The voice of e-learners Recommendations for improving quality in e-learning

Erasmus+ project. 2019-1-ES01-KA204-065644
Automatic System for Tracking E-Learners

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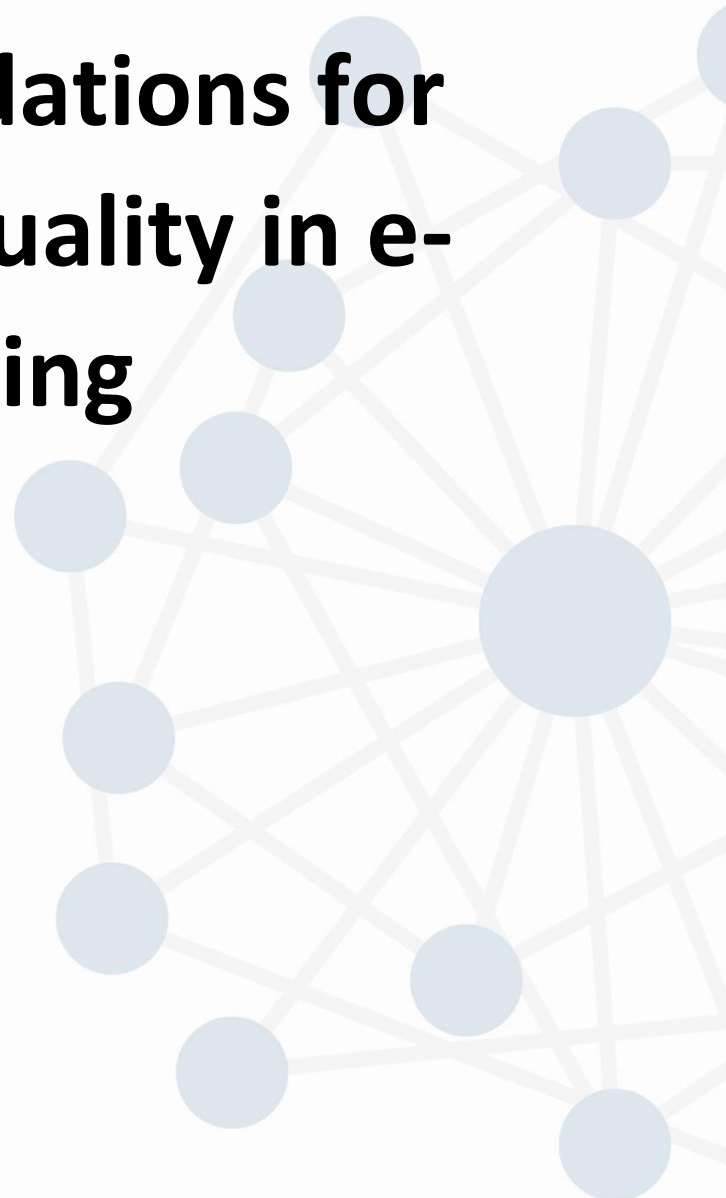
Applicant Organisation: UNIVERSITAT POLITECNICA DE VALENCIA, Spain

Partners:

FRIEDRICH-ALEXANDERUNIVERSITAET ERLANGEN NUERNBERG, Germany

European Association of Erasmus Coordinators, Cyprus

PANEPISTIMIO AIGAIOU, Greece

IDEC, Greece

UNIVERSITA TELEMATICA PEGASO , Italy

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Introduction

The aim of this document is to encourage external MOOC and e-learning providers to apply the ASTRE tracking system and raise the quality of their learning offers.

The Voice of E-learners is based on the analysis of the data gathered during the piloting phase of the ASTRE tracking system in the 4 HEIs of the consortium, namely:

- UNIVERSITAT POLITECNICA DE VALENCIA, Spain

- FRIEDRICH-ALEXANDERUNIVERSITAET ERLANGEN NUERNBERG, Germany

- PANEPISTIMIO AIGAIOU, Greece

- UNIVERSITA TELEMATICA PEGASO , Italy

More specifically, the partners who pilot tested the tracking system analysed the results from the surveys, which were distributed to their MOOC and e-learning graduates and produced final recommendations.

