UPTAKE ICT: A NETWORK OF STAKEHOLDERS AGAINST DIGITAL ILLITERACY

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Abstract

#Uptake_ICT2life-cycle: digital literacy and inclusion to learners with disadvantaged background# is an Erasmus + project that aims at enhancing digital literacy among adults with disadvantaged backgrounds. The partners have produced didactic materials and pedagogical guidelines to meet this aim. Based on these materials, and their didactical exploitation, a network of stakeholders was formed and trained in order to subsequently be able to teach citizens that both have disadvantaged backgrounds and are digitally illiterate or quasi-illiterate. This paper relates how this experience was undertaken in Portugal in what concerns the creation of the Stakeholders' network and presents its results. The reality that has boosted the creation of this project was the shocking situation portrayed in 2013 Eurostat statistics, according to which one in every three Portuguese had never used the Internet. Uptake ICT was then conceived and designed in order to engage synergies to counter this problem, aiming at a variety of focus groups (but paying special attention to learners of various ages that have never used Internet, like adults with disadvantaged backgrounds), in line with the transversal priorities for education, training and youth of the European Commission and seeking to assist in the meeting of the aims of Europe 2020. To add up, it also intended to enhance and to develop ideas that answer to the Societal Challenges' needs, by sharing and creating scientific, social, technological and policies impact.

The main aspects that the project focused on were digital literacy inclusion, re-qualification and employability of disadvantaged citizens, in order to help them to face the present process of civilizational change (social, political, economic, and cultural). The addressed priorities were to contribute towards a reduction of the number of low-skilled adults (re-skilling and up-skilling of adults thanks to lifelong-learning and training), and to strengthen the links between education and employment in the area of ICT | New technologies | digital literacy and digital competences | basic skills. After having identified both the most preeminent needs and ways of integrating ICT in daily life, and a set of good practices already tested in the areas of digital literacy, inclusion and employability, the project team has built a number of educational contents addressing the issues that were considered most relevant in three main levels of knowledge (Basic, Intermediate, and advanced) , and in the four languages of the project (Portuguese, Italian, English and German). The decision to work on the three levels was due to the fact that in the various partner countries there were groups of target audiences that were positioned differently with respect to their level of digital expertise. The teaching-learning materials that were conceived were afterwards reworked in order to fit in a variety of contexts and formats (e-modules, ebook, MOOC). This option for multi-format was taken having in mind different learning profiles, and the need to provide flexible and attractive materials in order to avoid any kind of rejection. Finally, a number of didactical guidelines were produced in order to provide an interface of suggestions to the stakeholders that would use these materials in their classes or workshop sessions.

Keywords: #Uptake_ICT#, adult education; good practices; stakeholders; access for disadvantaged; digital Competences.

1 UPTAKE ICT: AN OVERVIEW

#Uptake_ICT2life-cycle: digital literacy and inclusion to learners with disadvantaged background# is a project funded by Erasmus + Key Action 1 | Adult Education (Project nº 2014-1-PT01-KA200-001084) for the triennium 2015-2017. The leader Institution of the Project is the Instituto Politécnico de Santarém - Escola Superior de Educação, in Portugal (Responsible Researcher: Maria Potes Barbas). The partner institutions comprise three Universities (Universidade Aberta - Department of

Humanities (RR: Isabel Barros Dias), PT; Universitá degli Studi di Roma, La Sapienza - Department of Communication and Social Research (RR: Ida Cortoni), IT; and University of Strathclyde (RR: Cristina Costa), UK), a Research Institute specialized in VET and adult education (Praxis und Wissenschaft Projekt gmbh (RR: Randolph Preisinger-Kleine), DE) and two ICT companies (Viatecla (RR: Pedro Seabra), PT, and Digizen Srl (RR: Gaetano Bruno Ronsivalle), IT) [1]. The diversity of the partners was deliberate because it was everyone's conviction that this was the kind of network better fit to develop work in transversal and trans-sectorial areas, since each partner had strong complementary skills that would be widely useful for the project (HEI, VET, companies) and would also enhance impact at local, regional, national and international levels. To the nine participants already mentioned, two more silent partners were added (J.P. Inspiring Knowledge and Microsoft International), since they were considered fundamental for the hands-on work that was meant to be developed in the framework of the project.

