
	Access to educational resources (formal learning)	●
	Teacher training (formal learning)	●
	Farmer training (formal learning)	
	Professionals and administrators training (formal learning)	
	Opportunities for informal learning (in private)	●
	Activity of remotely located research centres	●
Governance - More and better governance opportunities	Locals' access to public services and information	
	Knowledgeable and creative local government personnel	●
	Citizens' involvement in local, regional, national initiatives	●
Economic growth - More and better growth opportunities	Knowledgeable and creative farmers	●
	Knowledgeable and creative entrepreneurs (tourism)	●
	Knowledgeable and creative entrepreneurs (other innovation)	●
Communication - More and better outward communication	Communication with others (regionally, nationally, international.)	●
	Access to and use of up-to-date information on the internet	
	Opportunities to follow world developments and global change	●



Types of learning supported

Individual learning	●
Collaborative learning	●
Learning by doing	●
Exploratory learning	
Community-based learning	
Multidisciplinary learning	
Teacher-led learning	●
Self-paced learning	●
Blending informal and formal learning	

Temporal mode

Asynchronous interaction / time-independent activity	●
Synchronous interaction / time-dependent activity	●

Better education: Enriching science learning and scientific activity in remote rural areas



Rationale

This is a modular scenario presenting various possibilities for the enhancement of science education offered in rural schools, through the use of various contemporary innovative resources. The scenario presents five options gradually, starting from the more straightforward and less demanding, and moving step by step to the more demanding ones. The five activities described include:

- Teachers' access to innovative science teaching ideas and resources
- Hands-on collaborative meteorological measurements and comparisons by primary students
- Remote scientific observations of the sky by secondary and adult learners
- Experiments in a remote lab by secondary and adult learners
- Virtual science museum/centre visits by primary or secondary students.

Involved actors

- Teachers in primary, secondary, or higher education, who wish to enhance their rural students' science learning experiences through their contact with authentic scientific research and advanced science learning settings, applying innovative, student stimulating, and cross-curricular approaches in their teaching.
- Students in primary, secondary, or higher schools, who need to become scientific literate by acquiring the relevant scientific knowledge and skills through motivating, "hands-on" and practical activities without having to move from their remote rural setting.
- Citizens in the remote local community who have a personal or professional interest in science learning or scientific research (e.g. amateur astronomers, parents wishing to promote their children's scientific literacy, remotely located researchers, etc.).



Specific goals

- To bring closer together science education as realised in the disadvantaged remote rural learning environments, with contemporary, stimulating science learning approaches and practical possibilities, counterbalancing any existing drawbacks due to lacking infrastructure or contact with the scientifically aware urban worlds.
- To help students and other rural citizens know more about science, its methodologies and contributions to human development, and develop a positive stance towards it by getting involved in scientific activity.

- To provide remotely located scientists, both professionals and amateurs, with easy and safe access to scientific research resources (e.g. labs, equipment).

Connections with the curriculum

Teaching of science at the various levels of the curriculum, in connection with other curriculum areas such as mathematics, history, geography or astronomy, through the application of various cross-curricular teaching approaches.

Prerequisite competence

- Teacher's and students' basic ICT skills
- The corresponding content knowledge and skills.

Applications involved

- The web portal Xplora, the European gateway to science education available at www.xplora.org
- The YouRA children's tool for meteorological data recording and comparisons, available at <http://www2.ellinogermaniki.gr/ep/youra/ecom/>
- The UNITE online collaborative classroom environment available at <http://www.unite-ist.org/>.
- The D-Space web-based service, available at www.discoveryspace.net
- The ExperiNet platform for remote access to science lab resources and experiments, available at www.science-on-line.com
- The CONNECT virtual science thematic park, available at www.ea.gr/ep/connect/

Narrative description

The teacher gets informed by the National Coordinator and/or the local change agent about the various possibilities offered for access to state-of-the-art science learning resources and the introduction of advanced, innovative and stimulating practical science learning activities in their classes. Depending on her previous experiences and level of expertise, the level of education (primary, secondary, higher), and the specific local educational circumstances, the teacher is encouraged to get acquainted with, and try the following activities, which are presented in a proposed (but not strict) order of difficulty:

- Getting access to innovative science teaching ideas and resources (for primary or secondary education)
- Hands-on collaborative meteorological measurements and comparisons (mainly for primary education)
- Remote scientific observations of the sky (mainly for secondary or higher education)
- Experiments in a remote science lab (mainly for secondary or higher education)
- Virtual science museum/centre visits (mainly for primary or secondary education).

It is very likely that the activities foreseen above for secondary or higher education may be of interest to local adult lifelong-learners outside the formal education system, such as remotely located researchers, amateur astronomers, or citizens with a general personal interest in science.

Getting access to innovative science teaching ideas and resources

level of
difficulty



Using the satellite broadband connection, the rural teacher gets access to European science education portal called Xplora, a web environment aiming to become the reference for innovative science teaching in Europe. Exploring the various contents of the portal, she may find particular interest in the Permanent European Resource Centre for Informal Learning (PENCIL). There she finds thought-provoking ideas and materials for effectively integrating informal science activities into the teaching of science at



school. In PENCIL, fourteen science centres/museums are creating mini-networks involving schools, pupils, teacher associations, research laboratories, educational authorities, education and science communication specialists to run “pilot projects” on new ways to conduct science teaching. The options for the rural teacher are several. On the one hand, she can explore the various projects in which school teams are active, and examine the possibility to involve her rural school too. On the other hand, the rural teacher can make use of the “Resource Centre”, in which she can browse outputs of state-of-the art educational research and best practices in the fields of science communication and informal science learning in formal education. The rural teacher realises that this

centre is a resource she can consult with confidence, as the outcomes included there are assessed and monitored collaboratively by universities and Ministries of Education, which through this aim to identify the criteria of innovation and quality that should become the standards for setting up future science teaching efforts. What is more, in order to fight the feeling of remoteness and loneliness, the rural teacher decides to use the opportunity offered by PENCIL and the Xplora portal for exchange and communication between science teachers across Europe, becoming an active member of an international community of colleagues in science teaching.

Hands-on collaborative meteorological measurements and comparisons

This option aims to practically involve primary school students in scientific activity which corresponds to their own physical experiences and their current level of knowledge and understanding, while providing opportunities to the teacher to use this as a basis for introducing further scientific and mathematical concepts. The activity is realised in two interconnected environments: the physical environment of the students, and the YouRA tool, a web-based environment specifically designed to support this activity in children-friendly, pedagogically sound ways.

level of difficulty



In their physical environment and under the guidance of their teacher, students construct simple measurement instruments and devices for the recording of meteorological data such as temperature, wind direction and speed, sunshine duration, rainfall, by using simple everyday materials. They then use these instruments to record their local meteorological data on a daily basis, applying an agreed methodology (e.g. exact location for the measurement, time of the day, etc). If necessary, of course, existing scientific instruments from the science lab of the school and devices can also be used – although the construction of the instruments by the students is known to greatly improve their levels of involvement, motivation, and understanding.

Students then move to the online environment of the YouRA tool. This is a children-friendly graphical environment, where the use of language (English) is minimal and communication with the system is realised predominantly through icons, sketches, maps, diagrams, etc. There, they choose their country on the map of Europe, and then their school (which has

been added to the system by the administrators). Selecting the current date, they enter the meteorological data they have collected, by using intuitive graphical interfaces. Apart from data entry, the tool also offers interfaces in which students can see the recorded data, compare the entries and thus observe the development of the meteorological conditions in their local settings, as well as, importantly, compare their local weather with the weather recorded by other schools participating in this activity in the same or other countries. What is more, they can use the available graphical tools to explore, step-by-step, the notion of graphical representations in mathematics and science.

Around the YouRA tool, in the physical environment of the classroom, teachers can generate discussions and collaborative student projects on the occasion of YouRA entries and representations. For example, teachers can help students realise the development and 'travelling' of the meteorological phenomena, and discuss with them the nature and significance of climate across the various regions. Even discussions with young students about climate change can be generated and supported by the experience of gathering and comparing meteorological data, as well as discussion for the use of mathematics in science.



level of difficulty



What is most interesting in the case of remote rural schools, teachers and students can also be involved in collaborative activities together with other participating schools, either from their country or other countries, on topics ranging from the collection and handling of the meteorological data, to issues of a wider scope and interest, such as local geographies and the environment. This collaboration can be realised through generic communication tools, such as email and videoconferencing, or specifically designed educational online environments facilitating collaborative learning between school students, such as the UNITE platform. In this online collaborative classroom, students can exchange views and materials through their computers or even their mobile phones and devices, use motivating resources such as a quiz-authoring tool, and generally work together towards commonly agreed goals synchronously and asynchronously.

Remote scientific observations of the sky

level of difficulty



The sky is a vast and unique laboratory of science, always in operation, accessible at all times to everybody from everywhere, in which all sorts of interesting physical phenomena take place – most of which is impossible to reproduce in any scientific laboratory. At the same time, broadband internet connectivity allows access to, and sharing of, less commonly available research and learning tools, services and resources, which may be found in science parks and research centres.

In this activity, remote rural schools, as well as any interested citizen, gain access to a network of robotic telescopes around the world through the virtual science thematic park deployed over the internet by the D-Space service. Students, teachers, and other individuals (e.g. amateur astronomers) in remote rural areas are offered the possibility to use the remotely controlled robotic telescopes to perform their wished observations of the sky, gaining thus access to unique learning resources. Informal education through sky observations gives in this way rural students and teachers an opportunity to transcend the boundaries of the traditional classroom to move towards a “feel and interact” user experience and towards learning “anytime, anywhere”. At the same time, this activity can be a response to the challenge of “science for all” i.e., providing science education opportunities tailored to diverse and heterogeneous populations of future citizens.

Two ways of observing the sky are offered in the D-Space service:

- Advanced and experienced users can remotely operate a telescope in real time.
- All other users can submit their requests, which will be scheduled for the oncoming nights.

Typically, rural teachers, students and citizens are expected to fall into the latter category, and use the function of request submission. They do this in four steps:

- Selecting a telescope: First the user chooses the robotic telescope for the observation. The system provides information about the availability of the specific telescope. In case the selected telescope is not available the system provides alternative options.
- Selecting an astronomical object: The user selects the astronomical object to observe, taking into account all the conditions described in the relevant form and the sky map of the selected telescope.
- Checking the weather: The user checks the weather forecast for the telescope location.





•Filling in the details of, and submitting the request: The user fills in the details (date, filters, duration, etc), and submits the request, making use of the available extensive help when necessary. The user receives a confirmation via email including the code number of their photo. Using this, they will be able to see the requested image(s) in the Library of the DSpace service.

If experienced advanced users live in a remote rural site, they are offered the possibility to make a special registration with the service, which will allow them to operate a telescope in real time, by giving the coordinates of the object they wish to shoot. The telescope will then start moving to fulfil their request.

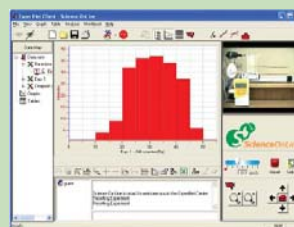
Experiments in a remote lab

Many small rural schools suffer from a lack of modern science lab resources, which constitutes a serious drawback for the provision of hands-on science learning experiences to the rural students. At the same time, there are certain experiments that cannot be performed even in those schools which have a state-of-the-art science lab in place, due to hazardous nature of the materials or processes involved.



The activity described here involves the use of the ExperiNet platform so that remotely located science students and teachers get access through the internet to a fully equipped, completely automated science laboratory to control it remotely and perform real scientific experiments safely while surfing the web. The possibilities offered in this safe environment for conducting complex scientific experiments are many, as the online laboratory is set up to perform experiments covering fields including Physics, Chemistry, Biology, Earth Sciences, Mechanics and Electricity. Possible experiments include radioactive radiation; magnetic field of a high current wire; laser diffraction; capacitors breaking voltage; microwave radiation; controlling micro-climates in a greenhouse; monitoring close habitats (e.g. aquariums); controlling AC/DC engines; solid state exploration (e.g. material strength).

Using downloaded software and the satellite broadband connection, students and teachers directly operate real equipment throughout the experiment. While doing so, they will receive live video, audio, and measurements data from the experiment scene to their PC. Using the control window, they control the experiment, the data logger parameters and the webcam angle and viewing range. They make use of graphic manipulations including markers, zoom, and graph attributes, and use friendly software for analyzing, calculating, storing and sharing their results. The teacher controls and gives instructions via chat with the students, and students collaborate by chatting and sharing data. They create multimedia lab reports including data and video files, while they can also print hard copies with data and results.



This possibility opens up new ways to the rural teacher and students: they can now perform experiments even with hazardous chemicals and radioactive materials, and students can even do “Lab homework” on their home computers. There is also the possibility for collaborative projects between different remote schools, thus taking advantage of the

global nature of the Internet to enhance science classes. In this case, students from different schools connect to the same station to perform live experiments together, acting in a collaborative research environment. Using a chat enabled environment, students can transfer control of the experiment to another group.

As the experiments are performed by the remote users in real time, they use the remote scheduler to register to perform their experiment.

Virtually visiting science museums and science centres

level of difficulty

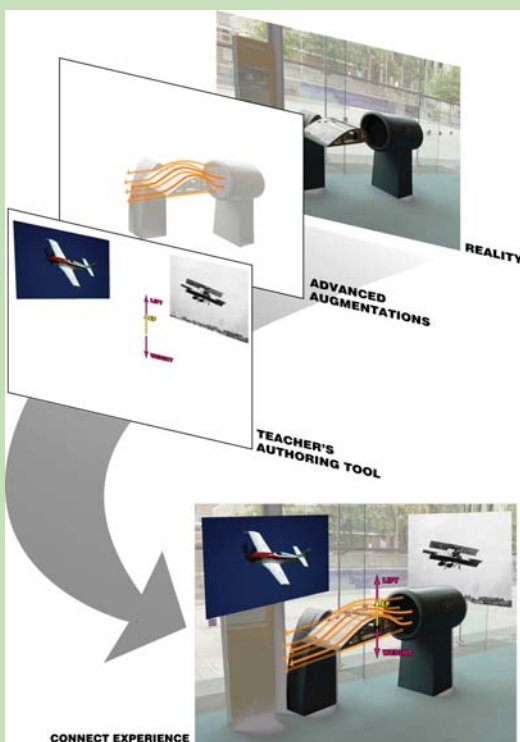


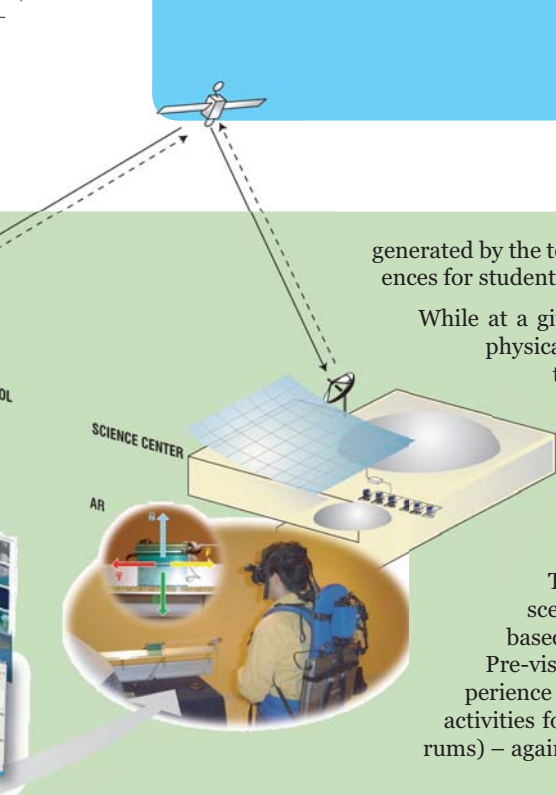
New technologies can facilitate the integration of informal learning experiences within the formal school curriculum, forming new hybrid classrooms, in which teachers build on the strengths of formal and informal strategies. Through the use of such technologies, learning and teaching can crosscut the boundaries between schools and places such as museums, galleries, and science thematic parks, involving students and teachers in extended episodes of playful learning. Such an approach takes advantage of the fact that students enjoy visits to museums tremendously, and

that the resulting increased interest and enjoyment of on-site activities constitute extremely valuable learning outcomes that persist over time.

The activity described here builds on the possibilities offered by the CONNECT virtual science thematic park system for the participation of remotely located students in a pleasant and motivating science learning experience through a virtual visit to a science museum or centre.

Students able to access a science centre or thematic park physically (e.g. students in an urban centre) use wearable systems and Augmented Reality (AR) tools which visually enhance the exhibits presenting the various physical phenomena or scientific concepts, with the help of virtual objects projected onto the real exhibit setting. In this way “invisible” parameters in physical phenomena (e.g. forces, fields, waves) can be visualised and presented in front of the eyes of the students. Other possibilities include haptic feedback, animating parts of static exhibits by animating parts, etc, all of which can be selected and





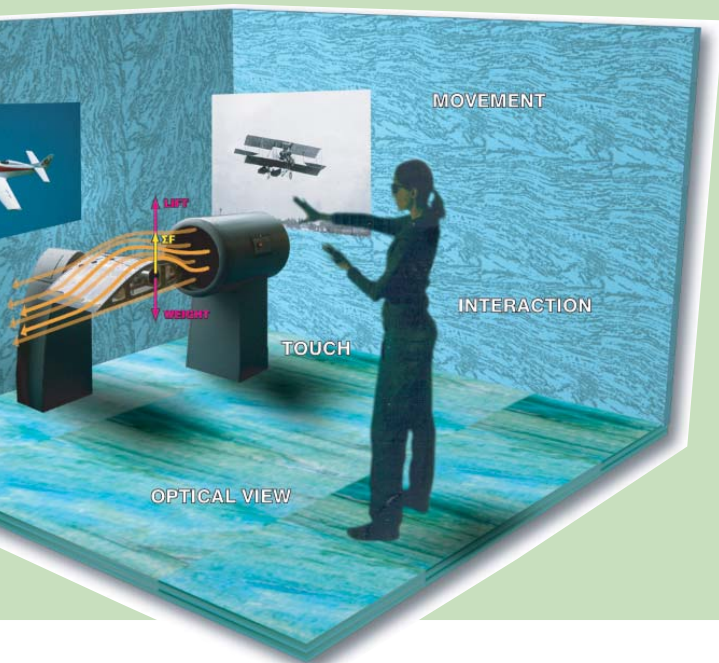
generated by the teacher to produce to desired enhanced interactive hands-on experiences for students.

While at a given time someone (even a trained member of the museum staff) physically performs the visit, the AR event is transmitted over the internet to the remote rural students and teachers. They watch the exhibits mixed on their screens with the 3-D visual objects and representations produced by the system and embedded into this augmented world through the visitor's glasses. While observing the interaction with the real and augmented world, they can also communicate with the physical visitor of the museum or centre to provide specific requests or directions.

The remote rural teacher may either use one of the many existing scenarios, or remotely author a scenario for the visit using online web-based tools to create and position in space the additional AR features. Pre-visit activities in the classroom are integrated with the virtual visit experience that will follow, while after the virtual visit, post-visit pedagogical activities follow, making use of various available facilities (e.g. discussion forums) – again integrated in the whole learning experience by the teacher.

Implications for evaluation

Evaluation should focus on how these innovative science teaching approaches are perceived by the teacher and the students, as well as by other people in the local adult community (e.g. parents) at the outset, and after they are fully implemented. User input for possible improvements both in the application, the use of the satellite broadband link, and the educational ap-



proach should be particularly sought.

Relevant resources

- The YouRA handbook available at www.ea.gr/ep/youura/FINAL.zip
- The Quick Guide to Pedagogy in UNITE available at www.unite-ist.org/portals/o/publications/QuickGuideToUNITE_wp4-v2.pdf
- The D-Space scenarios of use, training materials and library of images, available at www.discoveryospace.net/index.asp?Cat_ID=567
- The ExperiNet software available at www.science-on-line.com/download.html
- The CONNECT Implementation Guide and Guide of Good Practice available at www.ea.gr/ep/connect/main.asp?Cat_ID=401



Better education: Enriching science learning and scientific activity in remote rural areas

Space of implementation

	Mainly	Partly	Possibly
Learning at school	●		
Learning at work		●	
Learning at home			●

Rural settings and user groups addressed

	Rural school	Agriculture oriented community	Entrepreneurship oriented community	Interest in local governance	Remote research station
Students	●				●
Teachers	●				●
Farmers					
Entrepreneurs					
Health personel					
Administrators					
Private citizens	●	●	●	●	●

- = Expected interest in this scenario
- = Possible interest in this scenario

Identified user needs addressed

Learning - More and better learning opportunities	Access to education	●
	Access to educational resources (formal learning)	●
	Teacher training (formal learning)	●
	Farmer training (formal learning)	
	Professionals and administrators training (formal learning)	
	Opportunities for informal learning (in private)	●
	Activity of remotely located research centres	●
Governance - More and better governance opportunities	Locals' access to public services and information	
	Knowledgeable and creative local government personnel	
	Citizens' involvement in local, regional, national initiatives	
Economic growth - More and better growth opportunities	Knowledgeable and creative farmers	
	Knowledgeable and creative entrepreneurs (tourism)	
	Knowledgeable and creative entrepreneurs (other innovation)	
Communication - More and better outward communication	Communication with others (regionally, nationally, international.)	●
	Access to and use of up-to-date information on the internet	●
	Opportunities to follow world developments and global change	

Types of learning supported

Individual learning	●
Collaborative learning	●
Learning by doing	●
Exploratory learning	●
Community-based learning	
Multidisciplinary learning	●
Teacher-led learning	●
Self-paced learning	●
Blending informal and formal learning	●

Temporal mode

Asynchronous interaction / time-independent activity	●
Synchronous interaction / time-dependent activity	●



The learning@work scenarios of use

5

5.1 Introduction to the learning@work scenarios

The purpose of the Rural Wings scenarios for learning@work is to demonstrate a variety of possibilities offered to the workforce of rural areas for professional competence development and lifelong learning through the use of innovative, broadband-enabled learning activities in the context of their workplace and beyond.

The first scenario refers to the new opportunities for teachers working in remote rural schools, for their participation in structured distance in-service training activities, for networking with other teachers in similar circumstances, and more generally for following current developments in the world of education despite their geographical isolation. The second scenario turns to the very crucial user group of remotely located farmers. It is demonstrated how they can use mobile and wireless networking technologies integrated with the local satellite broadband terminal to get informed and trained by agricultural scientists and the corresponding farmer support services, anytime and anywhere, and most notably while working on the field. The third scenario describes ways of addressing the need for good-quality, effective health emergency training in remote rural areas with the help of technology. It involves both local health professionals, as well as other workforce and ordinary citizens assigned the task to act as ‘first responders’ in cases of emergency their communities. Further, there is considerable work which has been done for the demonstration to rural professionals of possibilities to use the new technology in order to respond to the ever increasing need nowadays for change and innovation competences in the workplace and in the community. As a matter of fact, the Rural Wings approach itself, which underlines change as a central concept in the chain of reactions expected – or wished – to take place in the rural communities after the introduction of satellite broadband, is of particular relevance to the learning procedures proposed, which are presented in Annex 1. These may well be of use in contexts much broader than the rural workplaces addressed.

The learning@work scenarios presented here are mere demonstrators. Familiarizing users in the rural workplaces with a new culture of exploiting broadband to achieve better professional competency and access to lifelong learning, these scenarios will hopefully act as the forerunners of more and different user-generated applications that will gradually emerge through experience and experimentation.



5.1.1 The learning@work principles

The key characteristics of the learning@work approach have their roots in both previous work within the Rural Wings project (Work Package 3) as well as extensive exchanges with partners from the Swedish Trade Council (STC), a public-private Swedish organization aimed at supporting Small-Medium size Enterprises (SMEs) mostly located in rural Sweden. The insights collected in interviews with STC members reflect more than one decade of attempts to support people operating in SMEs with knowledge, training, insights, and other service to enable them to develop and sustain high levels of professional quality without having to leave their original workplaces (to move to larger towns).

Emphasis on Collaborative Learning and Peers Networks.

Experiences with advanced approaches to computer-supported competence development for knowledge workers and professional indicate the importance and need to integrate learning processes in **social networks**. Accordingly, the target learners are first introduced to and then stimulated to interact and learn collaboratively within a Network of Peers.

This is particularly relevant for knowledge workers and other professionals operating in rural or isolated contexts, where regular exchanges with peers are less frequent and difficult.

