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UPTAKE ICT2LIFE-CYCLE THE SOLUTION TO DIGITAL LITERACY AND INCLUSION OF LEARNERS WITH DISADVANTAGED BACKGROUNDS

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ABSTRACT

#Uptake_ICT2life-cycle: digital literacy and inclusion to learners with disadvantaged background# was an Erasmus + project that aimed at enhancing digital literacy among adults with disadvantaged backgrounds. This project addressed the needs identified by previous studies from Eurostat, which in 2013 identified that one in every three Portuguese has never used the Internet. Being Portugal the fifth country with the highest percentage of people in this situation (33%), preceded by Romania (42%), Bulgaria (41%), Greece (36%) and Italy (35%). Therefore, this project addressed this problem by engaging synergies of seven partners in four countries (Portugal, Italy, United Kingdom and Germany) whose good practices served as a model to follow by other institutions like the Science and Technology Foundation. This network worked at several levels of impact in transversal and trans-sectorial areas, both in terms of the partnerships (academia and business), and in terms of the focus group (VET; adult education with disadvantaged background; HEI with special focus on this group).

Keywords: Adult Education, Digital Competences, Digital Inclusion, NEET, New Technologies

RESUMO

#Uptake_ICT2life-cycle: alfabetização e inclusão digitais para alunos com antecedentes desfavorecidos # foi um projeto Erasmus + que visa melhorar a alfabetização digital entre adultos de meios desfavorecidos. Este projeto abordou as necessidades identificadas por estudos anteriores do Eurostat, que em 2013 identificou que um em cada três portugueses nunca utilizou a Internet. Sendo Portugal o quinto país com a maior percentagem de pessoas nesta situação (33%), precedida pela Roménia (42%), Bulgária (41%), Grécia (36%) e Itália (35%). Por conseguinte, este projeto abordou este problema através da mobilização de sinergias de sete parceiros em quatro países (Portugal, Itália, Reino Unido e Alemanha) cuj as boas práticas serviram de modelo a seguir por outras instituições como a Fundação para a Ciência e Tecnologia. Esta rede trabalhou em vários níveis de impacto em áreas transversais e transsectoriais, tanto em termos de parcerias (academia e negócios), quanto em termos de focus group (VET; educação de adultos com antecedentes desfavorecidos; IES com foco especial neste grupo).

Palavras-chave: Competências Digitais, Educação de Adultos, Inclusão digital, NEET, Novas Tecnologias

1 INTRODUCTION

According to Eurostat, in 2013 one in every three Portuguese has never used the Internet. Portugal is the fifth country with the highest percentage of people in this situation (33%), preceded by Romania (42%), Bulgaria (41%), Greece (36%) and Italy (35%). On the other hand, Denmark and Sweden have the lowest, both with 4%. The average in the 28 EU member countries is 21%. This project aims to address this problem by engaging synergies of nine partners in four countries (Portugal, Italy, United Kingdom and Germany) two of which silent partners (J.P. Inspiring Knowledge and Microsoft International) whose good practices will be shared and validated by the Science and Technology Foundation. This network will work both at local, regional, national and international levels in transversal and trans-sectorial areas, both in terms of the partners involved (academic and enterprise), and in terms of the focus group (VET; adult education with disadvantaged background; HEI with special focus on this group) literacy inclusion, re-qualification and employability. Each partner has strong complementary skills that will be widely useful for the project (cf. part D).

As a strategic partnership project, this proposal intends to promote actions, to build contents, digital instruments and to analyse the impact of ICT in a global world, rooted in a process of civilizational

change (social, political, economic and cultural). Always taking leverage of the individual skills and competences of each partner, anchored by the best research and state of the art practices.

In fact, this project aims to:

1) Identify and share good practices in Societal innovations (digital literacy, inclusion and employability);

2) Focus on new knowledge and skills: basic and transversal development;

3) Ensure equity in the exercise of rights, namely to help citizens with disadvantaged backgrounds (social / geographical) to integrate ICT in their lives;

4) (Re) and (up) skilling, access to success;

5) Disseminate results (in a diversity of modes), promote impact (in science, society, technology, policy and market), sustainability, dissemination and exploitation.