The total number of surveys analysed were 14.947:

- 767 from Spain
- 13.667 from Italy
- 513 from Greece

FAU-ILI has implemented the ASTRE Tracking system in its new MOOC (https://mooc.ili.eu/) platform. However, because the platform is still in its beta form and it is undergoing testing there is no user data yet.

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Objectives

The main objective of this document is to publish recommendations to MOOC and E-learning providers, on how to improve their learning offer and improve the quality assurance mechanism of their organisations. To do so, the following indicators were analysed from the survey results:

- LEVEL OF EDUCATION AT THE TIME OF ENROLMENT IN THE COURSE (REGARDLESS OF THE FIELD OF STUDY)
- LEVEL OF COURSE ATTENDED
- DID THE COURSE HELP YOU ENRICH YOUR PROFESIONAL PROFILE?
- HAVE YOU ENROLLED IN THE COURSE TO IMPROVE YOUR PROFESSIONAL CAREER OR TO FIND A FIRST OR NEW JOB
- SCORE YOUR SATISFACTION WITH THE COURSE IN RELATION TO THE KNOWLEDGE LEARNED
- SCORE YOUR SATISFACTION WITH THE COURSE IN TERMS OF ENHANCING YOUR CRITICAL THINKING ON THE TOPICS COVERED
- SCORE YOUR SATISFACTION WITH THE COURSE IN TERMS OF THE METHODS OF STUDY
- SCORE YOUR SATISFACTION WITH THE COURSE IN TERMS OF COURSE ORGANIZATION
- SCORE YOUR SATISFACTION WITH THE COURSE WITH REGARD TO THE CLARITY OF THE LEARNING MATERIAL
- SCORE THE USEFULNESS OF THE KNOWLEDGE LEARNED DURING THE COURSE IN YOUR WORK PRACTICE
- SCORE THE USEFULNESS OF E-LEARNING TO ACQUIRE KNOWLEDGE IN YOUR FIELD OF WORK
- IN GENERAL, WHAT WOULD YOU CHANGE TO IMPROVE E-LEARNING IN YOUR FIELD OF WORK? (Open ended question)

Thus, the recommendations derived focus on methodology of delivery and organisation of MOOCs and e-learning courses, format and quality of learning materials, range of courses offered, accreditation of courses, connection of courses to target group needs.

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Report from the implementation of the ASTRE Tracking survey in Spain

The pilot run of the tracking system produced 767 answers. Based on the indicators, it can be deduced from these 767 answers:
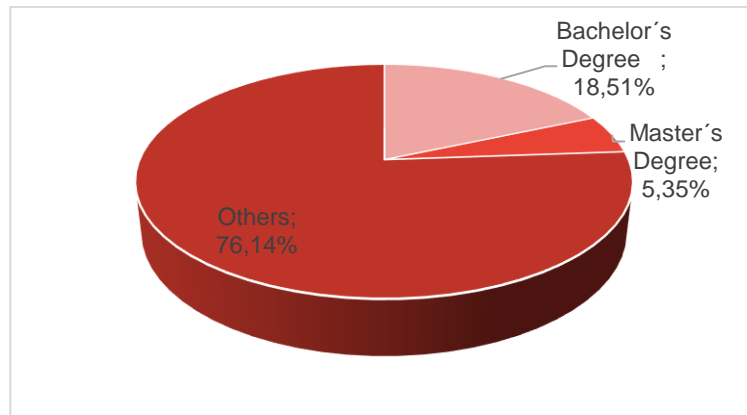
A. About the level of education of students: 62.9% of the students who enrolled in a MOOC have completed some level of university studies, of which 24% have completed a Bachelor's degree, 32,8% a Master's degree and 6% a PhD.