Emphasis on Efficiency and Actionability

Furthermore, competence development among busy knowledge worker and professionals needs to be perceived as highly efficient, in terms of time allocated to access and benefit from the proposed competence development activities. Sustainable intrinsic motivation to continuously engage in competence development can also be expected only if the competences, skills and insights gained are directly related to the learners activities and therefore actionable (in terms of supporting their adoption in the specific context in which the learners operate).

Emphasis on Highly Engaging Learning Processes

Traditional classroom lectures or corresponding e-Learning packages are unlikely to generate enough attention, interest and intrinsic motivation in the knowledge workers and professionals addressed in this part of the Rural Wings project. The pedagogical approach selected needs therefore to be particularly engaging, making learners face relevant challenges enabling them to apply/test their current competences and at the same time discover domains in which competences need to be developed further in order to achieve higher performance on the job.

Key Criteria for learning@work

In synthesis, the following first set of Key Criteria have been selected to characterize ideal forms of learning@work:

- Collaborative – Linking individuals to their peer networks
- Efficient and actionable
- Highly engaging

The validity of these Key Criteria is confirmed not only by their match with the audience targeted by the Rural Wings project, but also by recent approaches to competence development deployed in a number of large European organizations such as IKEA, the FIAT Group, or Nokia. In all 3 highly distributed organizations, large groups of knowledge workers are provided with competences development opportunities which a combination of intensive/efficient and highly engaging learning experiences (e.g. game-based Learning-by-Doing) which

is directly linked to their activities (e.g. simulation of realistic situations in which learners can both assess their competences in a risk-free environment and acquire actionable skills), and which is followed up by an integration of knowledge workers in Peers networks supporting continuous Knowledge Exchange (best/worst practice discussion and benchmarking), Collaboration (stimulus to join forces to address challenges of mutual interest), and Networking (stimulus to build up gradually a network of peers with specific expertise to be called-up on demand).

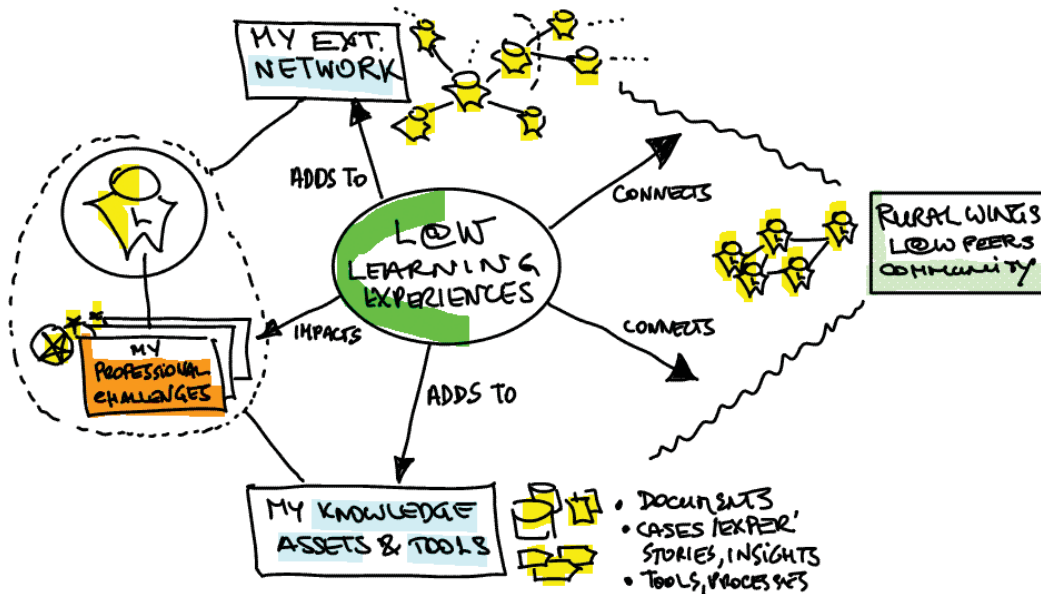


Figure 5.1: The learning@work experiences as a way of adding to an individual's competence and knowledge exchange network development, impacting its capability to address professional challenges and connecting individual learners to their relevant peers collaborative learning community.

5.1.2 Designing effective learning@work: 2-stage model

Whatever the Specific Subject Addressed, from a pedagogical perspective, learning experiences with characteristics like the ones described in the previous section require to first engage and expose the target learners with an approach to competence development they might not be familiar with, as based on:

- learning-by-doing supported by simulations and similar experiential approaches,
- strong emphasis on teamwork, and
- knowledge exchange and sustainable collaborative learning and action together with remote peers.

Taking also the efficiency dimension (limited time availability) into consideration, it is therefore advisable to structure the implementation of learning@work deployment scenarios into 2 stages:

• *Stage 1: Initiation through intensive, engaging learning experience*

(→ Challenge, Transfer of Actionable Knowledge Assets, Motivation and Shared Context for Network Entry)

• *Stage 2: Sustainable collaborative learning in peers networks*

(→ Continuous Knowledge Exchange and Collaborative Learning, Joint Initiatives and Networking)

Stage 1 consists in providing target individuals (operating in small teams of 3 to 5 members from the very beginning – in order to emphasize the collaborative learning dimension) with a progressive path helping them to link the Specific Subject Addressed to:

- (1) Their current competences and experiences related to the Specific Subject Addressed (me, my competences, my network)
- (2) Their current challenges and the need/value associated with competence development addressing the Specific Subject Addressed (relevance related to current challenges/projects faced by the participants)

Once the relevance has been clearly addressed, a first collaborative learning experience should start (with a duration which does not exceeds 1 day – ideally even less time, but sufficient enough to make a lasting impression) and provide to the group a first successful (relevant, actionable) experience of collaborative learning related to the Specific Subject Addressed - see in the next section a concrete example of how interactive simulation games can be effectively used to achieve this objective.

In this first step it is advisable to use a mix of different approaches, i.e. combine short lectures, discussion of case studies, and (ideally) experiential learning tools like simulations or role-playing I as these approach supports “knowledge pull” rather than traditional “knowledge pull” (which is not particularly successful particularly with adult learners).

Stage 1 can be considered successfully completed when a number of criteria are fulfilled. In fact, in order to be able to move successfully to Stage 2, the following minimal conditions need to be met:

- a number of key competences related to the Specific Subject Addressed have been successfully transferred in a way that participants can assess as sufficiently “actionable”, i.e. relevant enough to help them better address their professional challenges (outcome-related conditions)
- the knowledge transfer process has taken place in a way which was “engaging” enough to generate intrinsic motivation for extending /continuing the learning process beyond this initial Step 1 (process-related conditions)
- the knowledge transfer process has provided (a.o.) a common framework and shared context (e.g. the simulated challenge) including a sufficient amount of language/terms, concepts, models, tools, examples and reference points to provide a common basis to address productively the Specific Subject Addressed with any other individual or group which would have gone through a similar learning experience
- although at a different place or time (follow-up-related conditions)

The ultimate evidence that these 3 conditions are met occurs when (1) participants use straight away the concepts/ models/ tools / insights gained in Stage 1 to introduce change and innovation in their practice, (2) are eager to involve/ advise others to go through the same or similar learning experience, and (3) are willing and look forward to extend the learning on a longer term (engaging into Steps activities), and in particular in Stage 2 of Rural Wings Learning Experiences, getting gradually involved in Continuous Knowledge Exchange and Collaborative Learning, Joint Initiatives and Networking, as illustrated in the RCCM deployment scenario related to change and innovation management competences of municipality and community representatives in rural areas, presented in Annex 1.

Rural school teacher training



Rationale

Teachers working in remote rural schools are provided with opportunities for their participation in structured distance training activities, as well as with opportunities for networking with other teachers in similar circumstances

Involved actors

- Teachers working in remote rural schools, who suffer the consequences of isolation and insufficient in-service training provision, but wish to improve themselves as professionals and make a difference for the development of the small rural school and its surrounding community.



Specific goals

- To provide teachers working in remote rural schools with opportunities to participate in in-service training and follow current developments in the world of teaching and education, despite their geographical isolation.
- To give to these teachers opportunities and tools for their communication with the world beyond their isolated local settings, and their networking, exchange and sharing with other teachers who work in similar or equivalent circumstances.

Connections with the curriculum

Depending on the content of teacher training, one or more areas of the school curriculum may be directly addressed. Overall, the education provided in the remote rural school is connected with the realisation activities as those described in this scenario.

Prerequisite competence

- Basic ICT skills



ZEUS

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Satellite Network of Rural Schools

Comments, remarks or questions to: admin@ellinogermanki.gr

The ZEUS project is partially funded by the General Secretariat for Research And Technology of the Greek Ministry of Development, within the Concerted Programme e-Learning of Measure 3.3 of the Operational Programme Information Society (Community Support Framework 2000-2006).

Applications involved

- Teacher e-training online environments, such as the ZEUS web-based environment available at www.dias.ea.gr
- The NEMED web portal available at www.nemed-network.org

Narrative description

The new technologies, including the satellite broadband connections in rural areas, can offer a variety of solutions to the challenges of providing appropriate professional development support to teachers working in remote schools and alleviating their isolation. This scenario demonstrates two different ways in which remote rural teachers can learn as individuals and learn from each other, in realization of a true lifelong learning culture. The first activity refers to rural educators' participation in structured e-training activities, while the second highlights the possibility for their involvement in networking activities with other rural teachers.

Structured e-training activities for rural teachers

Teachers are introduced by the organization providing the training into the possibilities offered by the web-based distance learning environment used for the realization of the training. This may differ from country to country, depending on local circumstances, previous work, and availability, but in any case it corresponds to the following principles: it facilitates synchronous and asynchronous training realised through several technologies affording the delivery of broadband educational content:

- Synchronously: videoconferencing, application sharing, chatting
- Asynchronously: web-based learning through structured and individualized access to a rich pool of educational content, forums and other asynchronous communication tools.

In addition, teachers from all participating countries are given access to a common online area, in which they can communicate through forums and chats in English, so as to broaden their views on the challenges and opportunities for rural education through their exposure to information and peer experiences from other countries.

As far as the training content is concerned, a specialized in-service training programme for teachers working in small rural schools is offered covering the following thematic areas:

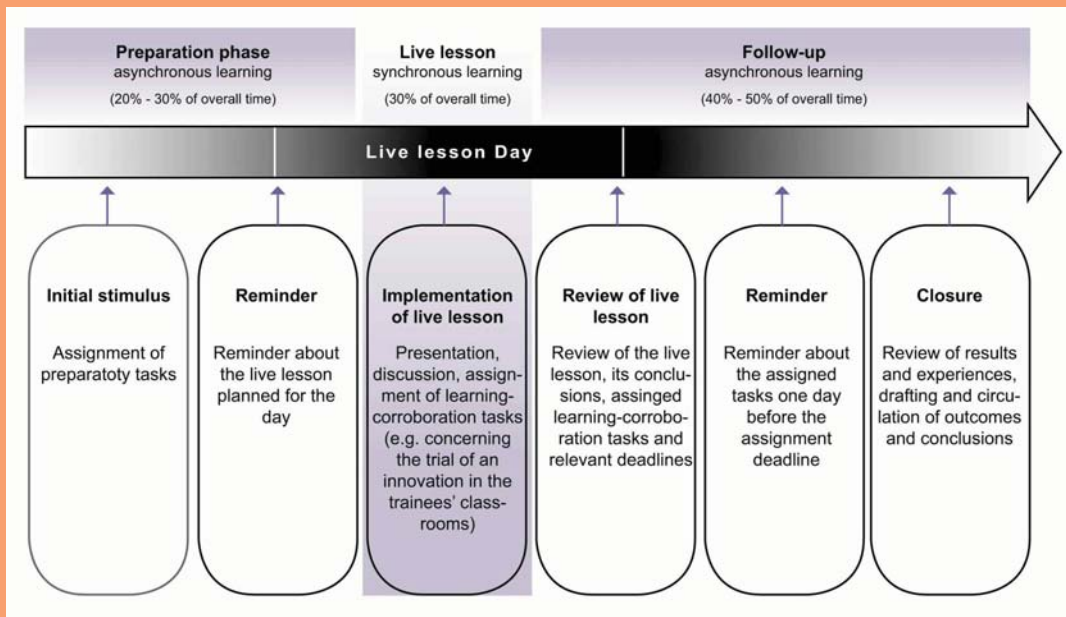
- Innovative teaching and learning approaches that are well-suited to the small rural school environment
- Use of ICT in the school, both for teaching/learning and administrative purposes
- Teacher initiatives and activities that may foster the development of lively learning communities both in the remote schools and the rural communities hosting them, promoting also the creation of horizontal links between the school and the local community.

More generally, through this training teachers of rural areas are encouraged to evolve into catalysts of change, not only within their schools, but more widely within their local communities, by familiarizing all citizens with the new technologies and reducing their resistance to the use of state-of-the-art opportunities for local development. They are encouraged and supported to invent ways for supporting lifelong learning activities in the school, at work, as well as at home in their particular learning context.

The training programme is organized in such a way, that it can cover diverse needs catering for both flexibility and tutor guidance, both interaction with others and self-paced learning. To this end, the following comprehensive model of training delivery is followed:



In this model, the central event for each lesson is a live videoconferencing session, thus covering the need of

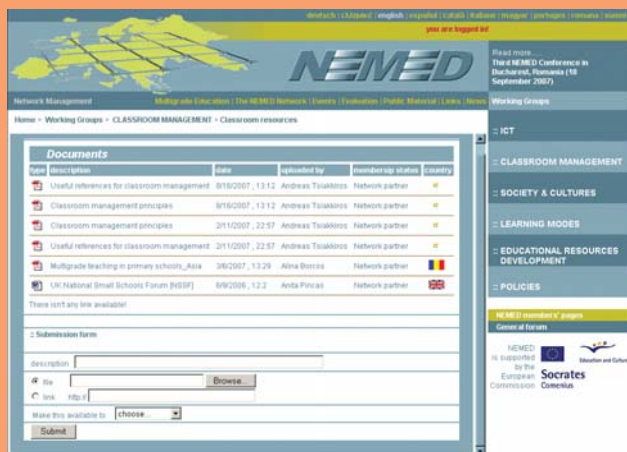


isolated teachers for communication and real-time interaction with colleagues and instructors. On average, this synchronous e-learning portion of a lesson takes up about 30% of the overall lesson duration.

However, both before and after the live session there is learning activity taking place independently in the working environment of the teacher trainee. Through the use of web-based instruction techniques, course participants are offered on-the-job training opportunities through tasks and materials that allow them to work at their own pace, interact with the instructor and other practitioners as needed, and receive individual feedback as they apply new practices in their classroom settings. For each lesson, there is introductory information on the topic covered and preparatory activities, the outcome of which are then reported by participants in the web environment and during the live session, as well as post-session consolidation and conclusion activities.

Teacher participation in a network for rural educators

Rural teachers become registered members of the European Network of Multigrade Education (NEMED), by accessing and filling in the simple registration page available at the web portal of the Network. This is an online space in which educationists and school practitioners from across Europe exchange information, views and content related to multigrade schools – i.e. those small rural schools with one teacher simultaneously teaching more than one school grades in the same classroom, which are common in many remote rural areas in Europe. There they can find not only information about policies and research on multigrade education, but importantly also materials for use in multigrade settings, ideas contributed by other teachers, opportunities to propose their own invented solutions for the problems of the small rural school, and more generally ample space for the development of communication and networking with other teachers, from around the world, who teach in similar educational settings. For all these, the teachers will make use of the various functions offered by the NEMED web portal. This portal fosters and enhances the functioning of NEMED as a lifelong learning network for Europe's multigrade teachers, being a networking web space facilitating communication and exchange,



sharing of information and conducting of research, as well as provision of professional development and support opportunities to multigrade school teachers. On the whole, in the NEMED portal the remote rural teacher will find a lively virtual space of structured exchange between network partners, participating teachers and schools, as well as any other users interested in multigrade education. The teachers may also find interest in participating in the work of the NEMED focus groups, which look into the various aspects of multigrade education. The groups work independently, but periodically also exchange ideas, opinions and outcomes, so as to make the best use of available knowledge and research evidence. There are six working groups, each one focusing on one of the following topics:

- ICT for multigrade schools
- Classroom management in multigrade schools
- Society, cultures, and the multigrade school
- Learning modes in the multigrade classroom
- Educational resources development for the multigrade school
- Policies for multigrade education.

The portal is divided in six identically structured areas, which correspond to the six working groups of the network. In a working group area, the rural teachers access work relating to research, classroom resources, and teacher training materials, as well as participating themselves in ongoing work by uploading their own contributions. Users may also view and download the different Reports of this working group to the whole NEMED Network, while there is also a dedicated area to facilitate communication and exchanges within the group in the form of asynchronous forums.

Implications for evaluation

Evaluation should focus on how these professional development activities are perceived by the participating teachers, as well as possibly by other people in the local community (e.g. teachers' students, parents, local educational leaders) at the outset, and after they are fully implemented. User input for possible improvements both in the application, the use of the satellite broadband link, and the educational approach should be particularly sought.



Rural school teacher training

Space of implementation

	Mainly	Partly	Possibly
Learning at school	●		
Learning at work	●		
Learning at home			●

Rural settings and user groups addressed

	Rural school	Agriculture oriented community	Entrepreneurship oriented community	Interest in local governance	Remote research station
Students					
Teachers	●	●	●	●	●
Farmers					
Entrepreneurs					
Health personel					
Administrators					
Private citizens					

- = Expected interest in this scenario
- = Possible interest in this scenario



Identified user needs addressed

Learning - More and better learning opportunities	Access to education	
	Access to educational resources (formal learning)	
	Teacher training (formal learning)	●
	Farmer training (formal learning)	
	Professionals and administrators training (formal learning)	
	Opportunities for informal learning (in private)	
	Activity of remotely located research centres	
Governance - More and better governance opportunities	Locals' access to public services and information	
	Knowledgeable and creative local government personnel	
	Citizens' involvement in local, regional, national initiatives	
Economic growth - More and better growth opportunities	Knowledgeable and creative farmers	
	Knowledgeable and creative entrepreneurs (tourism)	
	Knowledgeable and creative entrepreneurs (other innovation)	
Communication - More and better outward communication	Communication with others (regionally, nationally, international.)	●
	Access to and use of up-to-date information on the internet	●
	Opportunities to follow world developments and global change	

Types of learning supported

Individual learning	●
Collaborative learning	●
Learning by doing	●
Exploratory learning	●
Community-based learning	
Multidisciplinary learning	
Teacher-led learning	●
Self-paced learning	●
Blending informal and formal learning	

Temporal mode

Asynchronous interaction / time-independent activity	●
Synchronous interaction / time-dependent activity	●



On-the-field personalized communication and education services for farmers

Rationale

Remote rural farmers use mobile and wireless networking technologies integrated with the satellite broadband channel to get informed and trained by agricultural scientists and the corresponding farmer support services.

Involved actors

- Farmers with a need to be in immediate touch with agricultural scientists who can support them, as well as a need to be informed in time about developments that may affect their produce or work.
- Agricultural scientists, and the farmer support services for which they may work, requiring a better, more immediate and effective channel of communication and interaction with the farmers in remote rural areas.



Specific goals

- To provide efficient agricultural communication services anytime and anywhere in the remote rural area.
- To provide an on-line personalized communication link between the agriculturalists and the farmers.
- To provide on-situ educational services to farmers and/or agriculturalists.

Connections with the curriculum

This activity may have no connection with any formal education curricula, with the possible exception of farmers' attendance in e-seminars linked to a formal farmer training programme.

Prerequisite competence

- Basic ICT skills, specifically in the use of mobile devices for internet access

Applications involved

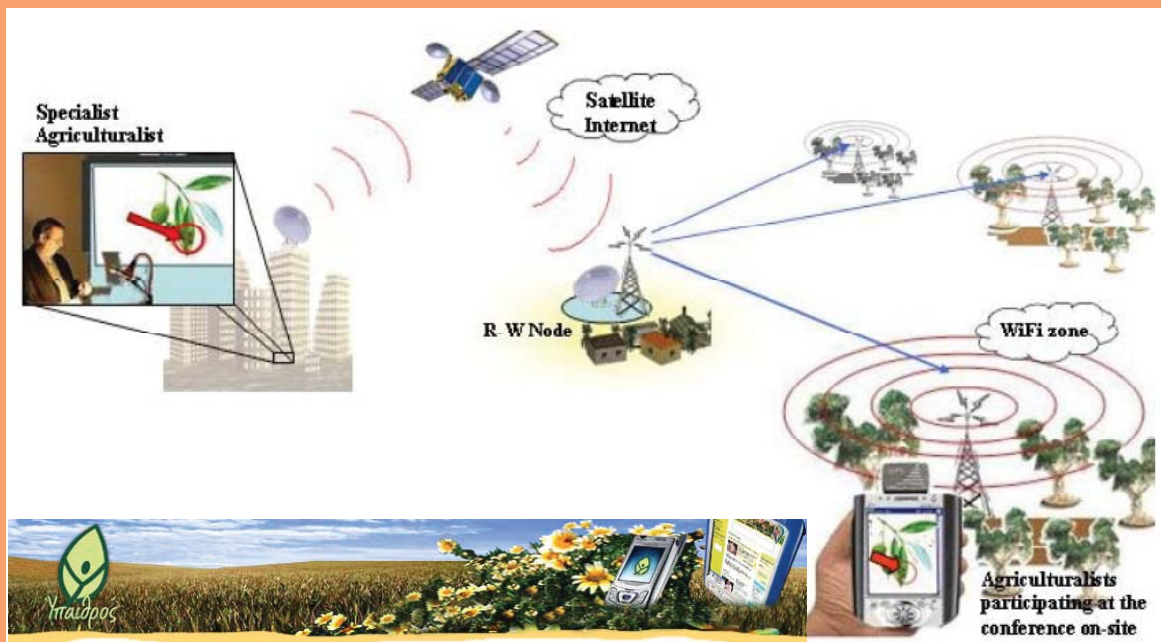
- AgroTeleDiagnosis, a wireless mobile services communications platform for the agricultural sector, available at www.ypaithros.gr



Narrative description

Making use of the wireless local network provided by the Rural Wings project in combination with state of the art mobile and portable devices (such as PDAs, Tablet PCs, digital video cameras etc), local farmers exploit the facilities offered by the innovative Agro-TeleDiagnosis service, getting access to it from their homes or from their farms, and in this way exchanging and receiving information or training by agriculturalists or other experts.

More specifically, remote farmers use their WiFi enabled mobile devices (e.g. PDAs) to get instant online access to useful information through a specifically designed website, accessing the service over the local wireless network provided by the Rural Wings Learning Hub. They have the possibility to raise issues and questions to agriculturalists on the spot, transmit digital photos of infected plants in real-time, and wait for immediate diagnostic feedback from an expert. This communication can also be asynchronous, whereby the farmer asks questions to agriculturalists or other farmers and uploads high resolution pictures of affected leaves, etc.; the question remains avail-





able on the AgroTeleDiagnosis platform and each member of the community can reply giving his/her own contribution. This user-generated content forms part of a greater structure of useful agricultural content available through the platform, including DB servers with geographical data, documents, photographs of plants, weather information, cultivation directions, etc. In parallel, important instructions may be instantly conveyed to the rural population by centrally located experts, providing alerts and advice to people, as well as protecting their crops.

Remote farmers also have the option of participating in educational services such as online seminars provided through the AgroTeleDiagnosis platform, organized into easy-to-use online educational libraries in the form of a Content Management System. Users can attend the e-seminars either in real time or through recorded video, gaining useful knowledge related to their agricultural activities, such as new and improved ways of cultivation, sustainable production management issues, advising and adaptation of new technologies in farming, cost effective techniques, new and upcoming agricultural methods or events.



Beside accessing the rich multimedia content individually, the users may also wish to share information and knowledge with other farmers online, through the forums existing in the platform. In these forums they can come in contact with a large population of users and their content, coming not only from Rural Wings pilot sites, but also from the widespread network of users of the “Ypaithros” service (www.ypaithros.gr), to which the AgroTeleDiagnosis platform is linked. Indeed, possible synergies with the “Ypaithros” online community are many:

after a plant disease has been identified by an expert agriculturalist, information is immediately transmitted through “Ypaithros” to everyone concerned (nearby area farmers or other agriculturalists), with the use of SMS, MMS, or voice messages; or, Rural Wings end users get access to seminars and workshops of the “Ypaithros” project.