The reality that has boosted the creation of this project was the shocking situation portrayed in 2013 Eurostat statistics, according to which one in every three Portuguese had never used the Internet [1] [2]. Uptake ICT was then conceived and designed in order to engage synergies to counter this problem, aiming at a variety of focus groups (but paying special attention to learners of various ages that have never used Internet, like adults with disadvantaged backgrounds [3]), in line with the transversal priorities for education, training and youth of the European Commission and seeking to assist in the meeting of the aims of Europe 2020 [2] [4]. To add up, it also intended to enhance and to develop ideas that answer to the Societal Challenges' needs, by sharing and creating scientific, social, technological and policies impact.

The main aspects that the project focused on were digital literacy inclusion, re-qualification and employability of disadvantaged citizens, in order to help them to face the present process of civilizational change (social, political, economic, and cultural). The addressed priorities were to contribute towards a reduction of the number of low-skilled adults (re-skilling and up-skilling of adults thanks to lifelong-learning and training), and to strengthen the links between education and employment in the area of ICT | New technologies | digital literacy and digital competences | basic skills.

After having identified both the most preeminent needs and ways of integrating ICT in daily life, and a set of good practices already tested in the areas of digital literacy, inclusion and employability, the project team has built a number of educational contents addressing the issues that were considered most relevant in three main levels of knowledge (Basic, Intermediate, and advanced)5, and in the four languages of the project (Portuguese, Italian, English and German). The decision to work on the three levels was due to the fact that in the various partner countries there were groups of target audiences that were positioned differently with respect to their level of digital expertise. The

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[1] These partners have strong complementary profiles. Instituto Politécnico de Santarém, the promoting partner, has a strong expertise in didactics and multimedia. Universidade Aberta is the Portuguese leading university in e-learning. La Sapienza brings to the project its expertise in cultural communication and didactics. Digizen SRL has a long and proven experience in VET and adult education. The University of Strathclyde has expertise in lifelong learning and entrepreneurial activities. Viatecla and Digizen were chosen for their expertise in digital platforms and entrepreneurship, as well as for their strong connections to research and academics.

[2] Portugal was the fifth country in this statistics with the highest percentage of people in this situation (33%), preceded only by Romania (42%), Bulgaria (41%), Greece (36%) and Italy (35%). On the other hand Denmark and Sweden had the lowest percentage, both with 4%. The average in the 28 EU member countries was 21%. http://ec.europa.eu/eurostat/statistics-explained/index.php/Archive:Internet_use_statistics_-_individuals

[3] "Disadvantaged" is understood here as people facing educational difficulties, social and geographical constraints.

[4] Considering Europe 2020 targets, from the five headline targets, the project aimed to directly influence 4 of them: - Improve the R&D and innovation; - Prevent the social exclusion (taking ICT to disadvantaged background citizens); - Increase Employment; - Improving the education and training of the citizens. http://ec.europa.eu/europe2020/targets/eu-targets/index_en.htm. For what concerns the strategic framework for education and training 2020, this project aimed to reach the four main objectives identified: - Making lifelong learning and mobility a reality; - Improving the quality and efficiency of education and training; - Promoting equity, social cohesion, and active citizenship; - Enhancing creativity and innovation, including entrepreneurship, at all levels of education and training. http://ec.europa.eu/education/policy/strategic-framework_en.