LEVEL OF EDUCATION	Nº Students	%
High School	82	10,69%
PhD	47	6,13%
Elementary school	26	3,39%
Associate degree	175	22,82%
Bachelor´s Degree	184	23,99%
Master´s Degree	252	32,86%
None	1	0,13%
Total general	767	100,00%

	High School	PhD	Elementary school	Asociate degree	Bachelor´s Degree	Master´s Degree	None
%	10,69%	6,13%	3,39%	22,82%	23,99%	32,86%	0,13%
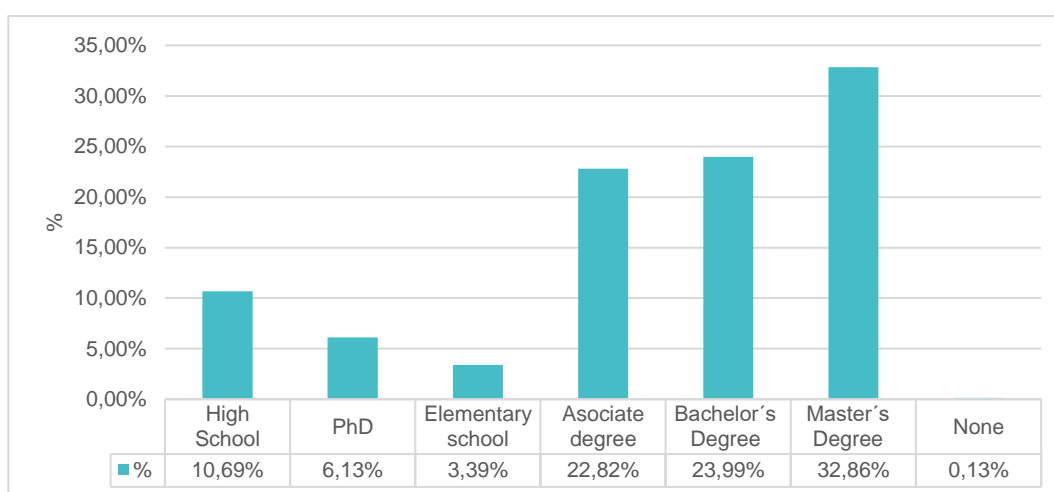
B. About the level of attended courses: Most of students (76.14%) enrolled in courses at levels other than the Bachelor's or Master's degree. These courses are generally MOOCs in cross-cutting subjects and professional skills development.

LEVEL OF COURSE ATTENDED	Students	%
Bachelor's Degree	142	18,51%
Master´s Degree	41	5,35%
Others	584	76,14%
Total general	767	100,00%

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C. About if the course helped the egressed students to enrich their professional profile:
A high percentage of students who attended the course enriched their professional profile.

DID THE COURSE HELP YOU ENRICH YOUR PROFESSIONAL PROFILE?	Students	%
No	66	8,60%
Yes	701	91,40%
Total general	767	100,00%
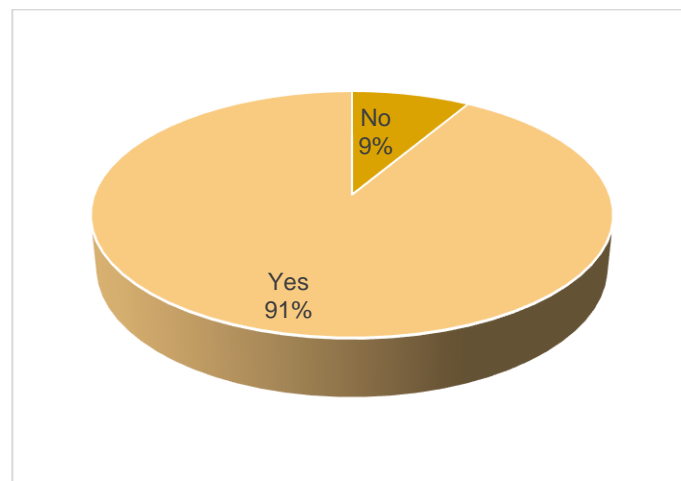
D. About the reason for enrolling in the course: 72,9% enrolled in the course to improve their professional career, 20,6% other reasons and only 6,5% to find the first job.