Implications for evaluation

Evaluation should focus on how this innovative initiative is perceived by the farmers and the agricultural experts supporting them at the outset, and after it is fully implemented. User input for possible improvements both in the application, the use of the satellite broadband and local wireless links, and the educational/informational approach should be particularly sought.



On-the-field personalized communication and education services for farmers

Space of implementation

	Mainly	Partly	Possibly
Learning at school			
Learning at work	●		
Learning at home		●	

Rural settings and user groups addressed

	Rural school	Agriculture oriented community	Entrepreneurship oriented community	Interest in local governance	Remote research station
Students					
Teachers	●	●	●	●	●
Farmers					
Entrepreneurs					
Health personnel					
Administrators					
Private citizens					

- = Expected interest in this scenario
- = Possible interest in this scenario



Identified user needs addressed

Learning - More and better learning opportunities	Access to education	
	Access to educational resources (formal learning)	
	Teacher training (formal learning)	
	Farmer training (formal learning)	●
	Professionals and administrators training (formal learning)	
	Opportunities for informal learning (in private)	●
	Activity of remotely located research centres	
Governance - More and better governance opportunities	Locals' access to public services and information	●
	Knowledgeable and creative local government personnel	
	Citizens' involvement in local, regional, national initiatives	●
Economic growth - More and better growth opportunities	Knowledgeable and creative farmers	●
	Knowledgeable and creative entrepreneurs (tourism)	
	Knowledgeable and creative entrepreneurs (other innovation)	
Communication - More and better outward communication	Communication with others (regionally, nationally, internation.)	●
	Access to and use of up-to-date information on the internet	●
	Opportunities to follow world developments and global change	

Types of learning supported

Individual learning	●
Collaborative learning	
Learning by doing	
Exploratory learning	
Community-based learning	
Multidisciplinary learning	
Teacher-led learning	
Self-paced learning	●
Blending informal and formal learning	

Temporal mode

Asynchronous interaction / time-independent activity	●
Synchronous interaction / time-dependent activity	●



Health emergency training



Rationale

Health and other professionals, as well as ordinary citizens, are provided with training in emergency medicine, through the use of advanced information technologies and certified content, to be able to act as 'first responders' in their communities.

Involved actors

- Health and other local professionals (e.g. policemen, firemen, teachers and other public servants) assigned the duty to act as 'first responders' in cases of health emergency in the community.
- Ordinary citizens who are either first-response volunteers or have a personal interest in learning how to react in health emergency situations.



Specific goals

- To provide accurate and relevant background knowledge, and support accurate psychomotor skills in local first responders, through computer-supported learning tools and certified relevant training content.

Prerequisite competence

- Basic ICT skills. For the more advanced courses, previous health emergency training may be required.

Applications involved

- The Rural Wings Health Emergency Training (RW-HET) application.

Narrative description

Training in the medical emergency domain is very complex. Health emergency incidents are mainly managed by health professionals; however, in many cases and particularly often in rural areas, first aid treatment is given by bystanders, usually ordinary citizens, or volunteers, who are the first to arrive at the scene of the accident. A large variety of health emergency situations, including life-threatening ones, can and should be handled successfully during the first minutes by non-professionals. Therefore, health emergency training of



people en-masse is recognized as a tool with a significant positive impact on the prevention of life loss after an accident.

In line with this, health and other local professionals assigned the duty to act as 'first responders' in cases of health emergency in the rural communities, as well as ordinary citizens who are either first-response volunteers or have a personal interest in learning how to react in health emergency situations, are offered the opportunity to follow good quality courses based on certified content on health emergency training, without having to move from their remote rural location. Attending training through the Rural Wings Health Emergency Training (RW-HET) application, their preparation prior to health emergency incidents is increased, errors are reduced and first responders' skills are enhanced.

The training offered can address the needs of (or, some of) four distinct user groups in the rural communities, each with a different competence level: a) doctors and nurses without specialization in emergency medicine; b) ambulance personnel; c) first responders; and d) ordinary citizens.

Health professionals working in rural areas, both doctors and nurses, may well be without a specific emergency medicine education. This group of users is different from the others, because they are properly trained within a medical environment. On the other hand, the local ambulance personnel (not including the ambulance physicians) are a specific category of workers that operate within an organized system and have the appropriate training and the necessary knowledge to operate some basic medical equipment. Then, other first responders are those trained individuals who act independently but within a medically controlled system and have a duty to respond in emergency situations. They may be policemen, firemen, security officers, lifeguards, railway station personnel, teachers, volunteers that have been assigned the task to provide first aid to their co-workers or fellow citizens, and who are normally trained in the use of an Automatic External Defibrillator. The competence level of this group of people is somewhere between that of the ambulance personnel and the ordinary citizens. The latter are laypersons who have an interest in attending some first aid training course for their own personal benefit, or for the benefit of a member or members of their immediate family and friends. These citizens in general are not expected to operate within an organized emergency system.

Depending on each local user's previous exposure to some form of medical knowledge, two distinct levels of training are offered.



The first (Basic) level of training covers the needs of the whole spectrum of the potential rural trainees, but is especially targeted to the ordinary citizen or first responder with pre-existing medical training or knowledge. At this introductory level, there is normally no teaching of the usage of specialised medical equipment that are routinely used during an emergency situation. However, depend on new guidelines issued by international bodies, training in the use of some of the equipment (such as the Automatic External Defibrillator) may be added in this level.

The second (Advanced) level specifically covers the needs of ambulance personnel and doctors and nurses

without specialization in emergency medicine. The training content of the Basic level course is a prerequisite here. The main characteristic of the Advanced level is the fact that it includes instructions and information about specific equipment (such as for instance the use of an Automatic External Defibrillator). Although not absolutely necessary, first responders may also use part of the information and material provided at this level. In this way they can build on the knowledge they have gained at the first level of training.

At the initial stages of the rural Wings project, the



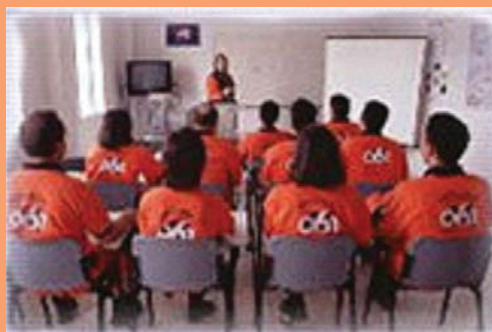
training offered to the rural citizens is of a first basic level, followed later on by the more advanced courses.

The process followed includes both face-to-face and distance training activities. Initially, the national coordinator, the local change agent, or an expert, inform the local population about the need for health emergency training, and the possibilities offered to this end through the use of the satellite broadband channel. They explain to the local people, for example, that large organizations such as the Red Cross, Civil Defense, Emergency Services, etc., produce instructor-led courses in order to train large parts of the population in delivering effective first-aid to the people in need, and that still there is a poor resuscitation outcome of victims of sudden death syndromes in all countries. In addition, they may wish to underline the motivation for first-aid techniques training of some specific sub-groups of the population, such as relatives of chronic patients (e.g. suffering from asthma or ischaemic cardiac diseases) who may need to react promptly and adequately in case of a crisis, recognize the severity of symptoms, call for professional help correctly, and overcome panic. Addressing the local health personnel, the expert may explain the internationally recognized need to train health care professionals in providing competent Basic Life Support (BLS) when the need arises, while medical doctors and nurses outside the critical care area seldom attend refresher courses. Even in rural areas, where the local doctor, or nurse, or ambulance staff is often the 'first responder', they nevertheless do not usually face emergency situations in their every day practice. As a result there is a gradual decrease in their knowledge and their practical skills which



can only be prevented if proper retraining takes place regular intervals. However it is known that the Emergency Medicine Systems which operate within smaller population concentrations, e.g. rural areas, typically receive inadequate continuing education than those operating within areas of larger populations.

Then, qualified teacher-trainers gather all those wanting to be trained in a specific area of emergency (such as Basic Life Support, Multiple Injuries, Head Wounds, Choking, Drowning, etc.), at an appropriate location, and show them the first aid techniques that they must know in order to be able to cope with the emergency situation at hand.



After this introduction, appropriate course content in the first aid subject of choice is available to the trainees via the internet for asynchronous delivery. Users are able to access this course whenever they feel like it and study at their own pace.

Every one or two years, tele-conferencing also takes place so that the teacher-trainers can contact again the users and refresh their skills and knowledge. In the same way, experts can contact the trainees to alert them to new or updated techniques in the delivery of emergency health care. It is stressed that refresher courses are needed after attending any Emergency Medicine training course. This has been particularly studied for Basic Life Support (BLS) and Advanced Cardiac Life Support (ACLS). Retention of knowledge decreases dramatically and the same is also true for practical skills. For example, the level of practical skill in basic life support is insufficient for the majority of lay people after a period of 6-12 months has elapsed since they received their training. This deterioration in the delivery of correct help in an emergency situation is present and irrespective of the training method that was used and cannot be avoided unless the trainees are retrained at regular intervals.

In the whole cycle of training, the courses offered are of high quality, homogeneous, up-to-date with all the latest instructions and guidelines from approved international bodies. The content is certified by appropriate organisations, and the instructors are competent and highly motivated.

Implications for evaluation

Evaluation should focus on how this innovative initiative is perceived by the local health care personnel, the local first responders, and more generally by the interested citizens, at the outset, and after it is fully implemented. User input for possible improvements both in the application, the use of the satellite broadband, and the educational/informational approach should be particularly sought.



Health emergency training

Space of implementation

	Mainly	Partly	Possibly
Learning at school			●
Learning at work	●		
Learning at home		●	

Rural settings and user groups addressed

	Rural school	Agriculture oriented community	Entrepreneurship oriented community	Interest in local governance	Remote research station
Students					
Teachers	●	●	●	●	●
Farmers					
Entrepreneurs					
Health personnel	●	●	●	●	●
Administrators	●	●	●	●	●
Private citizens	●	●	●	●	●

- = Expected interest in this scenario
- = Possible interest in this scenario



Identified user needs addressed

Learning - More and better learning opportunities	Access to education	●
	Access to educational resources (formal learning)	
	Teacher training (formal learning)	
	Farmer training (formal learning)	
	Professionals and administrators training (formal learning)	●
	Opportunities for informal learning (in private)	
	Activity of remotely located research centres	●
Governance - More and better governance opportunities	Locals' access to public services and information	
	Knowledgeable and creative local government personnel	●
	Citizens' involvement in local, regional, national initiatives	
Economic growth - More and better growth opportunities	Knowledgeable and creative farmers	
	Knowledgeable and creative entrepreneurs (tourism)	
	Knowledgeable and creative entrepreneurs (other innovation)	
Communication - More and better outward communication	Communication with others (regionally, nationally, international.)	●
	Access to and use of up-to-date information on the internet	●
	Opportunities to follow world developments and global change	

Types of learning supported

Individual learning	●
Collaborative learning	
Learning by doing	●
Exploratory learning	
Community-based learning	
Multidisciplinary learning	
Teacher-led learning	
Self-paced learning	●
Blending informal and formal learning	

Temporal mode

Asynchronous interaction / time-independent activity	●
Synchronous interaction / time-dependent activity	●





The learning@home scenarios of use

6

6.1 Introducing the learning@home scenarios

One of the central guiding principles in the writing process of the learning@home scenarios was the need for them to simulate, as concretely as possible, the use of the new tools provided by RW project. By this concrete description we wanted to catch the basically new (in general) ICT user and the obstacles one might face. For that end, the illustration is done by written narratives focused on fictional characters, each representing several user characteristics stemming from the User needs analysis and user profiles report.

The use of the fictional characters in the learning-at-home scenarios, as opposed to the less 'personalised' scenarios for learning at school and at work, is our response to the less defined nature of the 'home' as a learning context: while at school and at work the context of learning is clearly defined by 'stable' parameters, such as the curriculum or the nature of work, learning at home is not formal and pre-defined, shaped rather by the personal choices and characteristics of the learner. For this reason, in the learning@home scenarios of use the narratives describe the ways in which the various users utilize the tools introduced by the project and examine obstacles that might hinder learning and development processes.

The identities of the characters were defined in the light of two variables:

- The user profiles as defined in the User needs analysis and user profiles report, and especially user professions (see list above).
- Four defined levels of Internet use:
 1. Basic uses of internet applications
 2. Conscious or rational use of Internet applications (i.e. the ability to interpret or decode the principles of life in the internet – the visual and social aspects, the special symbols etc).
 3. Critical use of Internet applications (i.e. the added ability to understand the problematic aspects of the internet and to assess applications and the uses).
 4. Creative use (i.e. the ability to bring new aesthetics, codes and visions to one or more uses of internet applications).



6.1.1 Educational concept in the learning@home scenarios

The learning process in which the users are immersed is in accordance with the core educational concept of personal empowerment, as presented in Chapter 2 (section 2.2.1). The educational concept is emphasized throughout the scenarios by a division of the user's actions according to the "SRL learning actions". The user's actions are identified using a colour index as belonging to the:

- Forethought Phase
- Performance Phase
- Self Reflection Phase.

Within each phase of the SRL process there is a further distinction in which the learning actions can be divided.

Forethought Phase:

- Set learning goals
- Choosing adequate learning strategies
- Motivation
- Planning

Performance Phase:

- Selfevaluation: Self evaluation of one's goals, strategies, motivation, planning execution.
- Monitoring: Monitoring one's performance selectively for signs of progress.

Self Reflection phase:

- Comparison: Comparison of selfobserved performances against goals and planning.
- Causation: Attributing causes to results.
- Adapting: Adapting future goals strategies, learning environment and planning.

At the end of each scenario a table figures, with a list of learning actions divided according to the three phases of the SRL process and explained in the light of the educational concept.

Another categorization of the user's learning actions that is made in the learning@home scenarios refers to the "Level of learning". Three levels of learning are distinguished:

- Training and learning
- Critical learning
- Reflective learning

After the decision has been made to intervene educationally with the process of empowerment, we may find three main levels of learning process which aimed at empowering i.e. enhancing a person's possibilities to influence his life, to produce intended, foreseen and unforeseen effects on his surroundings.

The first is increasing control by Training and learning. These two processes are aimed at increasing the amount of knowledge (which is the outcome of what we call 'learning') as well as the learner's skills (which is the outcome of training). 'Learning' in this context aimed at increasing control by cognitive knowledge which means that a person has became to "know that..." which he/she did not know before the process. 'Training' in



this context aimed at increasing control by developing skills, which means that a person has become to “know how to....”, which he/she did not been able to do before the process.

The second level of learning process is of Critical learning. This process increase control in a deeper level then learning and training. It characterized by the ability to analyze (social) situations and create a reasonable assumption concerning the different forces that acts in it. It is needless to say that this kind of learning empowers the individual and helps him/her more control over his life. While the first level increases the control over the surface of reality and the skills in need to activated, the second level of learning, the critical learning, increases control by creating a path to the underground level of reality. Reflective learning

The third level of learning is Reflective learning. While the critical learning is targeting towards the external reality, reflective learning is directed towards the internal reality and its relation to the external one. The ability to reflect depends on one’s having ideas, concepts, with which he/she is able to observe internally. This can include concepts regarding interests, capacities and the learning style. As far as one is getting familiar with his/her way of selfconducting, style of learning and patterns of working and understanding, one is more in control over him/her self and over reality.

At the bottom of each scenario a table figures with a list of learning actions divided into the different levels of learning specified.

6.1.2 ICT uses for learning@home in Rural Wings: basic principles

All the uses of ICT are for educational purposes. Several principles underlie the approach of Rural Wings to ICT as a mean for learning at home and empowerment:

1. As an individual increases his range of ICT uses he is empowered both personally and professionally.
2. As an individual develops higher ICT skills he is personally empowered.
3. When an individual has appropriate tools for self evaluation and the knowledge to use them he has a chance to undergo a process of personal growth & development.

The users would be asked to self diagnose themselves according to the parameters and types of ICT uses for learning specified below. The Self diagnosis tables are part of the “Learning Tools” and will help the users accomplish one of the aims of the Rural Wings project: Have the users expand his range of use of ICT, each according to his starting state of ICT literacy and to increase their ICT literacy level.

Types of ICT uses for learning at home:

- Use of Basic Internet Applications (Browser, Email)
- Use of other more advanced applications
- Use of Internet applications for research purposes
- Use for general learning purposes
- Use for making working plans & executing them
- Use for seeking help from professional Consultants
- Informal Use for personal empowerment .

Other Self diagnosis parameters:

- Level of Expertise: No Knowledge /Beginner/Advanced
- Mode of learning: Individual Learning/ Group Learning
- Time of learning: Off duty/ On duty



A tool for helping the learner in his use of ICT for learning is “ICT learning process Self Evaluation” (See Annex 6). This tool is aimed at raising the users’ awareness of the different types of ICT uses and to introduce him in a process of progress and improvement in the different possible ICT uses.

Another tool for guiding the learners and their instructors in the process of learning computer and internet skills is “Basic Computer and Internet Skills Self Check List” (See Annex 7)

6.1.3 Learning tools

In addition to the learning@home scenarios, several “Learning Tools” were developed to guide, assist and accompany the user in the process of empowerment and becoming an independent self regulated learner with ever higher ICT skills. The Learning tools correspond to the different phases of the SRL cycle and are destined for the user’s self use.

The Learning tools appear in the appendix of this document and consist of:

- Forethought Assisting Tool. (See Annex 2)
- Performance Assisting Tool. (See Annex 3)
- Self Reflection Assisting Tool. (See Annex 4)
- SRL Self Check List. (See Annex 5)
- SRL Cycle Presentation. (See Annex 6)
- “ICT learning Self Evaluation” (See Annex 7)
- eCitizen , computer skills certification programme (See Annex 8)

In addition, a workshop has been developed on how an individual can become an Empowered Self Regulated Learner. This workshop is presented after the learning@home scenarios, at the end of this chapter.

The learning tools will be linked to the Rural Wings Common Access Point and will be available both in print and digital versions.





Alexander, the local educational leader



Rationale

A local educational leader is exploring available ways of sharing knowledge with other remote professionals and administrators who serve in similar positions, using RCCM and NEMED. These two applications focus on areas that are identified as relevant with the needs of rural users, and serve the goal of the project to contribute to social change in rural areas.

Involved actor

Alexander	Age	46
	Gender	Male
	Education	BA
	Profession	Head of the Education Dept. in the community
	Level of digital literacy	Medium
	Marital status	Married
Learning objective	External	To acquire political tools and skills
	Internal	To raise the quality and effectiveness of the civil involvement, and raise the number of active citizens on local and national levels.
Success standard / how to evaluate success	Who assesses?	The learner with a special municipal committee; hopefully on the basis of a long-term research.
	How to assess?	Through indicative data, interviews.

Specific goals

- To illustrate synchronous and asynchronous communication using the RW applications by a medium level user.
- To illustrate the work process of a “local administrator and public authority user” with RCCM and Rural school teacher training, and examine needs and problems that arise during the process.
- To examine the learning process of an individual user in “home learning space”.

Applications involved

- The Rural Community Change Master (RCCM) platform
- The NEMED web portal, available at www.nemed-network.org



Narrative description

Alexander is the Head of the Education Department in a small rural town. He is 46 years old and has been serving as Head of the department only for a short while. Alexander had been asked by the mayor of the village to see himself as a change leader rather than a clerk. Alexander accepted the challenge. (C.L) He believes that introducing new communications technologies would increase the awareness of the population to the various possibilities opened before them. It will also increase residents' level of civic involvement both locally as nationally. In addition, he believes it would reduce unemployment by opening new channels for people to sustain themselves and for professional development.

After examining the RW applications, Alexander decided with the help of the national coordinator to work with RCCM. Alexander is aware of the difficulties involved in leading a change process and of the resistance in his community. His hope is that by exercising himself in handling such resistance, he will be better equipped to lead the change process. He also asked to use Rural School Teacher Training and to take part in the NEMED network. Indeed in his municipality there are no multigrade schools as define by NEMED network, but there is an equivalent major constraint classes with wide ranges of student abilities. He found many similarities between both.

Synchronous and asynchronous communication; Index of obstacles using RCCM; increasing motivation by encouraging the free use of second language

Alexander returned home after an intensive day of meetings and an unpleasant confrontation with the head of the Welfare Department who, together with his department's personnel, refused to participate in RW. They argued they do not believe in generating change by these means. Alexander overheard that some of the Welfare Department personnel turned to the mayor and told him that Alexander was spreading false beliefs among the residents. He wrongly expects, they said, that senior citizens, who worry for their pensions and whose children have left the town long ago, would start learning to use the Internet. It is much better for them to use the local community center which just started operating. There they could meet each other, and from there they would find offers for part time real employment opportunities such as helping in the local kindergarten or in the public library. Alexander tried to explain that there is no contradiction between the two, but no one listened to him.

Alexander turned on the computer to start his studying session. (T&L) He clicked the RW icon on the desktop. The RW portal opened at such a high speed to which he still has to get accustomed to. His username and password have been stored in the browser. In the portal he saw the list of applications for download and the various sites for use by all RW users. On the side there was also a link to "Personal", he clicked the link. In "Personal" he found several options customized for him. Among them was a link to RCCM NETWORK. He accessed it, went over the list and searched for Jose, his Portuguese colleague. They met in the Video conference held during the one day workshop they had. Back then he added him to his contact list due in part to his English skills but fundamentally because he was the Director of the Welfare Department of his village.

He checked if Jose was online, but he was not connected. He marked his name to receive an alert the moment Jose would connect to the network, so they could have then a synchronous communication. In addition Alexander decided to use asynchronous communication so he emailed Jose. He also posted the same question he sent Jose in the RCCM User's Forum. **He tried to formulate his problem but find it hard to do.** He still didn't control the new terminology he has recently learned. He accessed the Course Terminology Dictionary and identified there several relevant terms. Among them were "Resistance", "Political", "Ideological", "Colleagues",

Index of Abbreviations

Level of learning:

T&L: Training and learning

C.L: Critical learning

R.L: Reflective learning

Highlight Color index (SRL learning actions):

Phase 1: Forthought

Phase 2: Perfomance

Phase 3: Self-Reflection



“Work Colleagues”, “Competitors”, “Tradition”, “Regularities”, and “Institutions”. He used those terms to formulate his problem.

As soon as he was done it occurred to him that possibly others had already faced a similar problem. Only then he noticed that on the top of the forum’s page there was an instruction to previously check if your question was already asked. “Never mind”, he thought, and went through searching if a similar question actually exists. He clicked the “Search” button in the forum’s top of the page and typed the words: “political resistance of a work colleague” and clicked to confirm the search content. Two results categories opened: one internal – forum search results and the other external Web search results. As he was going over the search results a pop up box opened – “Jose is available for synchronous communication”.

“Excellent” he thought. He clicked the box and two options appeared: chat or voice conference. Alexander typed a message in the text box “Are you available for a short chat on leading change in rural communities?” “Yes, sure” a prompt answer appeared. Alexander is not fluent in English. He specially lacks writing and speaking skills. But he kept repeating himself the instruction he was given during the workshop: just speak and write as freely as you can. Don’t let the feeling, that you’re not being precise enough, prevent you from using English. He also remembered the examples they were shown in the workshop of terrible English mistakes made in chats and of the informal atmosphere prevalent in them. He knew that the purpose of the examples was to lower the anxiety of using English and thus increase their motivation to learn.

The chat with Jose was very useful. (C.L) Jose examined with him the type of resistance he was facing. They tried together to come up with the best tactic to manage it. They’d also set an appointment for the following day, to follow up and analyze the way Alexander would apply the ideas they elaborated together. They thanked each other. Both of them felt that the dialog was useful for them.

Rural School Teacher Training and NEMED Network

When he finalized the chat with Jose, Alexander returned to RW portal homepage. There he clicked the link to NEMED site to which they associated as part of the project “Rural School teachers training”. The school headmaster in the village left him a message asking him to comment on the interesting forum discussion he was participating on the site’s “Working Group”.

The school headmaster reminded Alexander that their special “Working Group” is “Policies for multigrade education”. Alexander didn’t remember the site too well. Almost two months passed since he concluded, together with the school headmaster and a group of leading teachers from the pilot site, the “Preparatory Phase” of the program. Indeed after the “Preparatory Phase” was over they held a synchronous conference with participants from various countries that were facing similar tasks in the preparatory phase – all related to multigrade education. However Alexander couldn’t stay until the end of the conference due to urgent business that demanded him in the municipality. Therefore he was not familiar with all the evolvement of the course and the content discussed there. So, following the school headmaster’s request, after accessing the NEMED homepage, he found the category “Working Group” and among them the working group “policies for multigrade education”.