[5] The teaching and learning materials focused on the following issues: Basic level (1. Turning the computer on and off safely; 2. How to produce a text using the computer; 3. How to search for images; 4. How to create an email account with Gmail; 5. Sending and receiving emails using Gmail; and 6. Sharing content safely on the cloud - Google Drive or Dropbox); Intermediate level (1. How to produce and publish a dynamic online presentation (Prezi); 2. How to create, edit and publish a video (Animoto); and 3. How to run a chat room or a video conference and participate in a discussion forum (Google Hangouts)); and Advanced level (1. How to create and publish a website using Wordpress; and 2. How to create an App).

teaching-learning materials that were conceived were afterwards reworked in order to fit in a variety of contexts and formats (e-modules, eBook, MOOC). This option for multi-format was taken having in mind different learning profiles [3], and the need to provide flexible and attractive materials in order to avoid any kind of rejection. Finally, a number of didactical guidelines were produced in order to provide an interface of suggestions to the stakeholders that would use these materials in their classes or workshop sessions.

2   THE IMPORTANCE OF STAKEHOLDERS' NETWORKS

Stakeholders are a key issue, since it is on their commitment that lies a huge part of the future sustainability of the project. The formation of a stakeholders' network was developed in two different but complementary ways. On the one side, a local focus group was created, based on the principle of proximity. This group of trainees, and future trainers, were all volunteers from the Escola Superior de Educação of the Instituto Politécnico de Santarém. They have been the ones considered for the pilot testing presented in this paper due to their closeness with the academics involved in Uptake ICT project. On the other side, an already existing network was envisaged, since this network already covered the whole of Portugal. It was a basic principle for the project leading team that the re-usage of existing devices, infrastructures, and networks enhancing their capabilities was preferable to spending energy creating new parallel items and structures. This principle released the group from these basic logistic tasks, leaving it freer to act as content provider, technical assistant and didactic advisor. Besides, this existing network benefited from new stimulus, that drove it to do more and better work. This wider group also gained from the work developed with the local focus group. The nationwide group was formed in the scope of a project conducted by FCT[7], called "Rede TIC e Sociedade" (Network ICT and Society). This initiative intended to bring ICT (and in a second phase training in ICT) to all Portuguese citizens, especially the info excluded. The convergence of intentions between this FCT line of work and the Project Uptake ICT was profitable both ways, since FCT's network gained teaching and learning materials and didactical guidelines that they could use in their training activities, and Uptake ICT got there an already formed network of stakeholders willing to collaborate in the decrease of digital illiteracy.

In the other countries that integrate Uptake ICT, right in the beginning of the project, the academic partners contacted local and regional entities in order to identify stakeholders, adequate to the specific context of each region as far as digital literacy was concerned. In fact, one of the collateral aims of this project was to create new strategical partnerships with local and regional entities (city halls, Internet centres, local libraries, elderly institutions, and employability and training institutions) in the four countries. These are the ideal stakeholders, because they are the ones that work closely to the populations and therefore can identify and pinpoint the citizens that Uptake ICT aims to reach. These institutions also have employees and nets of volunteers willing to use the materials produced by the project as basis for their civic action of adult teaching.

In Portugal, the work developed with the focus group, the local stakeholders, consisted firstly in motivating and instructing them on the best ways to use the teaching and learning materials produced, in line with the didactical guidelines. On a second phase, once the stakeholders were aware of what was expected from them, a number of training seminars took place so that they could test what they had learned with groups of students with disadvantaged backgrounds and fewer opportunities as compared to their peers - educational difficulties (poor school performance), social obstacles (age, ethnicity) or geographical disadvantages (people from remote or rural areas or small islands), under the supervision and with the help of the academics.

Before, during and after this experience took place, surveys were conducted in order to assess the value of these actions. In fact, besides the production of the teaching and learning materials, of their setting in various formats, and the conception of pedagogical and didactical guidelines, the team also

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[6] Available bibliography on learning styles is extensive. For some of these, see, for instance, Coffield, F., Moseley, D., Hall, E & Ecclestone, K. 2004, *Learning styles and pedagogy in post-16 learning. A systematic and critical review*, London: Learning and Skills Research Centre (http://sxills.nl/lerenlerennu/bronnen/Learning%20styles%20by%20Coffield%20e.a..pdf); Pritchard, A. 2014, *Ways of Learning. Learning theories and learning styles in the classroom*, London and New York: Routledge; Alonso, C. M.; Gallego, D. J.; Honey, P. 2002, *Los estilos de aprendizaje: procedimientos de diagnóstico y mejora*, Madrid: Mensajero; Barros, D. M. V. 2013, *Estilos de Aprendizagem e o uso das tecnologias*, Santo Tirso: De Facto Editores.