The adopted methodology will be, in a first moment, identified by the most preeminent needs and ways of integrating ICT in daily life of the common users. This methodology was able to achieve a method of sharing the best practices (in the areas of new competences- digital literacy, inclusion and employability). In a second moment, the results achieved will contribute to shape the local implementation of good practices.

In terms of results Tangible and intangible resources were achieved. Among the tangible ones, it were studies and reports, audio-visual materials, multimedia website, events, seminars, e-modules, MOOCs and e-books. As for Intangible results, they were the increase of knowledge and experience in the areas dealt with by the project, but also the deepening of experience in the area of the digital instruments that was build.

Moreover, it was created new strategically partnerships on local and regional (in all countries) levels for future developments of the project. Besides, as long-term result we managed that this project had a long lasting impact on Science, Society, and Technology and Policy areas. Especially in the Policy area, a report was sent to the Ministries of Education and Science, the Network of Higher Education Reform Experts (HEREs), Vocational Education and Training (VET) entities and employment agencies. In the technology area, the impact consisted of the interoperability among the various academic institutions and the enterprises. As for Society, the fulfilment of the various courses and actions promoted equity and inclusion for people with educational difficulties or with social and geographical constraints. Finally, as for the scientific impact, papers and articles were produced to make this experience known in the academic field.

2 THE UPTAKE ICT PROJECT: THE ANSWER TO DIGITAL ILLITERACY

The #Uptake_ICT2life-cycle: digital literacy and inclusion to learners with disadvantaged background# project, as a European strategy and initiative, which assembled several partners from different backgrounds, was able to achieve tangible and intangible results. Among the tangibles, some of them were case studies, reports, audio-visual materials, multimedia platforms, events, seminars and educational content in eBook, e-module and MOOC formats. Concerning the intangibles, it was achieved an improved knowledge and experience in the areas of ICT's, digital inclusion and literacy, as well the improvement of knowledge in the development of digital instruments.

In addition, it was also possible to create and stimulate new strategic partnerships at local and regional level (in partner countries) which resulted in future project developments as well as long-term impacts at various levels (societal, economic, scientific, technological and political). In terms of policy changes, a report on good practices was produced in order to a change of policies and was

addressed to the Ministries of Education and Science, the Network of Experts for the Reform of Higher Education, Vocational Education entities and employment agencies.

2.1 Impact of the Uptake ICT project

The scientific, societal, technological, policy and economic impacts that were achieved at the local, regional and national scope consisted in the fulfillment of the various courses and actions promoted equity and inclusion between the participants. In terms of impact it was also enhanced other activities, being these present to our national and foreign Governments as some of the outcomes achieved. Additionally, some of these impacts contribute to a shift/reform in policies regarding the involved countries. Specifically, it was established a direct connection with Ministries of Education in order to promote reform and enhance progress in adult learning and vocational training.

Other identified impacts were that this project was able to address the priorities identified in Eurozone (e.g. Erasmus+, Digital Agenda for Europe, “Knowledge triangle” of the European Research Area and “Network of HEI Reform Experts”). This important step resulted in the exchange of information and good practices to other interested parties not only being restricted to the project partners. Namely in Portugal, the results reached were used and implemented locally by the network ICT & Society. The action of this network had a long-lasting impact.

2.2 Sustainability of the Uptake ICT project

In terms of sustainability, the Uptake ICT project outlined several workshops for the training of citizens in basic digital skills. The development of educational web contents for the website was also offered for free to all the citizens and participants involved in the project.

Regarding a sustainability methodology, this was accomplished by a specific strategy, which comprehended three years of collaborative work and complementarity of all partners of the project. Indeed, together and by using a diversity of technological tools (e-mail, videoconference, collaborative writing) we defined the desired aims for the project.

Other alternatives that were also takin into account for the sustainability of the project was that we were able to certify our contents as a "certified course" from the National Agency for qualification and professional teaching (ANQEP) in order to be available in the employment institute of professional training (IEFP) catalogue. For the partner countries, it was the proceeding according to the specificity of each country. With this certification, we were able to secure the auto funding of the training (the course can be sold to training centres).