He clicked the link and a request for a password popped up. Since it was his first visit in the site and since he wasn’t involved in the program he had no clue to what the password was. He wondered if the username and password of the Rural Wings portal would work. He tried it but it didn’t. The NEMED site was an independent one. Alexander rang the school headmaster, but he didn’t remember how the password was set. The headmaster, who wasn’t highly digitally literate, seemed to remember that the password was given by the National Coordinator (NC), together with the Rural Wing’s username and password. They didn’t think of the possibility of having Alexander enter, just for that time, using the school headmaster’s username and password. After a few trials Alexander decided to call the National Coordinator to sort matters out. He returned to the Portal’s homepage, clicked the link to the list of the project’s pilot sites. He chose his country’s page and a list of links with all the names of the project participants appeared. He clicked the name of the national coordinator in his country and his details appeared on the screen. Alexander called the national coordinator’s cellular phone. The national coordinator guided him through the phone to the last page in NEMED where he was requested to input



username and password. At the button of the box there was a link for Registration to the site. Alexander recognized the link and, embarrassed, apologized to the national coordinator. Altogether he thought the Registration link wasn't visible enough and its visibility should be improved some how.

Alexander clicked the Registration link. After registering he marked all the relevant working groups and accessed the "policies for multigrade education" work group. He found there an ongoing forum discussion between a teacher from Spain, a school headmaster from Romania and his own school headmaster. Alexander read the discussion and noticed that, without explicitly formulating it to themselves, they were treating the question the limits of multiage education: (C.L) which is the point where multigrade education is no longer possible and the group must split up into different age groups? He remembered the definition of Multigrade Education as one in which the teaching of two programs occurs simultaneously. Where really the line should be drawn? He asked himself.

After thinking awhile on the matter he wrote that multigrade education is most often a result of economical constraints; when there is insufficient budget to support separate teaching frameworks for each age group. **Since he was always inclined to practical thinking** he supposed that the difficulty in the discussion arose from lack of data and interpretations from experts in development psychology, Education theories etc, who would define the precise limit the specific discussion is searching for. As long as the discussion is held among "field personnel" it would be difficult for us find additional funds to separate between the different age groups. He thought it would be excellent if experts could participate in the discussion or at least gave, once in a while, qualified answers, within the site, to questions on these subjects or similar ones.

Alexander left the NEMED site and entered back the Rural Wings' portal. He opened once more the contact list of all the participants in the RW project. He clicked the "send email" link and a new page opened with a list of all the pilot site members with a small square near each name. He marked the squares beside the names of the school headmaster and the national coordinator. Then he wrote a message saying that he had posted a comment in the forum discussion and invited them to read it. He thought it over and changed his mind; he decided to send the message to all the site members – teachers and municipality functionaries. That's it, he thought. He left the P.C, went out of the study and entered the kitchen, to prepare dinner for his wife and children.

Level of learning pursued by user in the scenario

Level of learning	(T&L) Training and learning	"He clicked the RW icon on the desktop." 'Learning' is aimed at increasing control by cognitive knowledge which means that a person has became to "know that..." which he/she did not know before the process. 'Training' is aimed at increasing control by developing skills, which means that a person has became to "know how to....", which he/she did not been able to do before the process. The learner learns here to better know the RW portal and the RCCM NETWORK and he trains in using them posting questions and communicating with peers.
	(C.L.) Critical learning	"Lisa, who is good at following instructions and has good memory" Reflective learning is directed towards the internal reality and its relation to the external one. This can include concepts regarding interests, capacities and the learning style. As far as one is getting familiar with his/her way of self-conducting, style of learning and patterns of working and understanding, one is more in control over him/her self and over reality. Though not at the present learning session, but sometime in the past, the learner has acquire self knowledge about his learning abilities and styles. "...she found her vocation and she decided to start volunteering as an assistant to the local Social Services manager." The learner reflects on his own feelings and and attitudes and develops new concepts about herself and her vocation.



SRL learning actions in scenario description

Phase 1 - Forethought

Set learning goals

Alexander accepted the challenge

Externally imposed learning goals are most probable to induce to learning without motivation and with no involvement of the learner, the contrary of what SRL is striving at. If this is true in general it's especially so for adult learning. However in this scenario the learner accepts the challenge suggested externally to him because it suits his own goals and interests and transforms it into a personal learning goal.

Choosing adequate learning strategies

The chat with Jose was very useful

The learner is aware of his learning styles, he knows that he can benefit a lot by collaborative learning with peers. This self knowledge enables him to seek for an opportunity to perform collaborative learning and so achieving good learning outcomes.

Since he was always inclined to practical thinking

The learner has a good level of self knowledge regarding aspects of learning styles. The learner knows that he is inclined to practical thinking therefore, this self knowledge can serve him to choose learning strategies suitable to his personal characteristics, learning strategies that are more experiential and "learning by doing".

Motivation

Alexander is aware of the difficulties

The learner is aware of the difficulties and the obstacles that involve perusing a change within his community. This awareness is very important to avoid a frustration that might arouse from an unexpected encounter with difficulties with its influences on the sense of self efficacy of the learner. Before starting a task a learner should think about the obstacles and difficulties he might face and chose strategies to affront them.

he will be better equipped

One of the preconditions of a motivated learning process is the confidence and the trust the learner has in learning itself. If a learner has confidence that through learning he will be able to undergo a changes, acquire new skills and tools and achieve tangible improvements in his life than his motivation to learn will be high.

He also remembered the examples

A sense of self efficacy (A conviction that one is able to perform a task) is very important for the learning to be fruitful. One of the strategies to build a sense of self efficacy is seeing others do the task, seeing that it is possible. This is precisely what they did in the preliminary workshop, saw examples of chats in English done by foreigners.



Phase 2 - Performance

Self-evaluation Self evaluation of one's goals, strategies, motivation, planning execution.

He tried to formulate his problem but find it hard to do

The learner is aware of the level of difficulties and the obstacles he confronts while his performing the learning task (Difficulty to formulate the problem). He attributes a cause (Skillcausation) to this difficulty (lack of familiarity with the terminology).

He's is then able to decide accordingly which sources of help he can use to overcome it.

"Never mind", he thought

The learner finds out that he did a "mistake", he didn't check if someone has already posted the question he had. However he tells himself reassuring words instead of getting frustrated, thus maintaining his motivation and his sense of self efficacy high. The learner is aware that the important thing is not , not to make a mistake, but rather maintaining the process of learning stimulating and progressing.

But he kept repeating himself

Here we see another example of motivation strategy which consists on making positive and reassuring statements to oneself. In this case the learner was giving the precise words he should use (just speak and write as freely as you can. Don't let the feeling...). As the learner faces the difficulty he remembers to use this motivational strategy thus succeeding in continue his progress and keep his motivation high.

Phase 3 - Self Reflection

Causation
Attributing causes to results.

follow up and analyze the way Alexannder would apply the ideas

The learner is accustomed to a learning process in which he makes actions based on his premises and assumptions and later on he monitor the results to attribute causes to them. Such is the case that together with his peer he plans to reflect together on the results of his future action to find the causes of the success or failure.



Alexander, the local educational leader

Space of implementation

	Mainly	Partly	Possibly
Learning at school			●
Learning at work			●
Learning at home	●		

Rural settings and user groups addressed

	Rural school	Agriculture oriented community	Entrepreneurship oriented community	Interest in local governance	Remote research station
Students					
Teachers	●	●	●	●	●
Farmers					
Entrepreneurs					
Health personnel					
Administrators	●	●	●	●	●
Private citizens	●	●	●	●	●

- = Expected interest in this scenario
 ● = Possible interest in this scenario



Identified user needs addressed

Learning - More and better learning opportunities	Access to education	
	Access to educational resources (formal learning)	
	Teacher training (formal learning)	●
	Farmer training (formal learning)	
	Professionals and administrators training (formal learning)	
	Opportunities for informal learning (in private)	●
	Activity of remotely located research centres	
Governance - More and better governance opportunities	Locals' access to public services and information	
	Knowledgeable and creative local government personnel	●
	Citizens' involvement in local, regional, national initiatives	
Economic growth - More and better growth opportunities	Knowledgeable and creative farmers	
	Knowledgeable and creative entrepreneurs (tourism)	
	Knowledgeable and creative entrepreneurs (other innovation)	
Communication - More and better outward communication	Communication with others (regionally, nationally, internation.)	●
	Access to and use of up-to-date information on the internet	●
	Opportunities to follow world developments and global change	●

Types of learning supported

Individual learning	●
Collaborative learning	●
Learning by doing	
Exploratory learning	
Community-based learning	
Multidisciplinary learning	
Teacher-led learning	●
Self-paced learning	●
Blending informal and formal learning	

Temporal mode

Asynchronous interaction / time-independent activity	●
Synchronous interaction / time-dependent activity	●



Lisa, the university student



Rationale

A university student explores the possibilities offered to her for online learning, developing new competencies, increasing access to knowledge, and having easier access to information as part of her learning process. This scenario reflects personal empowerment with regard to the user's awareness of her interests and capacities

Involved actor

Lisa	Age	22
	Gender	Female
	Education	Currently a student
	Profession	Social Worker (in the making)
	Level of digital literacy	Medium
	Marital status	Single
Learning objective	External	Search for university studies related topics, mainly for papers and studying for exams.
	Internal	For her hobby, follow astronomy news and cosmological events and increase her familiarity with astronomical research topics.
Success standard / how to evaluate success	Who estimates?	For university studies: instructor. For astronomy: learner.
	How to estimate?	University: exams Astronomy: selfdiagnosed level of satisfaction

Specific goals

- To illustrate an individual user's utilization of, and benefit from, one of the eapplications provided by RW (DSpace) in "home space" context during leisure time,
- To examine a medium level digitally literate user's ability to cope with obstacles tackled in absence of a personal guide.

Applications involved

- The D-Space web-based service, available at www.discoveryspace.net
- The online database of a university library



Narrative description

Lisa lives on a small fishermen island, where she was born, and where she wishes to remain. She has been interested in Social Work studies, and since there is no university close enough which would enable her to study while continuing living on the island, she has registered to an “Open University”. She is familiar with basic computer applications such as a web browser, word processor and email. She has as well some experience with basic activities such as searching the web for material related to her schoolwork, which she often uses for her studies. However, she often feels insecure and has a hard time transferring knowledge from one familiar application (usually obtained from her younger brother) to another, new application. She also has limited access to a computer with an Internet connection, there are only three public available computers on the island which serve the whole community and at home, her brother uses the new computer they have most of the time.

She was glad to receive a letter from her local municipality presenting the Rural Wings Project and the services and applications provided by it, including a description of “Dspace application”. She thought it could be an excellent opportunity to pursue her two main interests—her university studies and astronomy, for which she had little resources beside the small and somewhat outdated public library on the island. (T&L) She also thought it could be an opportunity to improve her skills and feel more comfortable using webbased applications.

She was especially thrilled to learn about DSpace which would enable her to access remote robotic telescopes and gain access to firsthand images of the celestial objects of her choice, she hoped that it would help her compensate for living away from large urban centers where there are more opportunities for engaging with her hobby. She was glad that she would be able to engage in informal study and observe astronomical phenomena and learn more about it, even while her first priority is her social work studies, and she can not commit to indepth studies in other fields.

Coping with obstacles using an eapplication – DSpace

Before she started using RW, a RW trainer arrived to her house and went with her over the instructions to use RW step by step. He showed her a new RW icon he added to her desktop and explained that for starting to use any of the RW applications or portal services, she just has to doubleclick the icon. He also gave Lisa her RW Username and Password and then instructed her on how to begin her first session, familiarizing her with the RW portal, and assisting her in her first attempt to login to the Members’ Area.

On her first solo RW session, (R.L) Lisa, who is good at following instructions and has good memory, began by going to the main RW page. (T&L) She examined the page and tried to remember how she was instructed to begin using the platform but she could not recall it. She turned to the RW brochure left by the trainer, where she discovered that on the main screen she has to look for the “Members’ Area” link. She located and clicked the link, and a popup window prompted her for her Username and Password. She noted she was in the right place because she now could enter the user name and pass word she received from the trainer, which she remembered. After typing it in and clicking the LOGIN button, a new page opened. It had links to the various RW applications—VEMUS, RCCM, DSpace, AgroTeleDiagnosis, Agroweb, Small rural school teacher training, among else—and RW services—(forums, technical support, tips and tricks and others), member blogs, news sites, governmental sites, the local pilot sites. Lisa decided to try using DSpace and followed its link, which she recognized among the others.

Index of Abbreviations

Level of learning:

T&L: Training and learning

C.L: Critical learning

R.L: Reflective learning

Highlight Color index (SRL learning actions):

Phase 1: Forthought

Phase 2: Perfomance

Phase 3: Self-Reflection



When DSpace's homepage opened, Lisa did not know what to do next. She remembered that the trainer told her that this application should enable her to access remote telescopes, but it was not clear to her how she could do it. She saw a "Log In/Subscribe" link at the top of the page, and tried to use her RW authorization information, but the log in failed. She tried a second time (using the same information), and failed again. At that point, Lisa decided to give up on her attempt.

Frustrated, Lisa closed the RW browser window, and opened another browser window. She decided to go to an astronomy forum she has often visited—the Astronomical Events Calendar on the New Mars website. There she has often found information on upcoming astronomical events that can be seen with a medium range telescope, which in the past has both excited her and frustrated her, since she had no access to a large enough telescope. This time she learned about the approaching appearance of comet IkeaZhang, which she really wanted to observe (it will be visible again in about 500 years).

Lisa, who felt that she simply couldn't miss that once in a lifetime opportunity to observe this important event decided to return to RW portal and to DSpace. She decided to email the support group before a second trial. She started again by opening the RW portal via its icon on her desktop, and this time spent no time looking around, and went directly to the Members' Area. Then she looked for the "On line Support" link. An email message template opened. She tried to think how to describe her problem: she indicated she encountered a problem using DSpace, and that she had a problem logging in. She decided to ask where she could find step-by-step instructions for DSpace. She sent the message, and while waiting for the reply, went to the kitchen and had a quick lunch and returned quickly to the computer. She was anxious to schedule an observation before she misses an once in a lifetime opportunity. She was happy to see that she received an answer from the online RW support specifying all the information to access Dspace. She logged in and examined the DSpace page carefully, and spotted the "Go Observing" link on the right side menu. She clicked it, and then had to choose between "Submit your scheduled requests" and "Remotely operate a telescope in real time". She selected the first since she was not sure she would know how to operate a telescope from distance. On the next page, there were simple and clear instructions. She began the process of scheduling an observation request, and followed the instructions carefully. After she selected Saturn as the object of her observation (in order to first practice on a big and familiar object), she typed all the information required and clicked the Submit button. She was excited about the opportunity not only to watch Saturn, but to watch it on a photo made especially for her. She looked forward to see the results. If she is satisfied, she will schedule another observation for the comet appearance.

Preparing a paper for university using online database

On the next day, Lisa decided to try and use her Open University's online databases to search for articles to write a paper for her social work instructor due in a few days. Now that she has fast Internet connection she no longer has to rely only on the textbook she received when she began the course. Lisa connected to the net and typed the URL address of her Open University, and then followed the Library link. She was familiar with the page, but she never visited the online databases page. After the enriching experience she had yesterday, she encountered no problems and found the link easily. (T&L) Though the interface of the database was unlike other websites she's seen before, she managed to find her way. She typed the relevant search criteria, and downloaded four articles that seemed interesting, relevant, and updated. While reading the articles she found, and later writing her paper (which contained new perspectives that she never had before she had access to such a verity of approaches), she felt, like never before, (R.L) she found her vocation and she decided to start volunteering as an assistant to the local Social Services manager.

Users as creators of content

Lisa also looked on the RW portal for a forum of social workers in rural communities. Since she could not find such a forum, she emailed the RW support group asking them to open one. After she sent her paper, Lisa took a little time off her studies and spent three hours researching on telescope operation in various websites until she found all the information she needed. She also searched the DSpace forum for posts that might address the



issue, but found none (she usually has not been comfortable enough to post her own questions on forums).

Though she has been interested in astronomy, telescope operating was totally new to her; nevertheless she didn't want to miss the comet appearance due to faulty information on her request.

Lisa decided to be courageous and write about her experience in her blog on the Members' Area. She wrote about what she learned not only regarding using DSpace and about astronomy, but also about her ability to learn and transfer knowledge gained while using one application to another, very different application. After a few weeks she was confident enough to enter the RW troubleshooting forum, where she hoped to help other DSpace beginner users.

Level of learning pursued by user in the scenario

Level of learning	(T&L) Training and learning	“She also thought it could be an opportunity to improve her skills and feel more comfortable using web-based applications.” ‘Training’ is aimed at increasing control by developing skills, which means that a person has become to “know how to....”, which he/she did not been able to do before the process. The learner plans to increase his skills of using the internet through the training. “She examined the page and tried to remember how she was instructed to begin using the platform...” The learner is training to improve is skills of “knowing how to” use the RW portal. “Though the interface of the database was unlike other websites she’s seen before, she managed to find her way.” The learner gains greater control of his environment by transferring “know how” skills from one field (in this case an internet application) to another (a different and unknown application)
	(R.L.) Reflective learning	“Lisa, who is good at following instructions and has good memory” Reflective learning is directed towards the internal reality and its relation to the external one. This can include concepts regarding interests, capacities and the learning style. As far as one is getting familiar with his/her way of self-conducting, style of learning and patterns of working and understanding, one is more in control over him/her self and over reality. Though not at the present learning session, but sometime in the past, the learner has acquire self knowledge about his learning abilities and styles. “...she found her vocation and she decided to start volunteering as an assistant to the local Social Services manager.” The learner reflects on his own feelings and and attitudes and develops new concepts about herself and her vocation.



SRL learning actions in scenario description

Phase 1 - Forethought

Set learning goals

She has been interested in Social Work studies The learner is aware of his personal interests and goals. Self knowledge of personal interests and goals is crucial and prior to any learning. Ideally all learning goals and particular learning tasks should steam of and be related to the learners personal interests and goals.

search for articles to write a paper for her social work instructor The general and large goals of the learner should be divided into specific sub goals and concrete learning tasks. She has the general goal of making her Social Worker studies. On a lower level she has the goal of handing in a paper for her instructor and now she faces the concrete learning task of searching for articles to write the paper. In this way the learning process is focused and the learner can obtain multiple experiences of fulfillment rather than postponing this positive experience only to the accomplishment of the big goals.

Choosing adequate learning strategies

She was especially thrilled to learn about DSpace The learner is aware of his learning styles and acts consequently. The learners knows that she prefers guidance when she first starts using the RW portal rather than facing it alone by herself. On the other hand she prefers learning individually with a tutor rather than with a group.

is good at following instructions and has good memory The learner has self knowledge of her personal learning characteristics. Based on this knowledge she will be able to choose learning strategies suitable for her.

Motivation

She has been interested in Social Work studies

The learner is aware of his knowledge level in the field. This knowledge is very important to set realistic learning goals, choose adequate learning strategies, make the proper planning and so on. Making learning decision consequent with the learner's knowledge level will make the learning more productive while the learner enjoys high levels of motivation and a sense of self efficacy.

She was especially thrilled to learn about DSpace

When the learner is aware of her personal interests and sets learning goals accordingly, learning turns into an engaging and exciting activity.



Phase 2 - Performance

Self-evaluation

Self evaluation of one's goals, strategies, motivation, planning execution.

When DSpace's homepage opened, Lisa did not know what to do next.

The learner is aware of the obstacles she faces in the learning process. This awareness enables her to seek the proper help or choose adequate learning strategy. It is also important for keeping motivation high and a sense of self efficacy

Lisa, who felt that she simply couldn't miss that once in a lifetime opportunity

A clear example of how a learner can cope with frustration in the performing of learning tasks when it is led to fulfill authentic personal interests and goals. The drive of the learner to realize his interests is stronger than the frustration of steaming from the obstacles tackled in the way. It is crucial that the learner will get in contact; guided by a trainer if necessary, with his personal authentic interests.

She decided to email the support group before a second trial The learner is aware of the obstacles and difficulties faced and takes corrective actions consequently.

She decided to ask where she could find step-by-step instructions for DSpace.

The learner is aware of his learning styles and so knows what kind of learning would suit her. She knows she needs things to be explained in detailed and in a structured fashion so she ask for a step by step explanation.

in order to first practice on a big and familiar object The learner is sensible to the need of maintaining her sense of self efficacy and the importance of experiences of success to keep her motivation high. Therefore she prefers to advance step by step rather than taking too big a challenge and suffer unnecessary frustrating experiences.

spend three hours researching on telescope operation The learner monitors the time spend performing a task, that will enable him to be more efficient in his time use and also be able to better plan his learning.

she usually has not been comfortable enough to post her own questions on forums. The learner is aware of her preferences and social behavior in virtual environments, accepts it and acts in accordance to it. She doesn't feel comfortable actively participating in a forum so she takes advantage of the information it offers for passive guests.

Monitoring

Monitoring one's performance selectively for signs of progress.

After a few weeks she was confident enough to enter The learner monitors his performance to identify signs of progress. When progress is achieved and identified it will increase the learners motivation and sense of self efficacy, allow him to make causation and use again the learning strategies that worked for him. When there is no progress detected the learner will again find the causes for this lack of progress and adopt new strategies to try and improve his performance. In any case it is crucial to center attribution of poor achievements on "controllable processes" rather than "fixed ability"

Phase 3 - Self Reflection

Adapting Adapting future goals Strategies, learning environment and planning.

She must run some tests on Alzheimer patients. The learner breaks up his career goal into subgoals (run tests). Setting specific proximal goals for oneself

enter the Rural Wings network

A step she plans to fulfill her subgoal –run tests- is to look in the RW network.



Lisa, the university student

Space of implementation

	Mainly	Partly	Possibly
Learning at school			●
Learning at work			
Learning at home	●		

Rural settings and user groups addressed

	Rural school	Agriculture oriented community	Entrepreneurship oriented community	Interest in local governance	Remote research station
Students	○	○	○	○	○
Teachers					
Farmers					
Entrepreneurs					
Health personnel					
Administrators					
Private citizens	●	●	●	●	●

○ = Expected interest in this scenario

● = Possible interest in this scenario



Identified user needs addressed

Learning - More and better learning opportunities	Access to education	
	Access to educational resources (formal learning)	●
	Teacher training (formal learning)	
	Farmer training (formal learning)	
	Professionals and administrators training (formal learning)	
	Opportunities for informal learning (in private)	●
	Activity of remotely located research centres	
Governance - More and better governance opportunities	Locals' access to public services and information	
	Knowledgeable and creative local government personnel	
	Citizens' involvement in local, regional, national initiatives	
Economic growth - More and better growth opportunities	Knowledgeable and creative farmers	
	Knowledgeable and creative entrepreneurs (tourism)	
	Knowledgeable and creative entrepreneurs (other innovation)	
Communication - More and better outward communication	Communication with others (regionally, nationally, internation.)	●
	Access to and use of up-to-date information on the internet	●
	Opportunities to follow world developments and global change	

Types of learning supported

Individual learning	●
Collaborative learning	
Learning by doing	
Exploratory learning	
Community-based learning	
Multidisciplinary learning	
Teacher-led learning	●
Self-paced learning	
Blending informal and formal learning	

Temporal mode

Asynchronous interaction / time-independent activity	●
Synchronous interaction / time-dependent activity	



Martin, the farmer



Rationale

A farmer gets support in the shift from reliance on the immediate community to a more independent state of cooperation with a wider and diversified community. The scenario aims to draw attention to some of the anticipated obstacles inherent to the interaction of the national coordinators with the pilot sites and users.

Involved actor

Martin	Age	60
	Gender	Male
	Education	High school
	Profession	Farmer
	Level of digital literacy	Medium High
	Marital status	Married to Anne
Learning objective	External	AgroTeleDiagnosis eSeminars: increase knowledge of agricultural related topics Obtain help with agricultural diagnosis; Learn how to improve distribution of information on the family's B&B
	Internal	
Success standard / how to evaluate success	Who estimates?	Self.
	How to estimate?	Selfassessment of the level of understanding and satisfaction

Specific goals

- To illustrate the eplatforms (AGROweb) provided by RW project has on the rural community and on a on a school “learning space”.
- Emphasis the importance for RW national coordinators (NC) of establishing local contacts.
- To illustrate a mediumhigh digitally literate user’s utilization of the 2 AgroTeleDiagnosis services.
- Suggest some webbased services for users.