[7] FCT -Foundation for Science and Technology-, is an entity responsible for funding a large number of I&D research projects in Portugal. See http://www.fct.pt/index.phtml.en

produced a number of data collection instruments, questionnaires that were applied both to the trainers, and to the trainees.

In the case of the local stakeholders, this focus group consisted in its majority of Portuguese citizens, both men and women[8]. Their occupation ranged from training managers (the majority - 62%) to students (15%), distributed as follows.
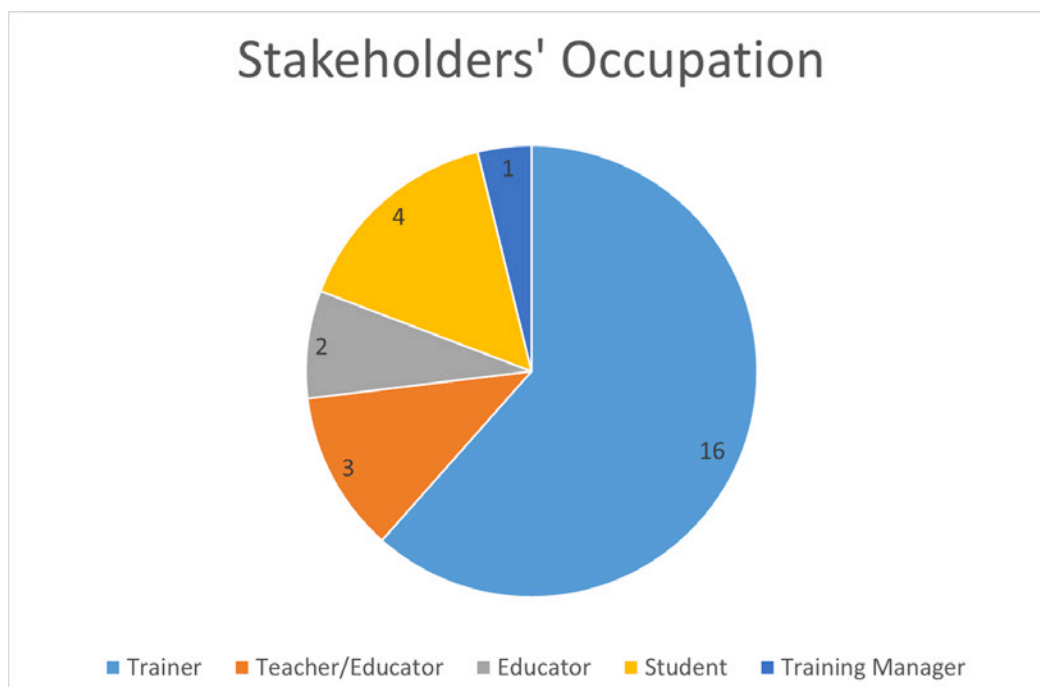

Figure 1. Stakeholders occupation

3   RESULTS

The opinions of this focus group of stakeholders was asked in order to spot issues of possible improvement. Above all they were asked to appreciate the teaching-learning materials of the Project and its usefulness. They were also asked to state their views on the publics more likely to benefit from the educational resources produced in the scope of the project. Additionally, the survey had a space to fill in with further comments. The few comments produced were quite complimentary to the project, and the design of more materials were suggested, namely in the audio-visual area and also centred in practical issues, such as on how to fill out an online tax form.