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HAVE YOU ENROLLED IN THE COURSE TO IMPROVE YOUR PROFESSIONAL CAREER OR TO FIND A FIRST OR NEW JOB?	Students	%
Find a first job	50	6,52%
Improve professional career	559	72,88%
Others	158	20,60%
Total general	767	100,00%
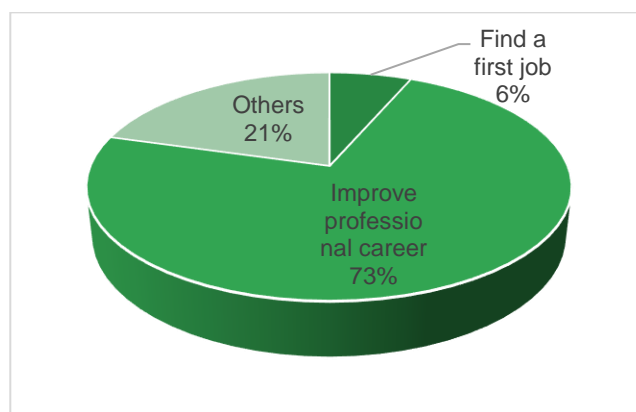
E. About the satisfaction grade with the course: We analysed the last questions about student's satisfaction after finishing the course. In general, the satisfaction is satisfactory. In all questions, more than 66% of the respondent's rate between 5-6. The graduates are quite satisfied with knowledge acquired, practical application of knowledge in their job and course organization, critical thinking, study methods and usefulness of online learning in their field of work sector; and the least satisfied with and least valued the learning material.

It should be noted that 82% of the students indicated a good practical application of the knowledge in their work.

SATISFACTION GRADE	KNOWLEDGE LEARNED	IMPROVE CRITICAL THINKING	STUDY METHODS	PRACTICAL APPLICATION OF KNOWLEDGE IN THEIR JOB	COURSE ORGANIZATION	LEARNING MATERIAL	USEFULNESS OF ONLINE LEARNING IN YOUR FIELD OF WORK
1	0,4%	0,5%	0,7%	0,4%	0,3%	3,5%	1,8%
2	0,8%	1,2%	0,9%	0,5%	0,8%	3,7%	2,7%
3	3,8%	6,0%	5,7%	4,0%	4,3%	8,9%	5,6%
4	12,3%	14,7%	16,4%	13,0%	13,2%	17,1%	13,3%
5	39,2%	39,9%	38,2%	34,7%	35,9%	34,0%	32,2%
6	43,5%	37,7%	38,1%	47,3%	45,6%	32,9%	44,3%
Total	100,0%	100,0%	100,0%	100,0%	100,0%	100,0%	100,0%

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F. About the open question, what would you change to improve e-learning in your field of work:

The 79,9% of egressed answered the question.

	Students	%
No answer to the question	154	20,08%
Answer to the question	613	79,92%
	767	100,00%

For the analysis of the different responses, the following classification was made:

CHANGE TO IMPROVE E-LEARNING	Students	%
Updating of contents	32	5,28%
Expansion of course offer	62	10,23%
Cost/financial aid	19	3,14%
Flexible timetable	58	9,57%
Teacher-student interaction	32	5,28%
Support materials (videos, exercises, materials)	75	12,38%
Improvements of certificate	5	0,83%

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Improvements of the contents	87	14,36%
Improvements in the platform/managment	27	4,46%
Methodology	70	11,55%
Nothing to change	139	22,94%
Total general	606	100,00%

NOTHING TO CHANGE	Students	%
No comments	63	45,32%
Positive comments	76	54,68%
	139	100,00%

22.9% of the students indicated that they had nothing to contribute. Of this percentage, 54,7% said they were satisfied.

About possible improvements, the most talked-about improvements are:
-Improvements of the content (14,4%) and support material (12,38%) as:
- More internships and workshops
- More practical and real-life examples
- More exercises
- Improved explanations, content and videos
- Improved organisation/structure and clearer explanations.

-Methodology (11,6%):

- Diversifying methodologies: Use or increase the Project-based learning and Case of study methodology.
- New proposals to online learning and not just recording master classes
- Courses by level with previous knowledge
- Improve assessments or make them more complex
- Presentations more dynamic and interactive
- Development of more comprehensive job profiles, with achievement oriented to a set of competences.