Applications involved

- The Agroweb e-shop web-based platform, available at www.ea.gr/ep/agroweb
- AgroTeleDiagnosis, a wireless mobile services communications platform, available at www.ypaithros.gr



Narrative description

Martin's apple orchards and his wife's B&B cabin are located in a small rural municipality. The high tourist season is during the summer, when visitors from the city arrive for vacation in the countryside. Martin has been publishing the B&B through a travel agency located in the big city, on which they counted for business. However, **they didn't feel that communication over the phone** they held with the agency was sufficient for them to be committed to its success.

Concerning the agricultural branch, whenever Martin needs some advice for the cultivation of his orchard, or when he wants to get updated on new agricultural methods and technologies or new EU regulations and opportunities, he goes to the Farmers Committee Center in the larger neighboring village. There he can consult brochures and exchange ideas with the other farmers. There he learned, for example, about computerized irrigation control, which, as a consequence, he later installed in his orchard. However, Martin feels that sometimes the other farmers face the exact same problems that he does, and therefore cannot provide solutions for each other's problems.

AGROweb

Today, Martin's granddaughter Charlotte came to visit him and her grandma Anne. She told them about a new exciting application introduced in the school by RW. The application allows the school children to use "AGROweb", a web based eshop, to advertise and sell products of local farmers in their community to other rural schools as well as buy from the other schools. Thus it increases their involvement in their community as well as applying school learning activities to real world experiences familiarizing children in the classroom with modern economy practices.

Charlotte told Martin that she convinced her friends that his apples are the ideal product for their promotional campaign because of its high quality and availability. She asked him to come to her school the next day and present his apples to the other children and teachers, and also advise them how they can best advertise his merchandize. Martin was enthusiastic with the project. He believed it will help his granddaughter become less naïve about the world beyond their peaceful community. He also hoped that this would become a new source of income for his farm at some point in the future.

During the following weeks, Charlotte and her friends visited the farm and took pictures of the orchard and fruits in order to design their advertising campaign. Martin always welcomed them with a smile and an apple. He took great interest in hearing them develop their ideas on the information they would use, such as the visuals, product description, shipping and packaging, etc.

Local contacts and AgroTeleDiagnosis

In one of the children's' visits, Charlotte's teacher told Martin about RW, and suggested that he too might benefit from participating in the project since, she said, she remembered that one of the RW's applications was related to agricultural diagnosis and educational services over the web. She told him that the school and municipality were already approached by RW's national coordinator (NC) and gave her the information of the contact person in the municipality. Martin was surprised that he was not contacted by the municipality or Farmers Committee for joining the project, but he assumed that the Committee might not have been

Index of Abbreviations

Level of learning:

T&L: Training and learning

C.L: Critical learning

R.L: Reflective learning

Highlight Color index (SRL learning actions):

Phase 1: Forthought

Phase 2: Perfomance

Phase 3: Self-Reflection



contacted at all. He called the Committee and was surprised to hear that they have no relation to the project. This made him question the project and its approach, however impelled by the teacher's recommendation, he decided to talk to the contact person in the municipality before abandoning the idea of joining. The contact person told him that in the first phase the project will be applied in two large farms, and only in a later phase more farmers could join RW. He suggested putting Martin in the waiting list. In any case, he was told, he must have a PDA, which is necessary for using the agricultural diagnosis platform. This, of course, hurt Martin's pride. Never the less when he was contacted a couple of months later, he was willing to learn what the project can offer him.

Martin went through a "preparatory workshop" (T&L), where he was introduced to RW and AgroTeleDiagnosis. Though he received a PDA as a present from his soninlaw the year before, he still didn't know how to use it, so the workshop leader explained him its basic functions. During the following week, Martin tried to access AgroTeleDiagnosis several times in order to send a photo of an unknown insect he spotted in his orchard, but he did not succeed. **He was not sure** whether the problem was with the WiFi network, wrong use of the PDA, or specifically with AgroTeleDiagnosis. In any case he planned to find more about the infestation at the Farmers Committee's monthly meeting. Still **he decided to try and use AgroTeleDiagnosis asynchronously** on his PC before returning to his old resources. He took a closeup picture of one of the infestation clusters. He visited the RW portal a couple of times before and remembered that he had to start filling in his user name and password. On the RW portal he followed the link to the RW applications and there selected AgroTeleDiagnosis from among the various links. A new window was open and Martin looked on it carefully to find where he could submit a photo. At the top of the page he saw a link to eSeminars, (R.L) and decided to check it later, thinking that **this could be a good addition, if not a replacement, for the monthly Committee meetings**, which tended to be too long due to greetings and announcements that he felt were a waste of time. He was used to depend on these meetings, but hoped to increase his knowledge in or find other sources of assistance and reduce his dependency on it.

Below the eSeminars he saw a list of recent issues rose by farmers and recalled that the replies of agriculturalists as well as other farmers should be accessible to him. He figured that surly, his orchard was not the only one suffering from those new insects, and decided to check previous posts to see if he could recognize a similar infestation. One of the first posts, from a nearby farm, described exactly what he saw in his orchard. He went over other posts and found that other farmers from remote farms all suffered from similar insects. There was also one reply from Janet, an agriculturalist, who asked for more pictures of the insects. She was a specialist in the field and from her reply he learned that this infestation is usually found in places south of Europe, but this year it was detected, for the first time, in such northern latitudes. In order to verify that the existent pesticide can indeed handle this infestation the agriculturalists needed more data. **Martin decided to review his notes** from the "preparatory workshop" in order to tackle the problem with his PDA and transmit fresh images directly from his orchard the next day.

On the following morning, Martin reviewed the troubleshooting instructions and **concluded that the problem has been with the way he operated his PDA**. He followed the instructions carefully, and succeeded to enter the AgroTeleDiagnosis submission form. He sent a freshly taken photograph and waited to see if a reply would arrive soon. Indeed, after a few minutes, a reply from Janet the agriculturalist arrived. She asked him to send an additional photo, this time of the bottom side of an infected leaf. (T&L) She explained that the eggs are laid there, and seeing them would help her confirm the identification of the insects. Martin did as she had asked and she replied that definite diagnosis will be posted on the AgroTeleDiagnosis site later that day for all farmers to see, including treatment advices.

After this positive experience, he decided to try and expand his knowledge using the AgroTeleDiagnosis eSeminars. This way, he thought, he could learn in depth about agricultural innovations, and more specifically about their applicability for his orchard, without going to the Farmers Committee and wasting an entire workday. After dinner, he opened the RW portal and continued directly to AgroTeleDiagnosis. There he clicked



the eSeminars link, which led him to a list of seminar topics. Among the various topics, he saw “genetically modified crops”. (C.L) He objected genetic modification in the past but decided that knowing more would help him make an informed decision whether to go in that direction in the future. He clicked the link and a new page opened with brief instructions on viewing the seminar. He saw that after the “lecture” part, there was a recorded Q&A session available from the original date of the seminar a few weeks before. He started the seminar and was still totally absorbed when Anne, his wife, asked him to call it off for the day. He agreed, and decided to continue studying in the evenings, for about an hour each day. He looked forward to the enlightening evenings ahead of him.

Building a personal website

Martin decided to use the RW website building template to create a promotional website for the B&B. This way, they would no longer have to count on the travel agency in the big city for business. He asked Anne, who has been managing their B&B, to join him, and they sat in front of the computer together. Martin opened the RW portal, and then showed Anne how he followed the Members’ Area link. After authentication, a page with personal services, including email, RW customization options, and personal website, opened. Martin clicked the personal website link. The new page had a link to Edit Mode, and he clicked it. A relatively simple template opened, and they used the same text they gave in the past to the travel agency to fill in the template’s fields: title, introduction, contact email, address and phone number, etc. Then they uploaded a few pictures of the rooms and the exterior that Anne had taken that morning. Lastly, they selected a color scheme that was similar to the colors of the rooms. When they were done, they clicked the Preview button at the bottom of the page, and after finetuning the text, they clicked the Update Website button. Then they wanted to see the website on a new browser window. They opened a new window and typed the URL address they were given by website building template. Their personal B&B displayed and they were both pleased with what they saw. Martin copied the page’s address, and then added it to a few search engines, as he learned from the Members’ Websites forum.



Level of learning pursued by user in the scenario

Level of learning	(T&L) training and learning	“preparatory workshop” The workshop aims both at ‘Learning’ aimed to increase control by cognitive knowledge which means that a person has come to “know that...” which he/she did not know before the process. And at ‘Training’ aimed at increasing control by developing skills, which means that a person comes to “know how to....”, which he/she did not been able to do before the process. “She explained that the eggs are laid there...” The learner acquires new knowledge that he didn’t have before, here both of a theoretical and practical value. This new knowledge will enable him to solve the infestation he’s facing in his orchard by himself that gaining control over his environment and being more empowered.
	(C.L.) Critical learning	“ He objected genetic modification” This process increase control in a deeper level then learning and training. It characterized by the ability to analyze (social) situations and create a reasonable assumption concerning the different forces that acts in it. It is needless to say that this kind of learning empowers the individual and helps him/her more control over his life.
	(R.L.) Reflective learning	“and decided to check it later, thinking that this could be a good addition, if not a replacement, for the monthly Committee meetings” Reflective learning is directed towards the internal reality and its relation to the external one. The ability to reflect depends on one’s aving ideas, concepts, with which he/she is able to observe internally. This can include concepts regarding interests, capacities and the learning style. As far as one is getting familiar with his/her way of selfconducting, style of learning and patterns of working and understanding, one is more in control over him/her self and over reality.

SRL learning actions in scenario description

Phase 1 - Forethought	Set learning goals	Martin decided... to create a promotional website for the B&B. The learning process ideally should start from personal goals and interests of the learner, while all the learning tasks that he later perform are aimed at fulfilling these goals and interests. It is crucial that the learner will be aware of his personal goals and interest. For that an encouraging and supporting environment and group is very important.	Choosing adequate learning strategies	He asked Anne, who has been managing their B&B, to join him, The learner decides on the learning style that is most adequate for him. One of the variables is individual learning versus .collaborative learning. In this case the learner decides to perform.
	Motivation	decided to continue studying in the evenings When the learning tasks steam from personal interests and goals then it is most probable that the learner will be motivated and excited about the learning process.	Planning	decided to continue studying in the evenings The learner makes a plan of how much time he will learn in every learning session (and it is recommended also that a quantity of material learned per session would be set for ex number of pages read or exercises done).



Phase 2 - Performance

Self-evaluation

Self evaluation of one's goals, strategies, motivation, planning execution.

Martin decided to review his notes

The learner uses powerful learning strategies to optimize his outcome. He used the strategy of taking notes while he assisted the workshop and while performing remembers to use the notes for further learning.

After this positive experience

Having successful experiences is one of the best ways of increasing the sense of self efficacy. One way of achieving it is by dividing the large learning goals into concrete, near sub goals that can provide the learner with many experiences of success. The learner also should be aware of the positive accomplishments.

Phase 3 - Self Reflection

Causation

Attributing causes to results.

they didn't feel that communication over the phone

Learning is understood in the broad sense, not only as "traditional" learning, but all actions directed to achieve higher knowledge levels and master a situation. Here the learner attributes causes to an event (lack of commitment of the agency) and according to it can decide what action to take. (SRL Skill- "Attributing causes to results")

He was not sure whether the problem was with the WiFi network, wrong use of the PDA

The learner reflects on the outcomes of his actions and tries to attribute causes to the results. This will enable him to readjust his action, maintaining successful strategies and substituting the unsuccessful.

concluded that the problem has been with the way he operated his PDA

Again the learner attributes causes to results and acts further accordingly.

Adapting

Adapting future goals Strategies, learning environment and planning.

he decided to try and use AgroTeleDiagnosis asynchronously

The learner readjusts his strategies and makes new action plans based on his reflection and analysis of his progress, the process of causation and so on.

this could be a good addition, if not a replacement, for the monthly

Committee meetings The learner adapts his learning process in accordance to the self knowledge he has of his learning styles, i.e. realizing that to follow an e-seminar with self paced learning will be much more preferable for him than the meetings in the committee.



Martin, the farmer

Space of implementation

	Mainly	Partly	Possibly
Learning at school			
Learning at work			●
Learning at home	●		

Rural settings and user groups addressed

	Rural school	Agriculture oriented community	Entrepreneurship oriented community	Interest in local governance	Remote research station
Students					
Teachers					
Farmers	●	●	●	●	●
Entrepreneurs					
Health personnel					
Administrators					
Private citizens	●	●	●	●	●

- = Expected interest in this scenario
- = Possible interest in this scenario



Identified user needs addressed

Learning - More and better learning opportunities	Access to education	
	Access to educational resources (formal learning)	
	Teacher training (formal learning)	
	Farmer training (formal learning)	
	Professionals and administrators training (formal learning)	
	Opportunities for informal learning (in private)	●
	Activity of remotely located research centres	
Governance - More and better governance opportunities	Locals' access to public services and information	●
	Knowledgeable and creative local government personnel	
	Citizens' involvement in local, regional, national initiatives	
Economic growth - More and better growth opportunities	Knowledgeable and creative farmers	●
	Knowledgeable and creative entrepreneurs (tourism)	
	Knowledgeable and creative entrepreneurs (other innovation)	
Communication - More and better outward communication	Communication with others (regionally, nationally, international.)	●
	Access to and use of up-to-date information on the internet	●
	Opportunities to follow world developments and global change	

Types of learning supported

Individual learning	●
Collaborative learning	●
Learning by doing	
Exploratory learning	
Community-based learning	
Multidisciplinary learning	
Teacher-led learning	
Self-paced learning	●
Blending informal and formal learning	

Temporal mode

Asynchronous interaction / time-independent activity	
Synchronous interaction / time-dependent activity	●



Ann, the pensioner



Rationale

Elderly in remote areas, who are in addition digitally illiterate, are a unique type of users. Introducing them to the new digital culture and reducing their resistance to the use of new technologies is particularly challenging. However this group of users can be one of the most benefited from embracing the opportunities the new technologies can bring them.

Involved actor

Ann	Age	74
	Gender	Female
	Education	High School
	Profession	Retired
	Level of digital literacy	Digitally Illiterate
	Marital status	Widow
Learning objective	External	Follow local and global media; learning to use a new communication channel; learn how to communicate with the authorities through the internet.
Success standard / how to evaluate success	Who assesses?	The learner with a special municipal committee; hopefully on the basis of a longterm research
	How to assesses?	Through indicative data, interviews

Specific goals

- To examine how copes a digitally illiterate individual user using basic application during leisure time.
- To illustrate different channels of support the user can turn too to solve obstacles.
- Draw attention to in depth non technical resistances to some ICT uses.

Applications involved

- Ttypical e-mail and web browser applications



Narrative description

Ann celebrated recently her 74th birthday together with her children and grandsons. She's been a widow for two years already. She turned down her children's offer to change her residence and live close to them and her grandchildren. She preferred to stay in her own house in a small village, 400 km away from the nearest large city. Ann is a member of the User Group in one of the Rural Wing project pilot site.

The RW Introductory Workshop

Monday morning, after breakfast, Ann sits in front of the new computer she received as a gift from her family. She turns on the computer and waits patiently, as she learned in the Introductory Workshop, until the RW main page was displayed on her desktop. (T&L) The Introductory Workshop was held in the local community center and done by RW project representatives for all digitally illiterate user group members. It consisted of 3 encounters, 4 hours each, in which they acquired skills and practiced. The first encounter was on the computer and its uses. The second was on basic use of internet browser, mail application, and search & retrieve of information through the web. In the last encounter they studied together the local municipality's website and other governmental websites.

Using Help manual – Navigate the Internet

Ann stares at the screen. For a moment she forgot what she intended to do with the computer. While her operating system finished loading she remembers, *she wanted to visit the news site she'd been browsing during the workshop*. But what was the URL address of the news site?

She takes the User Help Manual. In the last page she finds the "Beginner's Icon Index". She understands she has to press the icon with a blue "e". She hits the icon and a white empty web page opens. She turned to the "Internet addresses directory" page in the manual that was tailored specially for their local RW pilot site and included addresses by categories. She types the URL carefully in the browser and presses enter. Happily she got it right on the first trial and the desired news site loads quickly.

Support over the phone and Home Support, Receiving email.

Ann had been browsing the net alone at home for the last three days, but she didn't use her email application yet. She knows she has an email address but she hadn't used it. Yesterday called her grandchild. Her daughter married a Spanish businessman and they live in Barcelona. Carlos is 10 years old and they spoke nearly half an hour over the phone. He told her that yesterday he sent her an email with pictures of him playing basketball with his mates, and also some pictures of him with mom and dad. He asked his grandmother to look at the pictures and tell him if she likes them. Of course she wanted very much to see the pictures but *she felt it would be complicated to reach them so she hesitated*. Then she thought on their coming user group meeting where she will be asked to talk about her progress using the internet and she didn't want to be overtaken. How nice would it be to show the other members the pictures she received from Carlos only a day after he sent them.

She opened the RW User Help Manual and called the support over the phone number. Through the phone she is guided how to set up her email account properties, but she can't follow the instructions. The assistant on the other side of the line suggests that a support representative will visit her house, she agrees, so they schedule a visit. The following day the representative arrives to her house, set her mail account and shows her again

Index of Abbreviations

Level of learning:

T&L: Training and learning

C.L: Critical learning

R.L: Reflective learning

Highlight Color index (SRL learning actions):

Phase 1: Forthought

Phase 2: Perfomance

Phase 3: Self-Reflection



how to use the email application.

After lunch, she went back to the computer. She pressed the mail Icon that the support person put for her in the center of her desktop. The email application opened quickly. A message in the bottom of the screen told her she has to wait for incoming mail. A few minutes passed on but nothing happened. She didn't know what to do and after few more minutes she decided to call again the support center explaining that her email application is not responding for several minutes. "Are you expecting any mail?" she was asked. She told them that her grandson had sent her some pictures. They instructed her to keep on waiting. They explained that probably due to the large size of the mail items the download time is long. After two more minutes the name of Carlos appeared in her incoming mail box with an attachment icon near it. Using the Help Manual she followed the instructions to open an attachment. She pressed the icon, and once she reached the pictures she printed them as she learned in the introductory workshop.

Emotional Resistance – online payment of Municipality bills

Two days later Ann accessed the local municipality website whose functions they studied together in a focused session in the introductory workshop. Several options opened in the local municipality main page website. She chose the "On line Payment" option. She accessed the on line payment page where she found several payments possibilities, among them traffic fines. She chose traffic fines to pay a parking fine she received two weeks ago. However, when she was asked to introduce her credit card number she backed up. Even though in the workshop she was told that the on line payments are secure, a part of her refused to type the number. She thought to herself that in the first chance she'll go to the bank and pay the fine. She wasn't sure how to cancel the payment request, she got scared. She wanted to return to the municipality homepage but because of the pressure she was in to she mistakenly returned to her homepage which was blank. She pressed the Favorites icon and from the list picked the municipality and accessed its website again.

Level of learning pursued by user in the scenario

Level of learning

(T&L)
raining and learn-
ing

"The Introductory Workshop".

The workshop aims both at 'Learning' aimed to increase control by cognitive knowledge which means that a person has come to "know that..." which he/she did not know before the process. And at 'Training' aimed at increasing control by developing skills, which means that a person comes to "know how to....", which he/she did not been able to do before the process.



SRL learning actions in scenario description

Phase 1 - Forethought

Set learning goals

she wanted to visit the news site she'd been browsing during the workshop Every learning process, for it to be relevant, significant and motivating has to serve personal goals and interests. In this case Ann is interested in visiting the News site and that's the drive for her learning efforts.

Motivation

she felt it would be complicated to reach them so she hesitated The learner in this scenario has low SRL skills. For ex' experiencing feelings of low self efficacy she turns to an extrinsic goals (get good grades, perform better than others, get positive judgments) by a comparison with her mates. More effective for keeping high motivation and a sense of self efficacy are intrinsic goals (broadening knowledge, mastering task, improving abilities).



Ann, the pensioner

Space of implementation

	Mainly	Partly	Possibly
Learning at school			
Learning at work			
Learning at home	●		

Rural settings and user groups addressed

	Rural school	Agriculture oriented community	Entrepreneurship oriented community	Interest in local governance	Remote research station
Students					
Teachers					
Farmers					
Entrepreneurs					
Health personnel					
Administrators					
Private citizens	●	●	●	●	

● = Expected interest in this scenario

● = Possible interest in this scenario



Identified user needs addressed

Learning - More and better learning opportunities	Access to education	
	Access to educational resources (formal learning)	
	Teacher training (formal learning)	
	Farmer training (formal learning)	
	Professionals and administrators training (formal learning)	
	Opportunities for informal learning (in private)	●
	Activity of remotely located research centres	
Governance - More and better governance opportunities	Locals' access to public services and information	●
	Knowledgeable and creative local government personnel	
	Citizens' involvement in local, regional, national initiatives	
Economic growth - More and better growth opportunities	Knowledgeable and creative farmers	
	Knowledgeable and creative entrepreneurs (tourism)	
	Knowledgeable and creative entrepreneurs (other innovation)	
Communication - More and better outward communication	Communication with others (regionally, nationally, internation.)	●
	Access to and use of up-to-date information on the internet	●
	Opportunities to follow world developments and global change	

Types of learning supported

Individual learning	●
Collaborative learning	
Learning by doing	
Exploratory learning	
Community-based learning	
Multidisciplinary learning	
Teacher-led learning	
Self-paced learning	●
Blending informal and formal learning	

Temporal mode

Asynchronous interaction / time-independent activity	●
Synchronous interaction / time-dependent activity	



Elsa, the doctor



Rationale

Elderly in remote areas, who are in addition digitally illiterate, are a unique type of users. Introducing them to the new digital culture and reducing their resistance to the use of new technologies is particularly challenging. However this group of users can be one of the most benefited from embracing the opportunities the new technologies can bring them.

Involved actor

Elsa	Age	39
	Gender	Female
	Education	MD
	Profession	Neurologist MD
	Level of digital literacy	Low medium
	Marital status	Married
Learning objective	External	Become an independent learner, acquire digital tools to pursuit her work. Continue her Piano lessons, start training in Geriatric Psychiatry, learn to use TELEMEDICINE to stay uptodated and stay involved in the Alzheimer debate.
Success standard / how to evaluate success	Who assesess?	Learner, tutor , system
	How to assesess?	For the piano lessons: a tutor and the system. For the Alzheimer: Virtual Communities colleagues and for psychiatry: a tutor.

Specific goals

- To illustrate the access to content provided by the Medsky Platform of the RW project.
- To illustrate the use of support tools to enhance change, training and guidance.
- To illustrate the benefits for career developing in remote areas using the RW platform.
- To illustrate elearning by using an eplatform, in this asynchronous distance music education.

Applications involved

- The MEDSKY satellite platform for telemedicine and distance learning, available at web.tentelemed.com/medsky.htm
- The VEMUS (Virtual European Music School) system, available at www.vemus.org



Narrative description

Elsa has just clicked the Save button on the left of her PC screen. Her text, which had just been typed using “Word” processor, is now saved. She has just finished typing the abstract of her next academic article on Heredity and Alzheimer. Elsa, 39 years old, is a Neurologist. Her husband, Peter, is a researcher and has been just nominated “Head of the Research Center of Dallmann” in King George Island, an island not far from the Antarctic, for a 4 years period. Elsa followed her husband, putting aside her career. However, *she wishes to continue her research* and to stay involved in the debate on the question of hereditary factors in Alzheimer disease. Moreover, Elsa began an informal training in geriatric psychiatry (T&L) and would like to go on with it in spite of her insulation. Besides that, Elsa always *dreamed to learn to play the piano*.

Using User’s Help Manual – Attach a document (T&L)

Elsa clicks on the email icon on her desktop. An email box opens. She types the address of her correspondent, fills in the subject and writes a few introductory words in the body text box. However, *she does not know how to attach* to the email the document she has just saved.

She clicks “Users’ Help Manual” icon. Peter, her husband, advised her to consult the Users’ Help Manual” each time she faces a problem. She knows little about computers. Her knowledge does not exceed a basic use of “Office” programs. In addition she surfs the Web once in a while.