After the definition of the objectives, we were capable of establishing a favourable position regarding the identification and development of a variety of activities and several intellectual outputs (research, share of good practices, educational content, and multimedia materials). Allied to those activities we also promoted various multiplier events (conferences, seminars) to share the progress of the project, share good practices and delivery knowledge about ICT.

The project dissemination was planned as an essential tool for the execution of each proposed aim. Indeed, we identified the framing of the website where social media tools were integrated (Facebook, Twitter, RSS); meetings and visits to key stakeholders; discussion of opportunities (information sessions, workshops, seminars and an intensive program); a wide amount of written material (reports, articles, book and e-book); multimedia products (radio, video clips); conferences and seminars.

Regarding exploitation, we share the opinion that this project had a positive impact, with reputational effects for the participating organization team; increase the awareness in ICT area; develop a new partnership, influence in a local, regional, national and international policy; promote reforms and enhance progress in VET, Adult Learning and HEI and entrepreneur organizations.

3 UPTAKE ICT: METHODOLOGY

The methodology used in this project assured specific modules for the integration of a Dissemination, Networking and Preparation plan, known as Layer 1. This methodology included an integrated monitoring and evaluation process for the project results, based on input indicators of performance and impact. Concerning other methodological aspects such as technological capabilities and assessment systems, these were implemented into a specific framework. This framework, integrated all the Tran sectorial and complementary activities being each one of them assigned to different teams. In terms of results (dissemination, networking and preparation), the main outcome were objects of analysis for technological capabilities.

Another methodological layer that was created for this project was a micro level, in which the project applications and all the value chains of each partner and strategic activities were discussed and tested. All phases and stages of the Value Chain were considered as application areas, including the upstream and downstream innovation. As for the upstream, these are the inputs of a specific phase being the partnerships potential, the activities of risk analysis and viability and their own initial value chains. According to the entire value chain, from inputs to the production process, the very process of design, production and implementation, dissemination and all other steps resulted in internal activities in the project. Passing through several additional steps as the qualification of human capital, conducting good practices, sharing research and technological development.

4 IMPACTFULL RESULTS

In terms of impactful results, this project addressed five different layers. These layers were divided into scientific, societal, technological, political and economic impacts. In detail, the scientific impact was achieved through a direct contribution of research within the overall aims of the project. More specifically, the scientific impact was met through a systematization and enhancement of knowledge, by providing and executing several literature reviews and developing tools and models of observation, assessment and intervention. These tools were capable of enhancing basic and transversal e-competences, establishing new models of sustainable development. Finally, some other results were the creation of various types of digital literacy and inclusion tools integrating in the scientific context characteristics that allowed adapted learners with disadvantaged backgrounds better educational, social and geographical learning methods.

Concerning impactful results in societal context, these were achieved through the exchange of good practices and activities that were able of initiating a strategic collaboration. This strategic collaboration enhanced the knowledge and ability to use appropriate tools for the development of resources. This knowledge was also capable of integrating new competences, specifically in the activation of effective and inclusive contexts of integration of ICT in life cycle and in effective and proactive ICT relationship, aimed at individuals and target groups with learners with disadvantaged background. As for technological results and impacts new tools and technologies parameters were developed, having in mind characteristics like usability, accessibility, models and selection usage and criteria for evaluating the effectiveness of these same tools and technologies.

Regarding political impact and results, these were achieved through the previous impacts and with the intention to promote reforms and enhance progress in vocational educational training at a variety of institutions. These institutions were slightly variable, being from Ministries of Education, the Network of Higher Education Reform Experts, and the “Knowledge triangle” of the European Research Area: research, innovation, education, and the direct connection to “Network of HEI Reform Experts”. Other political aspects that were taken into consideration were the qualification of employees contracted within projects/networks and new copyright resources and creative commons licenses generated by several networks.

Lastly the economic impact and results were obtained through the scientific, societal, technological and political impact contributing to the economic growth of partners from Academia, research institutes, technology centers and business firms; development of new projects in collaboration and in new employees contracted within network. There were also other parameters of success, such as

the qualification of employees contracted within networks and new business firms incubated or created.