The groups of citizens that were trained by the stakeholders of the local focus group also had an opportunity to assess their instructors. The project team was very happy to see how laudatory their comments were on the helpful and attentive way the trainers behaved, as well as on how clearly contents were conveyed. In fact, nobody chose options 1 (strongly disagree), nor 2 (partially disagree), when commenting on the two phrases "The trainer always behaved in a helpful and attentive way" and "The contents were transmitted clearly". Only one person chose option 3 (don't know / I'm not sure), and the large majority chose the options 4 (partially agree - 37 replies to the first phrase, 24%, and 49 to the second, 31%) and 5 (totally agree - 119 replies to the first phrase, 76%, and 107 to the second one, 68%).

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[8] Of a total of 26 trainees | future trainers, 25 were Portuguese and 1 was an Italian living in Portugal. As for gender, the proportion was exactly 50% - 50%. This paper is also meant to be a tribute to their engagement.
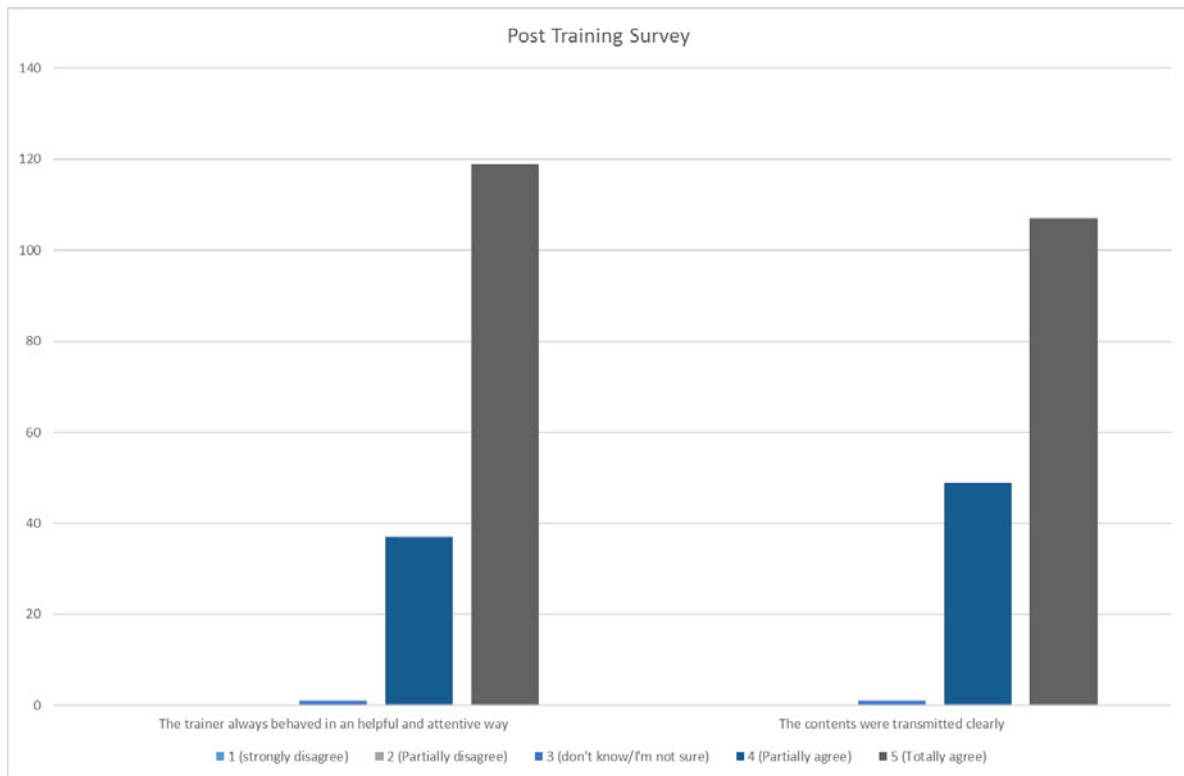
Figure 2. Post training survey