The “User’s Help Manual” page opens. An empty box for a question is displayed. Elsa types the following question: “Attach a document”. Then she clicks the button “Find”. The answer arrives quickly. *The procedure seems to her rather simple*. She has first to return to the email window. There she has to press the button “Attach a document”. It is right under the email subject box. She clicks on the attach button. A new window opens. Elsa finds there a list of all her files and folders. According to the instructions in the User’s manual, she has to select the file she wishes to attach to her mail. She locates the file and clicks on its title to select it. Finally, according to the manual, she has to click the icon “to attach”. After doing so she is delivered back to the initial email window. But now a small icon with the title of her attached file appears below the subject box. *That was easy enough she thinks* and clicks the “send” icon. *She smiles with satisfaction*; (R.L) she’s able from now on to attach a document to her emails.

She will not have to ask any more, every time she wants to attach a document for Peter guidance. This new independence pleases her particularly.

TELEMEDICINE Find Medical Information, contact specialists, collaborate through forums and networks

Elsa has just sent a proposal for publishing an article in a very prestigious international Neurology journal. She proposes there to carry out a research on Alzheimer patients, who have in their family several known Alzheimer cases. . To pursuit her research as good as possible, *she must run some tests on Alzheimer patients*. Peter advised her to *enter the Rural Wings network* where she might find helpful information.

Elsa clicks the “Rural Wings project” icon on her desktop. An Internet browser page opens. She’s asked to type her username and her password. Then she clicks the “submit” icon. A new page opens, with several icons on it. *She does not seem to know how to proceed*. She decides to use the “help” option (T&L) to learn how to use the Rural Wings portal. A “Help Page” opens up. A box for key words appears. She understands that she

Index of Abbreviations

Level of learning:

T&L: Training and learning

C.L: Critical learning

R.L: Reflective learning

Highlight Color index (SRL learning actions):

Phase 1: Forthought

Phase 2: Performance

Phase 3: Self-Reflection



has to type some key words there to proceed with the help. So she types: “Experiment, Neurology, Subjects”. Elsa clicks the “Search” icon. A list of links is displayed. At the head of list, there is a link called TELEMEDICINE. She hits this link. A new window opens. Right away, she seeks the help icon which can enable her to understand how this application works. Once she clicks the help icon. An instruction manual appears. It includes numerous pages. Elsa, who knows how to print a document, prints the instruction manual. (R.L) *She believes it would be simpler* to read a printed document than read it directly from the screen. While reading the printed version of the manual, she discovers that the application will enable her to reach medical files of subjects according to their diagnosis. Through the application she can even get in contact with their attending doctors. Moreover, several Discussion Forums are available as well, and also a dozen of links to medical sites and articles. It says in the manual she can stay up dated by consulting those websites and share and exchange information with other specialists in the discussion forums. She thinks she could possibly *find in the discussion forums* specialists in Alzheimer.

She leaves the printed manual and returns to the PC screen. First of all, she decides to visit the Discussion Forums. She clicks the forum icon. The forum’s page opens. A list of themes appears. *She searches for the word “neurology”* in the themes list. When she finds a title which contains it she hits the link. A new page opens. A list of topics is displayed. She searches for the word “Alzheimer” among the titles of the topics. When she sees one with it she hits the link. The requested page opens. There she finds a list of questions posted by specialists and beneath each one of them several answers posted by other specialists. Dozens of questions are posted. She consults each one of them. *She spends an hour doing it.* When she finally finds a specialist who writes about Alzheimer disease, her internet connection is abruptly interrupted. She presses the Refresh button and a blank page appears. *She gets really frustrated after all the time invested.* She hopes she’ll be able to find this specialist easily again. Her husband Peter talked with the RW technical support person who explains him there was a small problem with the WiFi network but they just solved it. Elsa goes back immediately to her search. She connects to the TELEMEDICINE application once again and manages to remember the steps followed before. She finds in a reasonable time the question on Alzheimer disease asked by the neurologist she found just before her P.C shut down. She decides to post a question of her own. She finds at the bottom of the list the icon “to add a question” and clicks it. A new page, with an interface similar to an email, opens. She types in the Title box: “List of online articles on Alzheimer disease”. In the body text box she explains why she seeks articles on heredity and Alzheimer. Then she is interrupted by Peter, who tells her it is time for them to have dinner. Elsa leaves her work thinking to get back to the PC right after dinner and check if she got an answer. Two hours later, the neurologist responds her. He sent her a list of Internet links as well as an offer to assist her with her research. Elsa clicks on one of the links. It leads to an article on Alzheimer disease written by one of the biggest specialist in the field. The bibliography of the article is impressive. *Elsa prints it. She takes notes while reading the article.* *She promises herself to visit the forum every day* with the aim of obtaining more uptodate information. Elsa must deal with another problem: *Experimentation on subjects.* The bibliographical background is not sufficient. She remembers she read in the instruction manual she could access online medical files through TELEMEDICINE application. She clicks the “back” button several times until she returns to the TELEMEDICINE home page. She visualizes the icon “Consult medical files” clicks it and a page with several fields for a smart search displays. She fills in the box next to each field. *Her search criterion is:* A men, age 35 to 70, European, suffering from memory loss and/or Alzheimer. Once she filled in all the search fields she clicks the “submit” button. For her satisfaction she sees a list of patient names displayed on her screen. She observes that the vast majority of patients in the list are treated by the same neurologist. The name of the attending doctor appears next to each name. She immediately writes an email to him using the email address that popped up once the name is clicked. In the email she explains the goals of her research and her need to do some tests on patients suffering from Alzheimer with family antecedents of the disease. She clicks the « send » button and *decides it’s enough for one day.* She will check her emails tomorrow morning. For the moment, she would like to check the possibility of elearning piano. The piano has always been a passion for her. Now that she has a little time for herself, she would like to use it as good as she can.



elearning music using the eapplication VEMUS

In the RW project portal manual, she reads that a virtual school of music is accessible. The name of the virtual school is VEMUS. . (T&L) She reads further in a printed version of the instruction manual on VEMUS elearning application, and she is excited to discover that she can not only reach a dozen of Scores and tutorials to learn the piano with but can also take part, by videoconferences, in online piano lessons with a group or individually. She clicks the VEMUS icon on her desktop. The VEMUS home page opens and icons of several instruments appear: flute, saxophone, trumpet, clarinet, Piano... She clicks on the piano icon. A new page with a questionnaire opens. She must provide certain details on herself such as email address, webcam standard or level of VC knowledge. She knows she does not have a webcam and understands that without a webcam it will not be possible for her to take piano elearning lessons. Disappointed, she clicks on the “Back” button and returns to the homepage to find how to access the “Scores and Tutorials’ bank”. Once she accesses it she finds there scores with different difficulty levels and some training tutorials. *She clicks on a tutorial for beginners* and a box with the option to download or open the file pops up. She chooses the download option. Then she chooses a destination in her computer for the tutorial which is a Word document file. Then she clicks on “save”. After the download is completed she clicks, as usual, “my documents” icon on her desktop. She opens the tutorial file and decides to print it for *she prefers to read it near the huge piano in the living room*. Today she downloaded only the first lesson of the tutorial. She decides she will return to VEMUS tomorrow evening to download the second lesson *if she’s done with the first by then*.

Pursue professional training using the RW platform

Before going to bed Elsa decides to check her mail inbox once more. Louise Martin, an eminent psychiatrist specialist in the «Elder Population», wrote her. Elsa used to visit her classes in university before moving to King George Island. Elsa wished to obtain the conceptual tools to approach, from a psychiatric level, the Alzheimer disease. Professor Martin suggested, when Elsa announced her departure, to continue teaching her by emails and audioconferences. Elsa agreed, happy that she will be able to continue her studying and develop a deeper perspective on the matter. She clicks on the name Louise Martin in her incoming mail box. The content of the psychiatrist email is displayed. (T&L) Martin’s email this evening talks about a comparison between the state of advanced senility and the development of Alzheimer. Martin proposes his assumption on the matter and encloses a list of scientific online articles she can consult. Elsa clicks on some one of the articles to get a first grasp of them. Professor Martin proposes Elsa an audioconference using a chat conversation, scheduled for the afternoon of the following day. *Elsa thinks she’ll have time*, till then, to study the suggested articles that she will print tomorrow first thing in the morning.

Before leaving the computer, she takes a last look in the forum in which she previously took part. She clicks again on the desktop icon. An Internet page appears then. She clicks again on the icon corresponding to TELE-MEDICINE application. She recognizes the environment. She clicks on the Forum icon and then on the discussion dedicated to neurology after finding it in the list of discussions themes. Once in the relevant discussion she scrolls down the page to the bottom to find her question. To her surprised, the specialist already answered her. She is able now to carry out her experiment. The specialist offers her his full cooperation. Elsa leaves the application and shuts down the PC. After only one month using the application, Elsa managed to test nearly a dozen subjects, having previously studied their medical files. She has made a remarkable progress in her piano lessons. And studying with Professor Martin gives good results. New horizons open for her.



Level of learning pursued by user in the scenario

Level of learning

(T&L) Training and learning

“an informal training in geriatric psychiatry...”

Training and learning in the field of professional development i.e. training in geriatric psychiatry.

“Elsa clicks on the email icon on her desktop...”

‘Training’ in this context aimed at increasing control by developing skills. A person has come to “know how to....” which he/she did not been able to do before the process. In this case using an email software and add an attachment.

“to learn how to use the Rural Wings portal...”

Training to increase her skills in using the Rural Wing portal, the discussion forums and the search options.

“She reads further in a printed version of the instruction manual on VEMUS...”

The learner is learning how to use a new application, VEMUS, for e-learning music.

“Martin’s email this evening talks about a comparison between the state of advanced senility...”

Learning in the professional field. ‘Learning’ in this context aimed at increasing control by cognitive. A person comes to “know that...” which he/she did not know before the process.

(R.L.) Reflective learning

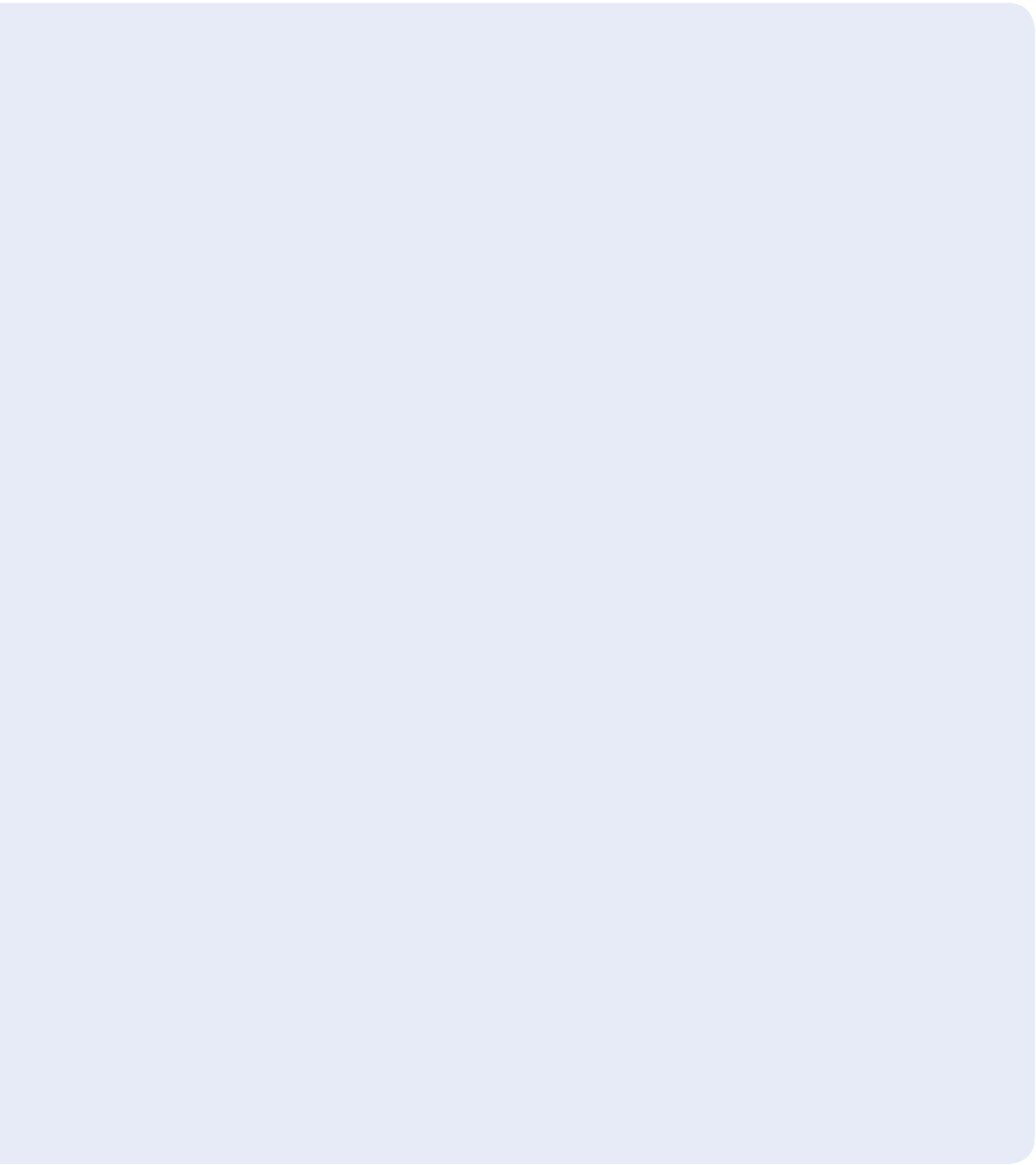
“She believes it would be simpler...”

Reflect on one’s ideas, concepts, with which he/she is able to observe internally. In this case regarding learning style. As far as one is getting familiar with his/her way of self-conducting, style of learning and patterns of working and understanding.

“she’s able from now on to attach a document...”

Reflect on one’s ideas, concepts, with which he/she is able to observe internally. In this case on her own capacities.





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SRL learning actions in scenario description

Phase 1 - Forethought

Set learning goals

she wishes to continue her research

Every learning process, for it to be relevant, significant and motivating has to serve personal goals and interests. In this case Elsa's career goals are: Continue research on Alzheimer, geriatric psychiatry.

she wishes to continue her research

Another personal goal, not related to career, is to learn to play the piano.

she must run some tests on Alzheimer patients.

The learner breaks up his career goal into subgoals (run tests).

(S.R.L skill: "Setting specific proximal goals for oneself")

Experimentation on subjects.

The learner breaks down the subgoal even into smaller tasks, i.e. learn about "experimentation with subjects"

Motivation

She clicks "Users' Help Manual" icon

Being aware of the obstacles she will tackle and planning a strategy to deal with it will help to keep her motivation and sense of self efficacy high.

Choosing adequate learning strategies

She clicks "Users' Help Manual" icon

The learner reflected before the task on his level of knowledge (basic knowledge of computers). She looked for someone who can guide her (Her husband) and she chose a solution (look at the User's Manual).

She searches for the word "neurology".

The learner has in his arsenal information searching strategies according to key words that he can use when necessary.

She takes notes while reading the article.

The learner decides to use a learning strategy of note taking when reading new material and applies it later on. (S.R.L skill: "Adopting powerful strategies for attaining the goals")

Her search criterion is Using smart information searching strategies.

Planning

she must run some tests on Alzheimer patients. The learner breaks up his career goal into subgoals (run tests). Setting specific proximal goals for oneself

enter the Rural Wings network

A step she plans to fulfill her subgoal –run tests- is to look in the RW network.



Phase 2 - Performance

Self-evaluation Self evaluation of one's goals, strategies, motivation, planning execution.

That was easy enough she thinks The learner is actively involved in maintaining his level of motivation, in this case by self reassurance and positive statements.

That was easy enough she thinks The learner rewards herself emotionally for the achievement of a subgoal (making an attachment) thereby increasing her sense of efficacy.

does not seem to know how to proceed The learner is aware of the difficulty he faces. That enables him to isolate the obstacle, find a strategy to face it (use the "Help" option). Localizing the obstacle is important for maintaining the level of satisfaction.

She believes it would be simpler The learner is aware of his learning styles (prefer to read a printed document than read it directly from the screen) and decides on his actions accordingly.

find in the discussion forums The learner adjusts his planning as he performs the task, in this case deciding to enter the discussion forums.

She gets really frustrated after all the time invested The learner has emotional intelligence skills that enable him to formulate his own feelings regarding the learning process.

Elsa prints it Again the learner aware of his learning styles prefers to print the material rather than read it on the screen thus making the learning suitable for her.

decides it's enough for one day. The learner is aware of his feelings and strength and consequently is sensible to when he needs to take a break or stop the task. Not exceeding one's power is crucial for staying motivated.

She clicks on a tutorial for beginners The learner is aware of his level of knowledge and acts consequently. That is important for keeping motivation, sense of self efficacy and of course for fruitful learning efforts.

she prefers to read it near the huge piano in the living room The learner designs her physical learning environment so it suits her. Every learner should spend some thought and time in adapting his physical environment into a stimulating, motivating and without distractions for learning.
(S.R.L skill: "Restructuring one's physical and social context to make it compatible with one's goals")

Monitoring Monitoring one's performance selectively for signs of progress.

she does not know how to attach The learner monitors his comprehension of the task and is aware of the difficulties he faces i.e. to make an attachment to an email.

That was easy enough she thinks The learner monitors his level of performance of the task and the level of difficulty.

She spends an hour doing it. The learner monitors the time she spends realizing a specific task. (S.R.L skill: "Managing one's time use efficiently")

if she's done with the first by then. The learner thinks about monitoring her progress and to adjust her learning plan accordingly.
(S.R.L skill: "Monitoring one's performance selectively for signs of progress")

Phase 3 - Self Reflection

Comparison Comparison of self-observed performances against goals and planning.

She spends an hour doing it.
The learner monitors the time she spends realizing a specific task. That enables her to make realistic planning decisions in the future and to compare her actual performance to the planned.

Adapting Adapting future goals Strategies, learning environment and planning.

She must run some tests on Alzheimer patients. The learner breaks up his career goal into sub-goals (run tests). Setting specific proximal goals for oneself
enter the Rural Wings network
A step she plans to fulfill her sub-goal –run tests- is to look in the RW network.



Elsa, the doctor

Space of implementation

	Mainly	Partly	Possibly
Learning at school			
Learning at work			●
Learning at home	●		

Rural settings and user groups addressed

	Rural school	Agriculture oriented community	Entrepreneurship oriented community	Interest in local governance	Remote research station
Students					
Teachers					
Farmers					
Entrepreneurs					
Health personnel	●	●	●	●	●
Administrators					
Private citizens	●	●	●	●	●

● = Expected interest in this scenario

○ = Possible interest in this scenario



Identified user needs addressed

Learning - More and better learning opportunities	Access to education	●
	Access to educational resources (formal learning)	●
	Teacher training (formal learning)	
	Farmer training (formal learning)	
	Professionals and administrators training (formal learning)	●
	Opportunities for informal learning (in private)	●
	Activity of remotely located research centres	
Governance - More and better governance opportunities	Locals' access to public services and information	
	Knowledgeable and creative local government personnel	
	Citizens' involvement in local, regional, national initiatives	
Economic growth - More and better growth opportunities	Knowledgeable and creative farmers	
	Knowledgeable and creative entrepreneurs (tourism)	
	Knowledgeable and creative entrepreneurs (other innovation)	
Communication - More and better outward communication	Communication with others (regionally, nationally, international.)	●
	Access to and use of up-to-date information on the internet	●
	Opportunities to follow world developments and global change	●

Types of learning supported

Individual learning	●
Collaborative learning	●
Learning by doing	
Exploratory learning	
Community-based learning	
Multidisciplinary learning	
Teacher-led learning	●
Self-paced learning	●
Blending informal and formal learning	

Temporal mode

Asynchronous interaction / time-independent activity	●
Synchronous interaction / time-dependent activity	●



“Becoming an Empowered Self Regulated Learner”: a Rural Wings Workshop for learning@home

To enable an optimal use of the learning@home scenarios and the supporting learning tools developed, an introductory workshop, titled “Becoming an Empowered Self Regulated Learner”, is also available.

The goal of the workshop is to empower the participants by providing them with learning tools and an opportunity to better understand themselves and the reality they live in: both internal factors (interests, motivation, goals, fears) and external factors (political and economical forces, interests and other constraints). The workshop would encourage the participants to pursue their learning goals and would help them to develop SRL’s skills.

The Workshops units are:

- Unit 1: Introduction to ICT
- Unit 2: Why learning? Clarification of Motivation
- Unit 3: Introduction to learning approaches and strategies
- Unit 4: Introduction to SRL
- Unit 5: Training of SRL skills (Forethought, Performance & Reflection)
- Unit 6: Finalization, evaluation, and conclusions.

The workshop is described in detail in the following paragraphs.

Rationale

The goal of RW project is to help rural communities, which do not enjoy terrestrial broadband infrastructure, to lead a social change through an educational process. This workshop is targeting towards this goal, and the educational approach that lies in its basis is a combination of (1) Prof. Roni Aviram’s theory of empowerment and learning with that of (2) Barry Zimmerman theory of Self Regulated Learning (SRL). The educational approach is described in the introduction of deliverable D4.1. Its main principle is that the core goal of education is empowerment of individuals through an educational process. The personal empowerment of the individuals also raises the extent of their social and hence it has a direct influence on the power of the community and society. These processes of empowerment are very much bounded to motivation, willingness and the ability of individuals to learn and develop on their own and to acquire SRL’s skills.

Goal

The goal of the workshop is to empower the participants by providing them with learning tools and an opportunity to better understand themselves and the reality they live in: both internal factors (interests, motivation, goals, fears) and external factors (political and economical forces, interests and other constraints). The workshop would encourage the participants to pursue their learning goals and would help them to develop SRL’s skills.





The workshop units		
	UNITS' Title	Workshop
UNIT 1	Introduction to ICT	(90 minutes)
UNIT 2	Why learning? Clarification of Motivation	(120 minutes)
UNIT 3	Introduction to learning approaches and strategies	(90 minutes)
UNIT 4	Introduction to SRL	(90 minutes)
UNIT 5	Training of SRL skills (Forethought, Performance & Reflection)	(90 minutes)
UNIT 6	Finalization, evaluation, and conclusions.	(60-90 minutes)



Format

The workshop is modular so the coordinator can adjust it to the needs of the local user's group. Some possible workshop formats with different focus in relation to users' needs:

- Motivational focus
- Begin working/learning focus
- Beginners (Digitally illiterate) focus

In addition, this workshop and especially the tools it offers, can be used as a standalone course by an individual user who wants to learn these subjects and skills by him/her self and in its own pace.

Objectives of the workshop units

UNIT 1: Introduction

[The scope and content of this unit could be defined based on the syllabus of 'The European Computer Driving License Foundation Ltd', 2006, and on a questionnaire based on it too.]

Objectives

1. The group would get to know each other, coordinate expectations and would receive a general introduction to the whole process.
2. Participants would get an overview of ICT and its uses.
3. Participants would be exemplified the simplicity of using the Internet and will come to realize that a lot of the required skills can be learned by "playing" with the applications.

Accessories: up to date computers lab (room)



UNIT 2: Why learning? Clarification of Motivation

Objectives

1. Participants would acquire understanding of the relation between the installation of broadband internet and questions related to learning and personal or professional development.
2. Participants would clarify their motivation regarding learning in general and empowerment.
3. Participants would clarify past obstacles in achieving learning and developmental goals

Activity for gathering/class format [a suggestion]:

Through guided reflection and questions lead the participants to:

1. Identify and articulate their personal interests, learning objectives or “burning problem”.
2. Identify the obstacles and barriers to realize them.
3. Develop legitimacy to pursue them.

UNIT 3: Introduction to learning strategies

Objectives

1. Participants would get acquainted to the idea of three levels of learning: learning and training, critical learning and reflective learning.
2. Participants would get to know different learning strategies.
3. Participants would try to apply the new knowledge in order to better understand their own learning style.

[Note: It is important to avoid a rigid self categorization. Any categorization (self-categorization included), should always be looked at as temporary.]

Activity for gathering/class format [a suggestion]:

Through guided instruction and analyzing past life experiences of the participants:

- Definition of learning as a universal activity, part of our daily experience (see educational approach).
- Being introduced to different learning styles and approaches to learning.
- Learning as a process of problem solution - characterize the different phases of a learning process:
- Identify the problem.
- Formulation of hypothesis.
- Decision Making – choosing the optimal action.
- Acting and Reflecting on process and results
- Learning style.