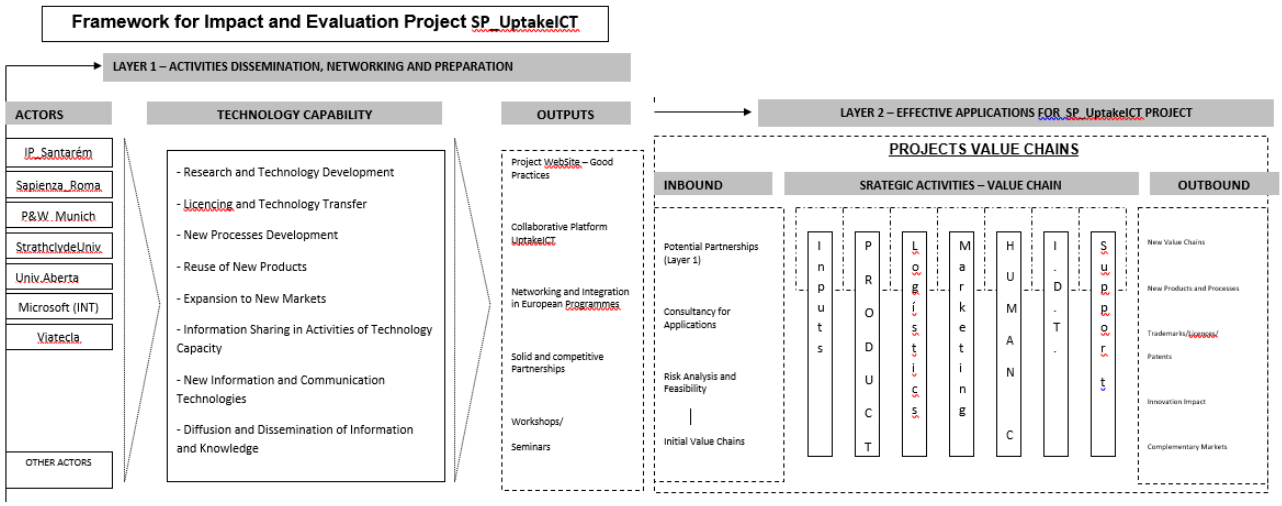

Figura 1. Framework for Impactful Results

5 UPTAKE ICT: FINAL RESULTS

The project set a series of results established as KPIs (Key Performance Indicators) of different types and made use of them throughout the project. They were a result from a common definition with all project partners and its progress was evaluated periodically and at each transnational meeting and, naturally, at the end of the project. It allowed the accountability and the project stakeholders to track, monitor and evaluate the project implementation and results. This said, the list of KPIs, organized into categories identified by the table above, had a strong focus in:

a) input indicators aimed at determining the factors of input or resources needed to carry out the project activities, being these “collaborative portals”, “Institutional direct investment in the project (capital and resources), namely to support the activities that were not funding by Community funds and other follow up actions” and “Investment in the project by Community funds”;

b) Indicators of Achievement aimed at determining the direct result of the completion of activities and actions of the project, being directly connected in the action plan and activities and

c) Impact Indicators with a set stages to determine the impact at different levels of the project and the aims pursued within the same project.

Tabela 1

List of Key Performance Indicators achieved in the duration of the project

Name of KPI	**Total Number of KPI**	**Typology of KPY**
Multiplier Events	2	Tangible
Workshops	8	Tangible
Seminar Participants	>150	Tangible
MOOCs	3	Tangible
Views in show sessions of MOOCs	>100	Tangible
Participants in Uptake Events	1200	Tangible
Publications	6	

Case studies	9	Tangible
E-books	5	Tangible
Platforms	5	Tangible
Queries and Surveys	10	
Involved teachers	20	Tangible
Satisfaction Index in Workshops	>85%	Tangible
Satisfaction Index in Seminars	>85%	Tangible
Rate of gain ratios tests Workshops	>60%	Intangible
Success rate of applications supported	>80%	Intangible

In conclusion, a significant part of these indicators were related directly to the number of participants in the different types of the project activities (e.g. MOOC, multiplier events) and their feedback – mainly based on anonymous surveys. The quantitative indicators had shown that interest was broad, and the feedback obtained was quite positive with participants acknowledging the benefit of the initiative and the subjects explored / discussed / thought during the sessions. Taking the example of the UK partner, the participation in the different MOOCs was quite successful with show sessions, achieving more than 100 views. Online and on-site surveys were conducted to access the effectiveness and impact of used approaches and the satisfaction index of the educational contents. The outcome was mainly positive with respondents showing appreciation for the themes explored in the sessions which for the majority provided a 'new perspective on why and how online participation is important' in the current society.