Moving back to the survey applied to the local focus group of stakeholders, they were asked to classify the educational resources produced in terms both of their quality and usefulness. As we can see in the following chart, the majority of the answers (20) considered that the quality of the resources was "Good", followed by "Fair" (6), in a total of 26 respondents, which represents a reassuring basis concerning the quality of the educational resources produced by Uptake ICT project.
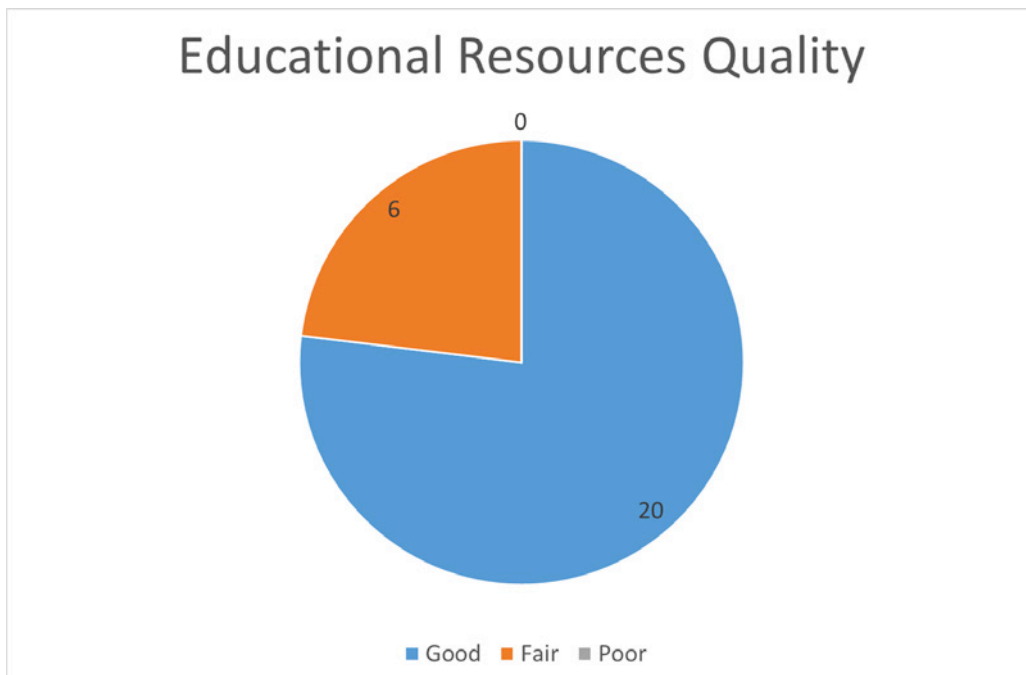

Figure 3. Educational Resources Quality

For what concerns the usefulness of the resources, the answers were quite similar: 54% considered the contents "Very Useful" and the remaining 46% classified them as "Useful". It is also important to notice that both in the previous question and in this one, no negative answers where provided by the Stakeholders.
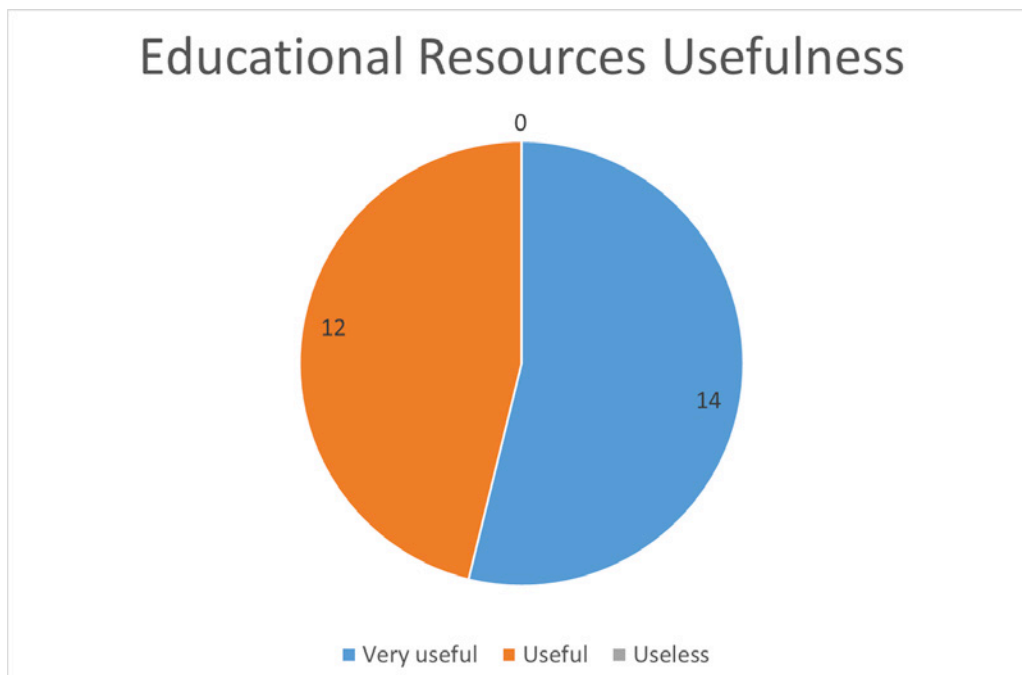