UNIT 4: Introduction to the idea of empowerment and the idea of SRL

Objective

Participant would learn basic concepts regarding the idea of empowerment (such as wellbeing, lifelong learning, sense of autonomy and sense of belonging) and basic concepts of Zimmerman SRL theory.



SRL Learning Tools

Introduce the SRL self learning tools:

- Forethought Assisting tool
- Performance Assisting tool
- Reflection Assisting tool

UNIT 5: practicing SRL

Objectives

Participants would practice learning process in accordance to SRL model with the support of the workshop's coordinator. The purpose of the supervised practice is to construct among the participants a preliminary experience of self regulated learning. This experience would hopefully assist participants in developing efficient learning habits and independent learning skills.

SRL Guided Practice Activity

The practice would have three phases: forethought, performance and reflection.

Activity for gathering/class format [a suggestion]

- For the Forethought phase – Participants would gather all they have learned about their personal interests, goals, learning strategies, motivation and themselves as learners, and would build a learning plan according to SRL parameters.
- For the Performance phase: Writing three scenarios: (1) optimistic scenario – in which achieving the learning goals was completed and the way to it was smooth, (2) pessimistic scenario in which the learning goal was not achieved and the way to it had lot of obstacles and (3) realistic scenario of the process of achieving learning goals – somewhere in-between (1) and (2).

Note: the scenarios should be as detailed as possible and the coordinators of the workshop would escort and support the participants in writing process.

An alternative activity for the performance phase

- The participants would apply in real life their learning plan developed in the forethought phase and the coordinator would to follow up the learners progress by their daily reports in the RW local network .
- For phase 3 – Reflection: The Group would elaborate on the process that had end, and think of the needed adaptations toward the coming new learning cycle. The elaboration would include:
 - o Reflecting upon the scenarios (or daily reports), and the internal process (cognitive and emotional) the participants had gone through.
 - o Adaptation of learning goals
 - o Redefining strategies and learning style.

UNIT 6: Summary, feedbacks, conclusions

Objective

Participants would sum up their experience, evaluate the process and suggest conclusions.



Localising the scenarios

7

7.1 Localised learning modules

The scenarios presented in the previous chapters are generic in nature. They are based on the overall analysis of user needs and the conceptual foundations of the Rural Wings project. By necessity, therefore, they are the result of a degree of abstraction, and do not claim to provide answers to country- or pilot-site specific questions about how to be implemented. What they do provide, however, is a general set of ideas, aims and guidelines, which form adequate initial input in a process of localisation and adaptation conducted by the national and local coordinators, so that the activities eventually implemented in the pilot sites really address the local needs.

In the conception of the Rural Wings scenarios of use, national coordinators in particular are considered as the main interface between the more general objectives and aspirations of the project and the more concrete national, regional and/or local educational policies, strategies, priorities and needs. In line with this role of theirs, the National Coordinators have transformed the generic scenarios into context-specific learning modules, consisting of materials in the local language (where English is not appropriate for use with the local users) and of local relevance (where the local circumstances deviate considerably from those generic ones anticipated in the scenarios). In this process, the proposed ICT applications and learning resources may be complemented, or even replaced, by national, regional or local resources which may be of particular local relevance.

It should, finally, also be stressed that through the implementation of the proposed scenarios in real-life settings and the involvement of end-users in the proposed activities, the generated experiences will form input for further elaboration of these first generic, demonstrative scenarios, whereby the discovery and integration of further content and usage schemes by the national coordinators and the end-users themselves will be particularly encouraged.

The interest of the participating communities per country in the Rural Wings scenarios of use is presented in Table 7.1.

Table 7.1: Countries' interest in the various scenarios

	Armenia	Cyprus	Estonia	France	Georgia	Greece	Israel	Poland	Romania	Spain	Sweden	UK
Entrepreneurship education: A rural e-shop		●				●						
Access to education: A virtual music school		●	●			●	●		●	●		
Students' WebTV programme		●	●			●				●		
Rural school teacher training		●				●	●		●	●		
Better education: Enriching science education		●	●			●	●		●	●		
Addressing change in rural communities				●			●					
Health emergency training			●			●			●			
Communication and training for farmers						●						
Alexander, the local educational leader		●	●	●		●	●	●	●	●	●	●
Lisa, the university student		●	●	●		●	●	●	●	●	●	●
Martin, the farmer		●	●	●		●	●	●	●	●	●	●
Ann, the pensioner		●	●	●		●	●	●	●	●	●	●
Elsa, the doctor		●	●	●		●	●	●	●	●	●	●

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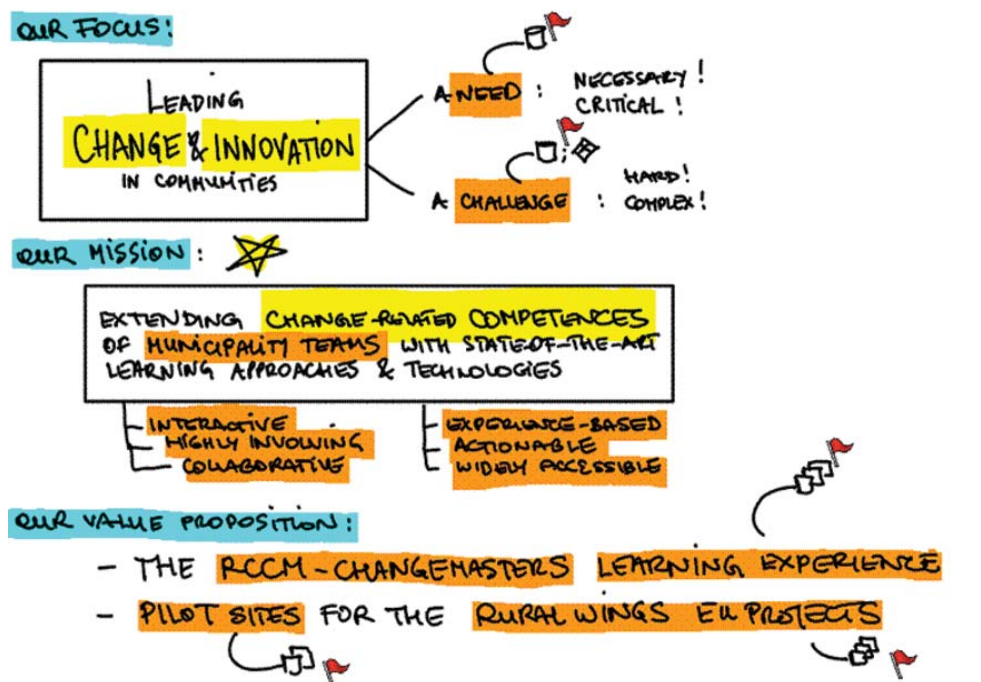
Annexes

ANNEX 1: Addressing change and innovation competences in rural communities

1. Learning@work in practice: Addressing change and innovation competences in rural communities

A concrete illustration of the L@W approach described in the previous sections consists in addressing the needs of municipality teams Europe-wide in terms of developing the competences needed to productively address change and innovation in their communities.

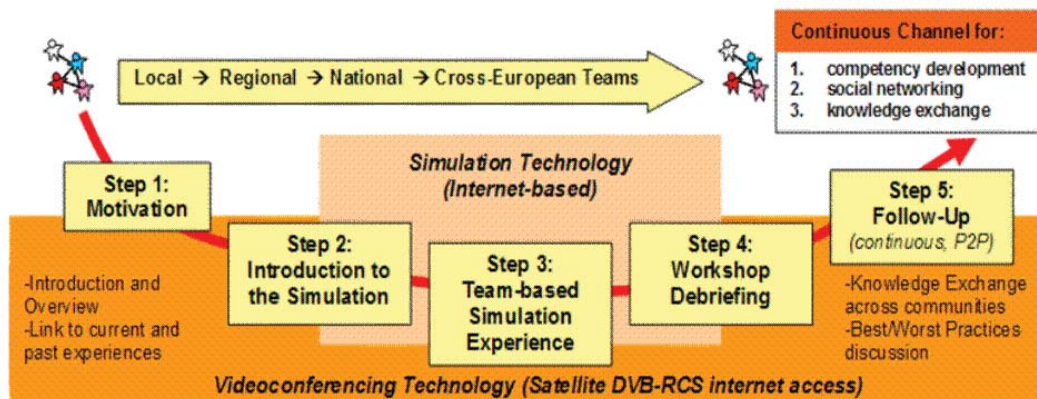
This Scenario, and the key characteristics of the Learning Experience proposed in the Rural Wings context are illustrated by the graphic below.



The approach, as described in detail ¹, leads learners through 5 different steps (Step1-4 covering Stage 1, and Step 5 covering Stage 2 of the L@W Approach – see Figure below).

¹ Albert A. Angehrn (2006); *Developing Change and Innovation Management Competencies in Rural & Urban Communities: A Social Simulation-Centered Approach*; ICITE 2006, *The International Conference on Information and Communication Technologies in Education*, 6-8 July 2006, Rhode

Overview of the CCM Learning Experience



DEVELOPING CHANGE AND INNOVATION MANAGEMENT COMPETENCIES IN RURAL & URBAN COMMUNITIES: A SOCIAL SIMULATION-CENTERED APPROACH

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Abstract

In this paper we describe an innovative way of using Information and Communication Technologies (ICT) to support the efficient, effective and sustainable development of change and innovation management competencies in municipality teams and community representatives – Community Change Master (CCM). The CCM eLearning approach presented is based on both experiential and collaborative learning models relying on technologies such as advanced social simulation and internet-based videoconferencing techniques supported by satellite DVB-RCS access. The key design principles underlying this eLearning approach and first insights gained in the context of a large EU-sponsored project are presented and discussed.



Keywords: Change and Innovation Management Competencies, advanced simulations, videoconferencing, satellite-based internet services, DVB-RCS.

2. Detailed scenarios

Specific scenarios illustrating different steps/stages of L@W Learning Experiences such as the one described in previous section are included below. During the current and future project phases they will be:

- described in more detail,
- documented with experiences in the French and Swedish Pilot Sites first, and successively in other partners countries,
- validated in terms of effectiveness, impact and transferability to other relevant L@W competence development areas

4.1 Scenario 1: Getting to know about the learning@work learning opportunity

Key Dimensions addressed:

- matching professional needs with the proposed L@W Learning Experience
- willingness to experiment with intensive and “different” learning experiences (Learning by Playing and Involvement in Europe-made Peers Community)
- Epidemic diffusion model

4.2 Scenario 2: The Simulation-based Workshop Experience: Equipping local teams with a first set of relevant Change and Innovation management competences

Key Dimensions addressed:

- a unique initial team learning experience
- a basis for structured reflection and action (motivation, language, concepts, shared context and discussion framework)
- applying new know-how and insights within the community

4.3 Scenario 3: Growing the Peer Network

Key Dimensions addressed:

- Productive exchanges on concrete cases/experiences (relevant and own ones)
- Extending the horizon (local, national, cross-national)
- Result-oriented exchanges, collaborations and networking (facing different resistance forms, managing community communication and involvement, etc.)

4.4 Scenario 4: Continuous Improvement and Best Practice Transfer

Key Dimensions addressed:

- Fine-tuning and validation through pilots. Initially in Sweden and France, then extended to other partners countries.
- Exploration of the application of the same structured approach to other professional groups and competence development areas / needs – e.g. other professions for which change and innovation competences are particularly relevant, or other relevant competences for municipality and community representatives (e.g. cross-cultural collaboration skills) or for which particularly interesting opportunities exist for the creation of a Europe-wide peers network.

ANNEX 2: Learning tools - Forethought assisting tool

Becoming a SRL learner: FORETHOUGHT ASSISTING TOOL

Name:

Learning Subject:

Goal Setting

1. My Goal for this learning task is (be very specific):

2. The steps to achieve my goal are (Be concise, the more the better):

1 _____

2 _____

3 _____

4 _____

5 _____

6 _____

7 _____

Motivation

3. Are you enthusiastic about the learning task?

Not at all ____ (1) Very little ____ (2) ____ (3) ____ (4) ____ (5) Very much ____

Learning Strategies

4. What do you think you'll like about the task?

5. The skills required to perform this task are:

1 _____

2 _____

3 _____

4 _____

5 _____

6. The difficulties involved in this task are:

- 1 _____
- 2 _____
- 3 _____
- 4 _____
- 5 _____

7. Name similar tasks you've had in the past:

Mark one lesson you've learnt from it:

8. Name the learning strategies you are going to use:

Self Efficacy

9. Does the task look difficult?

10. What looks difficult about it?

11. In which step you think you'll need help?

Who can help you?

Learning Styles

12. Does the physical context of your learning environment suits you?

Not at all ____ (1) Very little ____ (2) ____ (3) ____ (4) ____ (5) Very much ____

13. What in the physical learning environment suits you especially?

14. What could you change in the physical learning environment to improve it?

Planning

Weekly Planning

Week Number	Steps I'll make	Hours I'll learn	Pages I'll read or Assignments I'll make
Week 1			
Week 2			
Week 3			
Week 4			
Week 5			
Week 6			
Week 7			

Daily Planning-Week 1

Day	Steps I'll make	Hours I'll learn	Pages I'll read or Assignments I'll make
Monday			
Tuesday			
Wednesday			
Thursday			
Friday			

Daily Planning-Week 2

Day	Steps I'll make	Hours I'll learn	Pages I'll read or Assignments I'll make
Monday			
Tuesday			
Wednesday			
Thursday			
Friday			

ANNEX 3: Learning Tools - Performance assisting tool

Becoming a SRL Learner: Weekly Performance Self-diagnostic Questionnaire

Name:

Week Number:

Learning Subject:

Tutor:

Self Evaluating-Goals

1. What steps to achieve my goals I've completed this week?

2. Have I accomplished all planned step for the moment? Yes/ No

If No: Which planned Steps I did not do?

Self Evaluating-Motivation

3. Am I enthusiastic about the task?

Not at all ___ (1) Very little ___ (2) ___ (3) ___ (4) ___ (5) Very much ___

4. Am I using emotional strategies to encourage and motivate myself when needed?

Not at all ___ (1) Very little ___ (2) ___ (3) ___ (4) ___ (5) Very much ___

5. Which Emotional Strategies did I use and when?

6. Am I aware of my personal learning styles and performing in the task in a way adequate for me?

Not at all ___ (1) Very little ___ (2) ___ (3) ___ (4) ___ (5) Very much ___

7. What did I do that is not coherent with my Learning style?

Self Evaluating-Self Efficacy

8. Do I need to seek help or guidance? Yes/No

If Yes: In what?

Who can help me?

Self Evaluating-Learning Strategies

9. Is the learning strategy I decided to use working for me?

Not at all ____ (1) Very little ____ (2) ____ (3) ____ (4) ____ (5) Very much ____

Self Evaluating-Planning

10. (Look at your weekly plan). How many hours I planned to learn this week? ☐
11. (Look at your monitoring tables). How many hours I actually learned this week? ☐
12. (Look at your weekly plan). How many pages/assignments I planned to learn this week? ☐
13. (Look at your monitoring tables). How many pages/assignments I actually learned this week? ☐

Adapting learning space to own preferences

14. Is there anything in the physical learning environmental conditions that disturbs you?

15. Is there anything in the physical learning environmental conditions that you can change?



Monitoring for signs of Progress

16. Do I understand the learning subjects?
Not at all ____ (1) Very little ____ (2) ____ (3) ____ (4) ____ (5) Very much ____
17. The assignments this week were hard?
Not at all ____ (1) Very little ____ (2) ____ (3) ____ (4) ____ (5) Very much ____
20. Finally, if you had to give yourself a grade, what grade would you give yourself for this week?

Monitoring tables (Weekly & Daily)

Daily Planning-Week 1

Day	Steps I accomplished (Name them)	Hours I learned	Pages I read or Assign- ments I made
Monday			
Tuesday			
Wednesday			
Thursday			
Friday			

Weekly Monitoring

Week Number	Steps I accomplished (Name them)	Hours I learned	Pages I read or Assign- ments I made
Week 1			
Week 2			
Week 3			
Week 4			
Week 5			
Week 6			
Week 7			

ANNEX 4: Learning Tools - Self reflection assisting tool

Becoming a SRL Learner: REFLECTION ASSISTING TOOL

Name:

Learning Subject:

Starting date task:

End date task:

Comparison-Goals

1. I achieved the goal I've set for this learning task:

Not at all ___ (1) Very little ___ (2) ___ (3) ___ (4) ___ (5) Very much ___

Motivation

2. I was enthusiastic about the task all along:

Not at all ___ (1) Very little ___ (2) ___ (3) ___ (4) ___ (5) Very much ___

3. I wasn't enthusiastic about, when:

Self Efficacy

4. The difficult parts/moments of the task were:

5. I found the learning task easy:

Not at all ___ (1) Very little ___ (2) ___ (3) ___ (4) ___ (5) Very much ___

6. I am satisfied and feel positive about my performance:

Not at all ___ (1) Very little ___ (2) ___ (3) ___ (4) ___ (5) Very much ___

Adapting -Learning Strategies

7. Should I use other/additional learning strategy in the future? What? When?



Comparison-Planning

8. I preformed as planed in time spent & work accomplished:

Not at all ___ (1) Very little ___ (2) ___ (3) ___ (4) ___ (5) Very much ___

Causal Attribution

9. What help me succeed was:

10. My tips for me in the future are:

Self Evaluation

11. Taking all the above into account, what grade would you give yourself for this task?

ANNEX 5: Learning Tools - SRL self check list

Becoming a SRL Learner: For End of learning cycle

Check ✓ for the things you've done

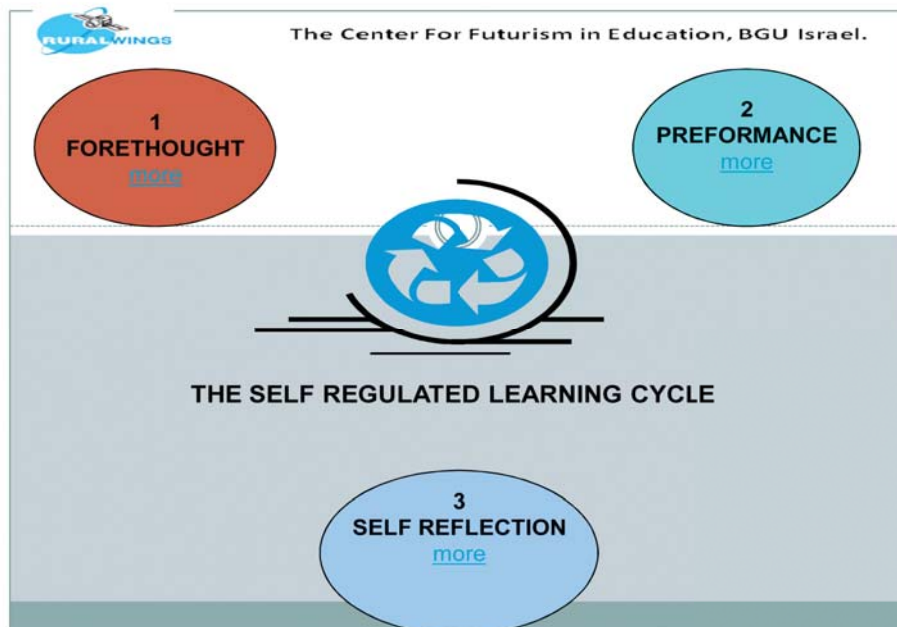
- ☐ **GOALS:** I started the learning task only after I had clear vision what are my learning goals and the steps to achieve it.
- ☐ **TIME PLAN:** Before starting the learning task I planned how much time will work every day and or week and set a target for the amount I learn.
- ☐ **LEARNING STRATEGIES:** Before I started the task I considered what it requires and chose what seemed to be the most adequate learning strategies to accomplish it.
- ☐ **ARRANGING LEARNING SPACE:** I made all the necessary changes and adjustments (avoid noises, arrange a comfortable and stimulating location...) before starting the task.
- ☐ **AWARENESS TO OWN RHYTHM:** While I was performing the learning I was aware if the rhythm was adequate for me (neither to slow, nor to fast), so that I can understand what I'm learning.
- ☐ **DAILY TRACKING:** I kept track of the amount of time I learned every day? I kept track of the amount of work (Pages read, assignments accomplished etc) every day.
- ☐ **SELF EVALUATION-MOTIVATION:** I was aware of the moments in which I lost interest and was less enthusiastic about the task.
- ☐ **SELF EVALUATION-LEARNING STRATEGIES:** I remembered to use the learning strategy I chose to use.
- ☐ **CAUSATION:** When I finished the task I tried to find what made me succeed and what made me, on the contrary, to face difficulties.
- ☐ **COMPARISON:** After the task was over I checked my self to see how well I accomplished the goal I set at the beginning and accordingly decided what will be my goal for the future.

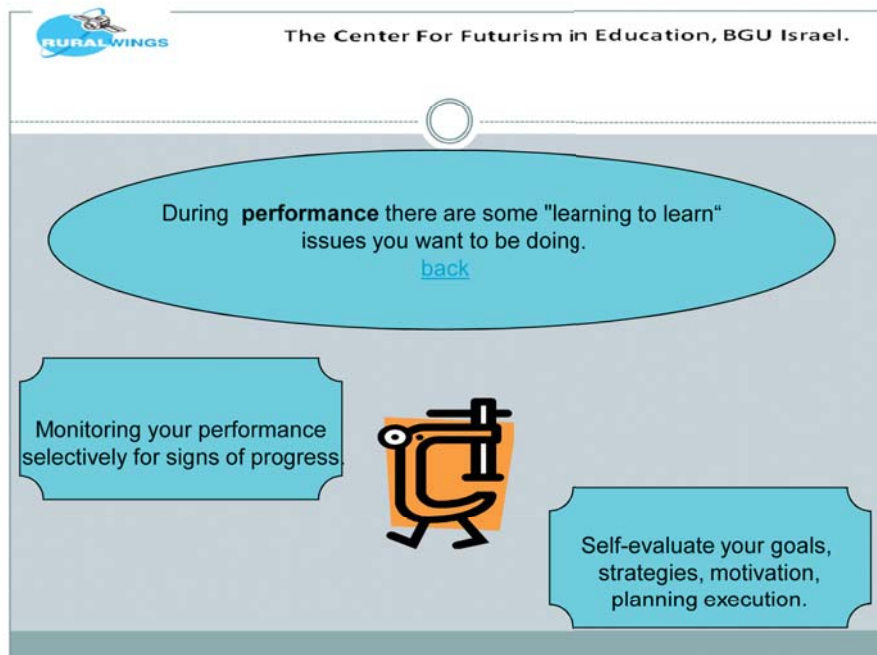
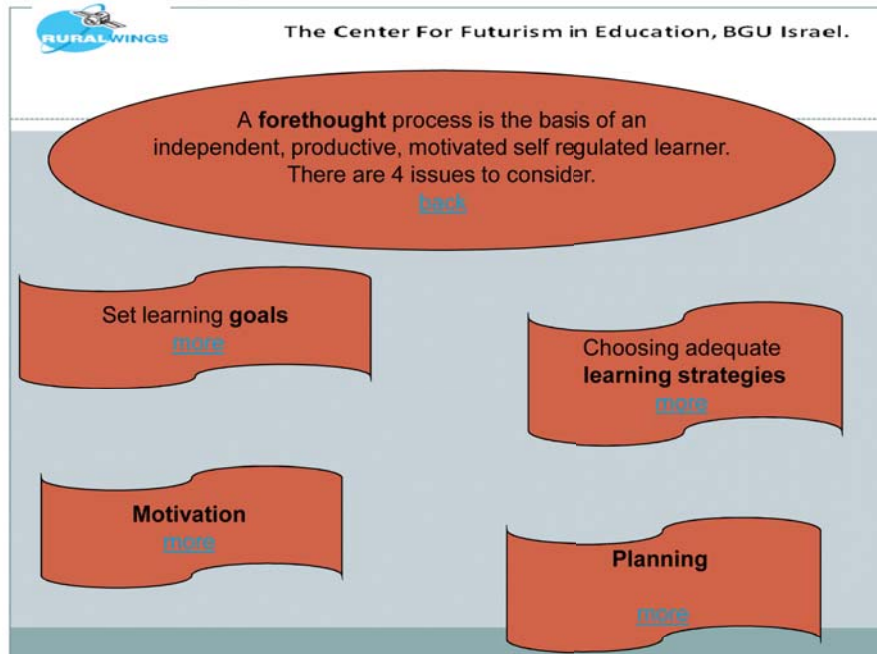
ANNEX 6: Learning Tools - SRL cycle presentation