In addition, in this regard, focus groups were conducted by the partners and, in case of UK, focus groups with senior citizens took part in the digital literacies sessions conducted through the Centre for Lifelong Learning at Strathclyde University. This is an example that had reiterated that the project has had an impact on their practices. Yet, it also raised issues regarding sustainability of such an approach as senior citizens thought it essential that support on digital literacies be offered on a regular basis. As a result, the Lifelong Learning Centre will keep offering sessions on digital literacies identifying resources to continue the digital literacy clinic, an opportunity for individuals to seek support on digital practices as and when they need it.

6 UPTAKE ICT: CONCLUSIONS

This project was transversal to several aims that were achieved throughout the project life cycle however and according to the European priorities (Developing partnerships between education and employment; Contributing to a reduction in the number of low-skilled adults (re-skilling and up-skilling of adults) it had also achieved other contributions and levels of impact beyond the project priorities

Concerning the development of partnerships between the education and employability contexts, this project strongly believed that this synergy was the best option for the development and implementation of the activities, tangible and intangible deliverables and results. It was mainly because the mix between these fields corresponded to an optimal result, and in terms of impact, it was visible that the connection amongst enterprises and education institutions was the best option to obtain the best practices and work methodologies. Since the academic partners, that is, the education context could bring all the knowledge of research, scientific productions, pedagogic practices and a deeper vision of what the training institutions need, then it was a perfect alliance with the business partners, since they could bring their expertise with the practical, market and hands-on knowledge.

Therefore, this project partnership worked within this methodology achieving several results, either a deliverable more focused in employability and market based competences (digital ones) or those which corresponded to an innovative method within the educational context (new pedagogical tools or educational materials). With this, and in terms of impact, it was highly considerable that this convergence between education and employment since it showed results at a technological level (platforms, interactive resources, digital contents); scientific level (papers, scientific productions,

case studies); societal level (inclusion of other stakeholders, small enterprises and target audiences) and economic level (reducing the numbers of unemployed technicians or members). As for the contribution of reducing the numbers of low-skilled adults by re-skilling and up-skilling their knowledge and competences, this project highly contributed with practices, new methodologies and other aspects that improved not only the target audience of this project but also other stakeholders and public. In one way, by the development of innovative materials and tools, which helped adults and other targets to learn new digital skills through the courses (MOOCs), and the educational contents like using a computer, surfing on the internet and creating digital content. In another way, and in terms of transferability of impact this project was able to contribute with the exchange of best practices to other stakeholders in order to them to replicate the achieved results with their own target audiences. This way, contributing for a larger up-skilling and re-skilling of the adult population who needed an upgrade in their digital expertise.

To ensure that the projects results will remain available and can be used by others, we, as knowledge producers, considered primarily the usage of digital and open ways like websites and online platforms to introduce all of the contents and made the available to everyone as good practices. MOOCs, e-books, e-modules and other materials will stay available in Internet (free access). The usage of these materials for learners with disadvantaged backgrounds is guaranteed thanks to the action of the local and regional stakeholders. The coordinator of the project will guarantee the maintenance of the website. In a subsequent phase of the project, the good practices will continue, as fieldwork, by the stakeholders (already trained as autonomous trainers) in their local regions to a wider range of persons namely students with distinct degrees of education.

This project was a good practice and potential experience to engage in other projects with different levels of scalability. In one way, the achieved practices and results let us understand the core audience, which really need that re-skilling and up-skilling in basic digital levels and competences. Therefore, with this already obtained knowledge, it was possible to create a different approach by gathering other type of stakeholders and partners and start a project focused on a specific training offer, that is, a European Joint Master Degree in Digital Projects for an inclusive society. This project aim was to provide a unique an innovative training offer, which resulted in a Joint Master Program for European and non-European student who lack the knowledge in digital projects and inclusive subjects. This project also integrated the possibility of mobility within students and staff for the exchange of practices within other cultures, this way, obtaining a larger impact of this training offer.

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