Figure 4. Educational Resources Usefulness

Moving a step forward, one of the following questions must be highlighted: "how could you make use of the educational resources produced by the Project Uptake?" The answers to this question, on the one hand confirmed the usefulness of the teaching materials, and on the other hand provided the panorama of the stakeholders' teaching and learning future scenarios, considering the convergence of their usual educational strategies with the new good practices acquired thanks to their interaction with Uptake ICT Project.

A variety of answers were produced, some of them focusing on the stakeholders themselves (since they considered that they had gained new and further abilities), and on the fact that they would use the teaching and learning materials in their profession as trainers, in related courses or other training offers. But the most interesting answers were the ones of those who valued most the experience because they had gained tools and capacities that they could use to help others, integrating them in digital society, and that is the spirit of volunteering that is especially needed from a stakeholder willing to fight digital illiteracy among those that have faced disadvantaged backgrounds and had fewer opportunities as compared to their peers. The potential of the educational resources in terms of their usefulness, as outlined by the Stakeholders, is therefore totally in line with the project's aims.
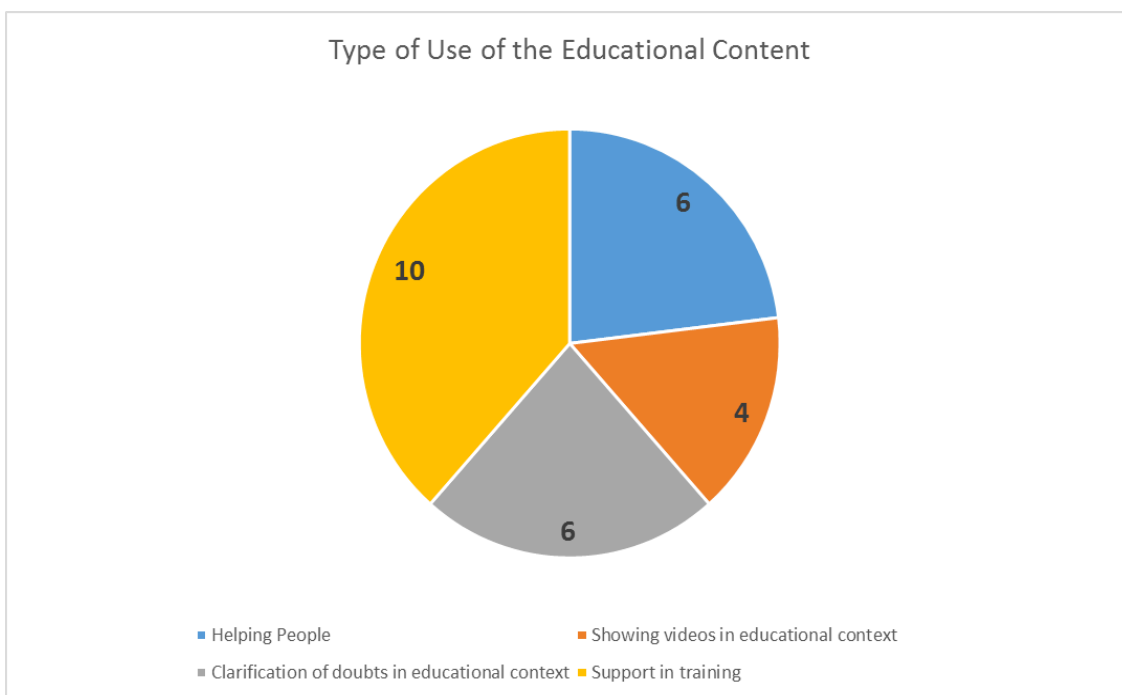
Figure 5. Type of use of the educational context