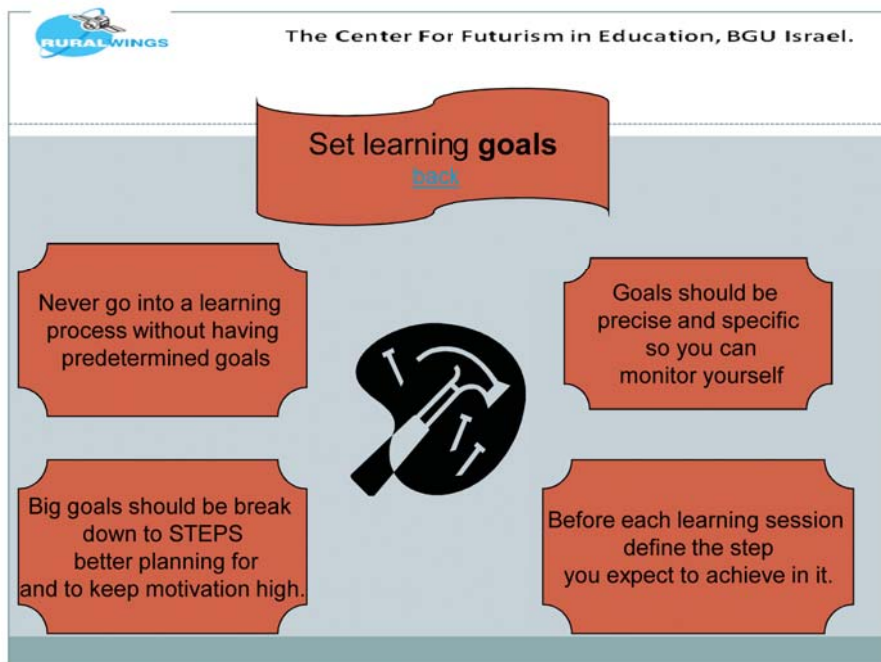
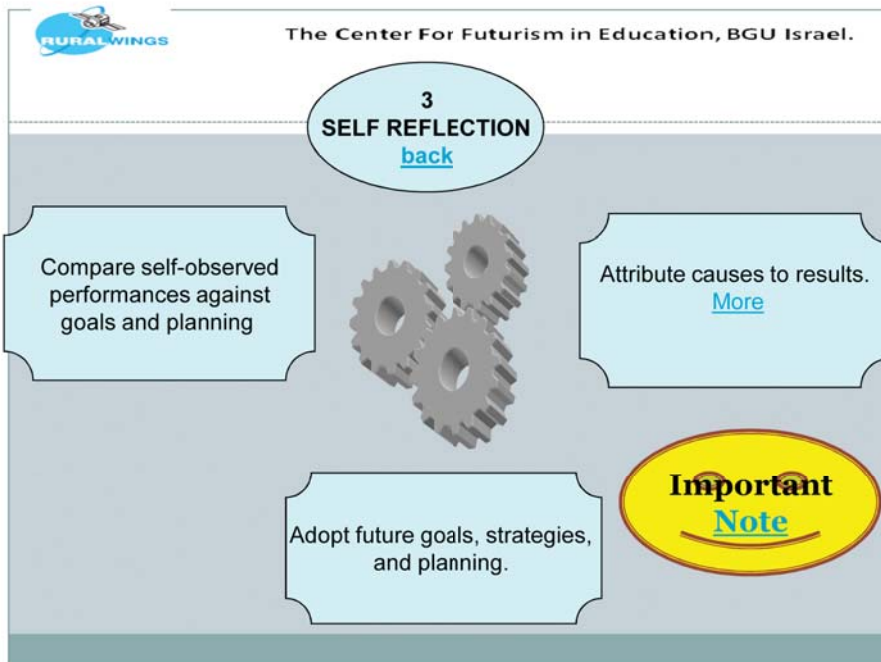

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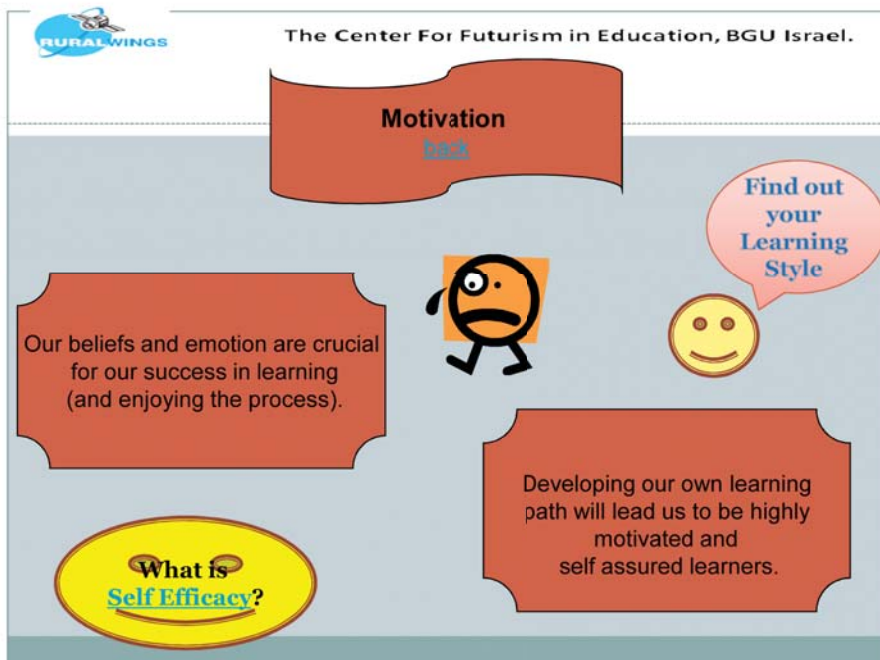
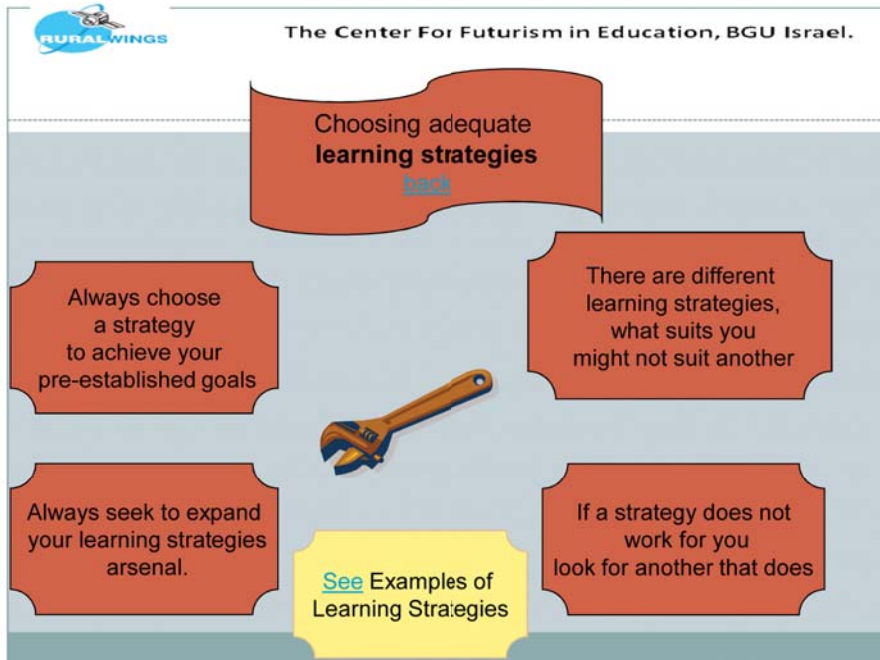


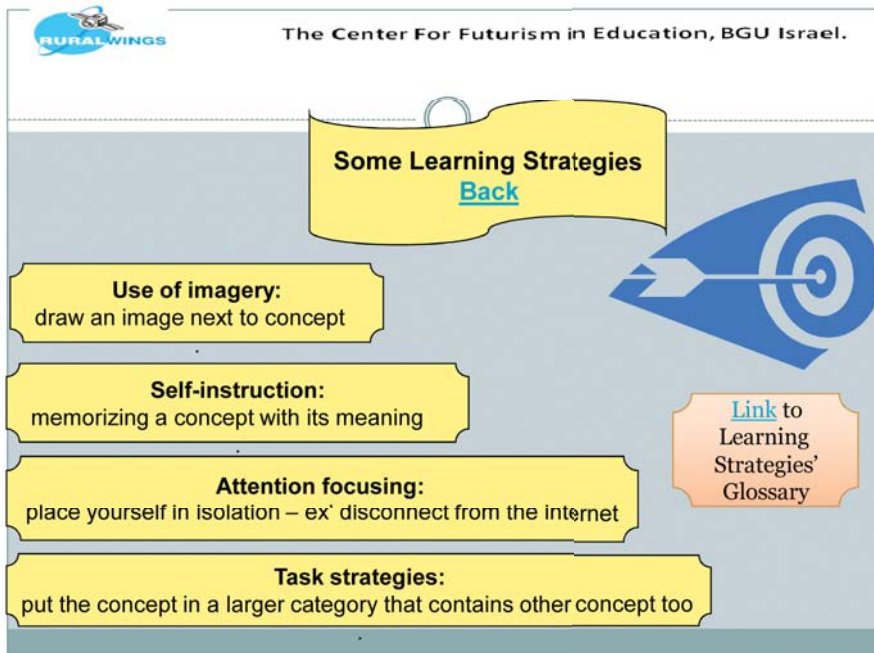
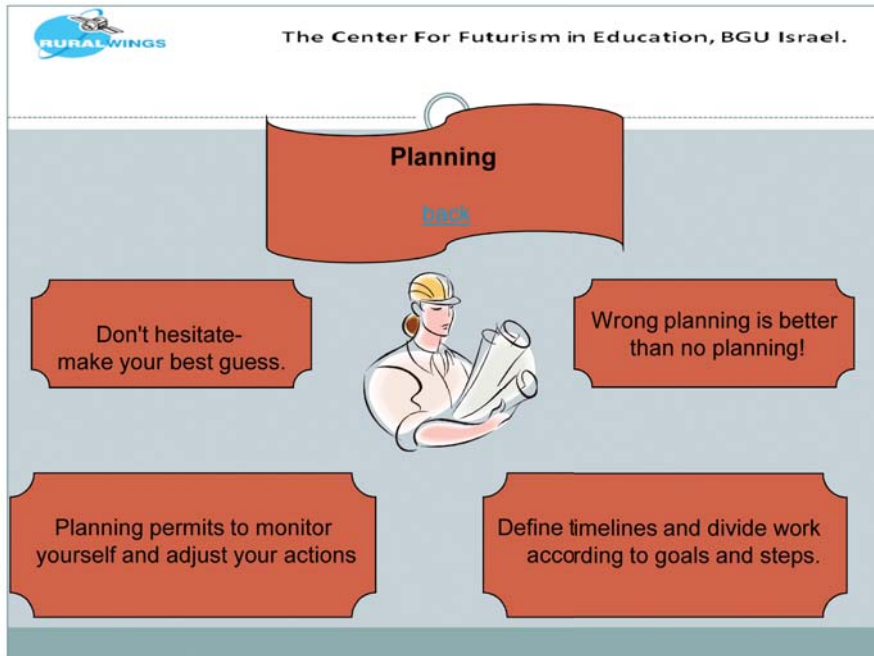
Becoming a Self Regulated Learner
Become familiar with SRL Basic definitions











Self-efficacy is beliefs about having the personal capability to learn and outcome expectations about personal consequences of learning. [Back](#)



Causal attribution - refers to beliefs about the cause of one's errors or successes, such as a score on a mathematics test. [Back](#)





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Don't attribute a poor score to limitations in fixed ability. It can be very damaging motivationally because it implies that efforts to improve on a future test will not be effective.

In contrast, attributing a poor math score to controllable processes, such as the use of the wrong solution strategy, will sustain motivation because it implies that a different strategy may lead to success.





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Recent research shows that SRL processes are teachable and lead to increases in motivation and achievement (Schunk & Zimmerman, 1998).

Self-regulation is cyclical, self reflections from prior efforts affect subsequent forethought and so on...

Bye & Good Luck, just remember... SRL!



ANNEX 7: Learning Tools- ICT learning Self Evaluation

ICT learning Self Evaluation

Tool 1: Before starting a learning cycle:

Step 1: Self Diagnosis

Fill in the following table indicating your level of expertise, mode of learning & time of learning for the different uses of ICT for learning.

	Use of Basic Internet Applications (Browser, Email)	Use of other more advanced applications	Use of Internet applications for research purposes	Use for general learning purposes	Use for making working plans & executing them	Use for seeking help from professional consultants	Informal Use for personal empowerment
Level of Expertise: 1=No Knowledge 2= Beginner 3= Advanced							
Mode of learning: Individual Learning/ Group Learning							
Time of learning: Off duty/On duty							

Step 2: Learning Goal Setting

For each of the possible uses of ICT for learning specify your goals (if any).

	Use of Basic Internet Applications (Browser, Email)	Use of other more advanced applications	Use of Internet applications for research purposes	Use for general learning purposes	Use for making working plans & executing them	Use for seeking help from professional consultants	Informal Use for personal empowerment
Goal 1							
Goal 2							
Goal 3							

Tool 2: At the end of the learning cycle

Step 1: Self Diagnosis

After you have concluded a cycle of learning refill the table below and compare it later to your diagnosis at the FORETHOUGHT PHASE.

	Use of Basic Internet Applications (Browser, Email)	Use of other more advanced applications	Use of Internet applications for research purposes	Use for general learning purposes	Use for making working plans & executing them	Use for seeking help from professional consultants	Informal Use for personal empowerment
Level of Expertise: 1=No Knowledge 2= Beginner 3= Advanced							
Mode of learning: Individual Learning/ Group Learning							
Time of learning: Off duty/On duty							

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Goal 1							
Goal 2							
Goal 3							

ANNEX 8: e-Citizen, computer skills certification programme, the European Computer Driving Licence (ECDL) Foundation

Syllabus Guide

e-Citizen Syllabus Version 1.0

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Foundation Ltd**

Basic Computer and Internet Skills-Self Check List

✓ Self Check Yourself

BLOCK 1: FOUNDATION SKILLS

Life skills and Benefits:

- Ability to use a personal computer and work with icons, windows and folders.
- Ability to perform routine Internet related tasks.
- Ability to prepare simple documents/text files and print/store them.
- Ability to connect to the Internet securely and navigate through Web pages.
- Ability to communicate by e-mail without risk.

FOUNDATION SKILLS:

The Computer

- ☐ Identify the main parts of the computer. (ie. a hard drive, a monitor, a keyboard and a mouse.)
- ☐ Turn on the computer. (Checking power supply, ensuring leads are firmly in place for all hardware and where the 'ON' switch is.)
- ☐ Recognize desktop icons and menus. (Particularly the commonly used ones: Folders, Internet browser icons and the Recycle Bin.)
- ☐ Manipulate desktop windows. (Adjust window size and position; minimize, maximize, restore and close windows; and open multiple windows.)
- ☐ Use the mouse / keyboard to carry out actions. (Hold a mouse, click left and right buttons and what actions are carried out by left-clicking and right-clicking. know which are the commonly used keyboard keys, i.e. Enter, Space Bar, Shift, Caps Lock, Backspace, Delete, Tab, Cursor arrows.)
- ☐ Shut down the computer properly. (Correct way to close down applications and windows.)
- ☐ Use Help functions. (Access and use Windows Help, and be aware that online help is available for applications.)

Files and Folders

- ☐ View folders, directories. (Look at listings of files and directories stored on a computer or removable storage device using a file management window.)
- ☐ Recognize different file types.(identify different files types by their filename extensions and graphical representation in file listings, including text files, word processing files, Web page files and image files.)
- ☐ Copy files, folders. (Know what a file is, what a folder is and how to copy files and folders from one directory or folder to a different directory or folder.)
- ☐ Move files, folders. (Move files and folders from one directory or folder to a different directory or folder on a hard drive, CD-ROM or floppy disk, and know the difference between copying and moving files and folders.)
- ☐ Delete files, folders. (Know how to delete files and folders from a directory or folder on a hard drive, CD-ROM or disk on key and the function of the Recycle Bin/ Wastebasket)

Simple Applications

- ☐ Use a common application to create a new document. (Use a text or word processor to create simple documents.)
- ☐ Open existing documents. (Find a document in a directory and open a previously created document.)
- ☐ Enter text and make some small editing changes. (Enter text into a new text or word processing document, make changes to the text and enter/edit text in a previously created document.)
- ☐ Save files in different formats such as: doc, txt, rtf, html. (Save new documents in default application format and other formats, e.g. as a text file or a Web document file.)
- ☐ Print outputs.
- ☐ Close an application.

Internet Basics

- ☐ Understand what the Internet is. (Know what makes up the Internet in terms of hardware, what it can be used for, how it can be used for e-participation.)
- ☐ Distinguish the Internet from the World Wide Web (WWW). (know what the difference is between the hardware that makes up the Internet and the range of published documents available to view – the World Wide Web)
- ☐ Know some common pre-requisites for going 'live' such as: personal computer, modem, telephone connection, ISP account, e-mail, browser software. (Know what hardware and software is needed to connect to the Internet.)
- ☐ Understand the term URL and the make-up of a Web address. (Definition of URL, explanation of each part of a Web address.)
- ☐ Enter a URL in a Web browser to access a Web page. (Know what a Web browser is used for, where to enter a URL on screen and what a Web page represents.)

- ☐ Use a Web browser, using URL's, hyperlinks, image links to navigate between Web pages. (Know what each browser button represents and how to use each of them. know how a hyperlink or image link is visually represented and what they are used for.)

E-mail Basics

- ☐ Understand what e-mail is. (Know what is meant by the term electronic mail and advantages and disadvantages compared to the postal system.)
- ☐ Understand the make-up of an e-mail address. (Know the component parts of an e-mail address and which are the unique elements.)
- ☐ Understand the terms: ISP, e-mail account, junk mail, virus. (know what the role of Internet Service Providers is; how to set up and use an e-mail account; what junk mail is and how to stop it; what a virus is; the impact a virus can have on computers; how a virus can spread through e-mail and how to protect a computer from virus attack.)
- ☐ Use e-mail software to create an e-mail message. (Know how to create an e-mail message, the format of entering the addressee and subject and how to copy the e-mail to a different e-mail address.)
- ☐ Open an e-mail.
- ☐ Send an e-mail.
- ☐ Attach files to an e-mail. (Know what attaching a file means and how to attach a single or multiple files: documents or images)
- ☐ Reply to / forward an e-mail.
- ☐ Update an address book. (How to enter new contact details, how to edit existing contact details and how to use the address book when creating an e-mail.)

BLOCK 2: INFORMATION SEARCH

Life skills and Benefits:

- Appreciation of the breadth and depth of information available in the most used Internet areas such news, government, consumer, travel, education / training, employment, health and business.
- Ability to browse and search for information effectively.
- Ability to retain/store information retrieved in a useful format.
- Appreciation of the security risk of using the Internet and the issues of the reliability and authenticity of the Internet as an information source.

INFORMATION SEARCH

Searching

- ☐ Understand what a search engine is. (Locate and use a search engine, know what a browser is and how to access a portal site.)

- ☐ Use a Search Engine for a keyword search.
- ☐ Combine criteria in a search. (Refine the search and respond to on-screen windows requesting further information for the search.)
- ☐ Search by navigating in a Web site using hyperlinks, image links or other site navigation features.
- ☐ Appropriately combine searching and browsing in an information search. (Use browser window to conduct search.)
- ☐ Copy and paste text, URL from a Web page. (Use copy tool in browser window.)
- ☐ Save an image from a Web page.
- ☐ Save a Web page.
- ☐ Print a Web page.
- ☐ Add a Web page to a Favorites / Bookmarks folder. (know what Favorites/Bookmarks are, reasons for storing Web pages and how to add a Web page of interest to the Favorites/ Bookmarks list-ing.)

Precautions

- ☐ Understand the problem and risks of unsolicited e-mail and be able to take preventative action. (Be aware that searching the Internet and using e-mail can bring exposure to electronic junk mail, computer viruses and content that an individual might find inappropriate or offensive, the Candidate should also be aware of how they and their families can minimize risks.)
- ☐ Understand the problem and risks from viruses and be able to take preventative action.
- ☐ Understand the need for secure access to the Internet and describe some of the techniques for implementing security.
- ☐ Understand the security risk of providing confidential/personal information to the Internet and be able to take preventative actions. (Know how to identify secure areas.)
- ☐ Know a citizen's consumer rights and protection measures available to the citizen when purchasing through the Internet.
- ☐ Understand the issue of the potential unauthenticated nature of Web sites and the risks of misleading and unreliable information. Be able to take precautionary measures.
- ☐ Understand the problem and risks of uncontrolled access to the Internet by children and be able to set up parental control of Web access. (Know how to set up controls.)

Information

- ☐ **News:** Browse and retrieve online news such as local, national, other media (TV, radio) and corporate news.
- ☐ **Government:** Browse and be informed about government social services and business services, current initiatives, laws and legislation, central & local government issues of topical interest, public statistics.

- ☐ **Consumer:** Be aware of online services such as banking, leisure, shopping, local entertainment, cultural events. Browse to be informed of new offers, availability of goods, pricing, upcoming cultural events.
- ☐ **Travel:** Find information about travel schedules (air, train, bus), seat availability, availability of holidays, hotel occupancy etc.
- ☐ **Education/Training:** Find information about education and training courses (University, College, Schools, and training including e-training) and enrolling in courses. Search libraries for information and references.
- ☐ **Employment:** Browse employee news, search for a job, find out about employment, pension rights or pension funding.
- ☐ **Health:** Browse and retrieve information on public health, private medicine, alternative medicine, certification of drugs and health insurance.
- ☐ **Interest Groups:** Browse and retrieve information about community groups, voluntary organizations, special interest groups, discussion groups, message boards etc.
- ☐ **Business:** Browse to retrieve corporate information and be aware of intranets and extranets for business networking.

BLOCK 3: e-PARTICIPATION

Life skills and Benefits:

- ☐ Appreciation of the Internet services available.
- ☐ Ability to use Internet services confidently and securely.
- ☐ Ability to interact on-line to benefit from commercial and government services offered over the Internet.
- ☐ Ability to use Government Services to meet the e-Citizen's statutory obligations.

Online Services

- ☐ Understand what an online form is. (Be able to access an online form.)
- ☐ Understand how online forms work: use of menus, check boxes, tabbing, data entry, submit buttons, error messages etc. (Explain what pop-up and pull-down menus are, how to make an entry in a check box, what tabbing means, using on-screen buttons, selecting options, what error messages mean. How to remove data already entered. Explanation of what mandatory fields are.)
- ☐ Understand the importance of data checking in forms.
- ☐ Understand the problem of the potential unauthenticated nature of an online service provider and the risks of using their services. Be able to take precautionary measures. (Check if online service provider has an address and a telephone number. Check consumer research sites.)
- ☐ Understand the security risk of providing credit card details when filling in forms and be able to take preventative actions. (Checking security when entering personal details.)

Applications: Be able to use the services available through the Internet by interacting with the online service provider to successfully obtain the service required and fully participate as an e-Citizen.

- ☐ **News:** Be able to e-mail your view to a local news station, participate in a news poll, complete a form requesting your opinion of a topical news item.
- ☐ **Government:** Be able to send an e-mail request for information, download information on government services, submit a tax return, submit your details to the voting register, participate in a policy discussion group.
- ☐ **Consumer:** Be able to send an e-mail to your bank asking about online banking, transfer funds between accounts, purchase a theatre ticket, obtain a quotation for a car purchase, buy a CD or a book, pay a bill etc.
- ☐ **Travel:** Be able to book a flight, make a hotel reservation, hire a car.
- ☐ **Education/Training:** Be able to send an e-mail requesting information about a course, complete an enrolment form for a course, reserve a library book. Participate in an interactive Internet classroom or course environment.
- ☐ **Employment:** Be able to fill out an online job application form, e-mail your CV to a recruitment agency or potential employer.
- ☐ **Health:** Be able to complete a form requesting a booklet or further information about a health issue, e-mail an appointment request to your local hospital. Complete an insurance claim.
- ☐ **Interest Groups:** Be able to post a message to a message board, become a member of a discussion group, participate as part of a special interest group.
- ☐ **Business:** Be able to submit an expense claim, post a sales report to a company Intranet, order an annual report or environmental report. Enquire about job opportunities.