The majority of the answers referred "support in training" as the main usefulness of the teaching and learning materials, since the stakeholders valued the importance of the large span suitability of the educational contents as strategical support for their training sessions, with no matter which publics (not only disadvantaged citizens, but also children, youngsters, lifelong learners.). The fact that the respondents provided this kind of statement means the recognition of the adaptability of the materials, which can be considered as an argument in favour of their extensive use. The reply "clarification of doubts in educational context" relates closely to the previous one. In fact, it underlines the flexibility of the products that fit various educational scenarios, either as the central element or as supplementary component, integrated in more complex syllabus, let alone the possibility to integrate online instruments as integrated e-modules, like web 2.0 tools (Prezi, Drive or Facebook) in order to share and enhance the development of the produced content.

4   CONCLUSIONS

The answers to the last question referred to in the previous point also reply to the sustainability question. In fact, we believe that enthusiasm and volunteering are key factors to keep up and to increase a process like the one fostered by the Project Uptake ICT. Experiencing contact with disadvantaged populations, looking at good results and knowing to have made a difference in someone's life is particularly stimulating. Therefore, the project's team became aware that providing materials to these volunteer trainers, and giving them the opportunity to help other individuals was an extremely valuable asset.

All teaching and learning materials developed under the scope of the project are currently and will continue to be available to everybody in the project's platform in order to promote widespread awareness in the ICT area[9]. In fact, the educational contents will be kept online, free for all citizens, as independent tutorials, as an e-book, and as part of a MOOC promoting up-skilling and employability. The support of an open science policy is one of the best ways to disseminate the results of projects like this one, since it is important that materials and informations on good practices don't stay restricted to the project partners. This availability is also expected to act as a confluence point attracting new independent stakeholders for long after the end of Uptake ICT, since anyone will be able to use these materials, both as teaching tools, or as basis for autonomous learning. This frame is also a stimulus for the project team to continue developing new materials and projects in order to provide further motivation to this increasing network of stakeholders. Besides, when the project ends,

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[9]   http://w3.ese.ipsantarem.pt/uptakeict/

the produced reports will be sent to Institutions responsible for national policies on the subject. This measure will be crucial for promoting reforms and enhancing progress in the area of ICT policies at local, regional, national and international levels, because stakeholders, besides their volunteering must also be recognized and encouraged by policies.

As explained in this paper, the first local focus group was trained to work with learners with disadvantaged backgrounds and fewer opportunities, helping them to overcome their difficulties, by using the teaching and learning materials produced. In the beginning their activities were supervised by the project members, but they soon became more and more autonomous and at ease in their teaching activities, most of them having integrated the more general Portuguese network. In fact, this ICT & Society network will continue to use the produced contents in their educational actions in various regions all over Portugal. These are persons well aware of the importance of their role as volunteers able to intervene positively in society. The fieldwork action of this network (already trained as autonomous trainers) is a guarantee for long lasting impact. In fact, the ideal framework to enhance progress would be that those who at first were trainees, would afterwards be able to further develop their knowledge and capacities as independent learners, and finally be able to teach those who know less. The project's team hopes to be contributing to this framework to become reality in the near future, since stakeholders are a major key factor for the future success of Uptake ICT and for the replication of this kind of non-formal and flexible formation of adult publics.

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