-Expansion of course offer (10,2%): Request increase the training offer:

- More specialised courses: different sectors and subjects
- The availability of more courses in different areas and different modalities
- Shorter courses
- Courses that further deepen the previous course
- Continuity in the courses chosen

-Comments regarding to the time (9,5%):

- Extend the course deadline
- More flexibility

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- Institutions/Companies should allocate time out of the working day to training courses and activities for their employees.
- Free time to do more courses

-Updating contents: 5,3% complained that the content received was not up to date.

-5,3% also apply for:

- More interaction with the course provider and organiser
- Some synchronous training sessions
- Videoconference tutorials
- More interaction with the teaching staff and enhancing the role of forums and peer to peer exercises.

-Improvements in the platform/management (4,5)%:

- Change of credit type to ECTS
- Low quality courses
- That summative certifications are always offered for integral specialisation.
- Collaborative platforms
- Encourage enrolment in MOOC courses
- Let us have our say on the topics of the online courses.

-Cost/financial aid (3,1%): Free accreditation certificate, lower costs, financial aids or access via the tripartite foundation.

-0,8% requested improvements of certificate: Include the number of hours, the % of the result and dates of the course.

Recommendations

Regarding to learning material:

- The updating of the contents, in terms of applicable legislation and regulations, new processes, new technologies, new IT systems, etc., in order to adapt to the needs of the labour market and the need for continuous and updated training.
- As reflected in the responses, learners enrol in MOOCs to improve their professional competences and value the application of the acquired knowledge in their work practice. Therefore, the contents and activities should be oriented to allow the practical application of the acquired knowledge.
- To update and improve the support material with more case studies and exercises with real situations. More project/case-study based training that allows students to develop critical thinking and apply the knowledge acquired.

Regarding the MOOC methodology:

- Although most MOOCs have an asynchronous format, the student requests methods to be able to interact more with the teacher to ask questions/doubts. Establish discussions in forums and not just learning the content and doing exercises and exams.
- Greater flexibility in the time for completion of the course, as students comment on the difficulty of combining daily work with study.

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About the range of courses offered:

- Ask the students which courses they would be interested in, to see the topics most requested by students to make MOOCs and to be able to expand the range of courses.
- Graduates request to increase the offer of courses and in the same field/area to develop a set of sequential courses of different degrees of knowledge and learning that allows the acquisition of a global certification (specific training, by levels of knowledge).

Concerning the accreditation of courses:

- the possibility of making some kind of offer for accreditations/certificates. For example, by number of courses completed, by completing several courses in the same area/field, etc.. This can help the student financially and encourage enrolment in more MOOCs.
- It is convenient to take into consideration the needs of the student regarding the information that should appear on the certificate, because it is the students who use this certificate to accredit their training and they know what is requested by institutions and companies. A higher validity of the certificate obtained translates into a student who is more satisfied with the course taken.

To conclude we would like to remark the response rate has been low. In order to increase the information provided by students, it is recommended to incentivise them with some kind of promotion or discount on the enrolment in next course(s).

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Report from the implementation of the ASTRE Tracking survey in Italy

Introduction

This report has been promoted and carried out by Prof. Eugenio D'Angelo, as a member of the Quality Assurance Group of the Pegaso Online University (here after also "UniPegaso"), in collaboration with the Teaching and Learning Center and with the Information Technology and Statistics Office of the Pegaso Online University. The final objective is to improve, in accordance with the provisions of the National University and Research Regulation Authority (ANVUR), the process of self-assessment of the Pegaso Online University, expanding the available database concerning the satisfaction of graduates and the effectiveness of our education paths with a particular focus on the career advancement of our students after one, three and five years after graduation. To this end, the ASTRE survey model has been slightly adapted to meet the specific Italian concerns and then administered to 13,667 students.

Methodology and sample

The survey was conducted between June and September 2021 through the administration of a questionnaire to all Unipegaso's graduates (bachelor's and master degrees), resulting in a very high response rate (above 20%). In defining the structure of the questionnaire, the working group took into consideration both the configuration of the evaluation questionnaire already approved by the ANVUR and the survey employed by other Italian Universities belonging to the Almalaurea Consortium, which resulted in a final questionnaire substantially consistent with the one approved by the ASTRE (ASTRE-Automatic System for TRacking E-Learners) project Consortium.

The final structure of the questionnaire was based on 45 questions (38 of them were the ones agreed within the ASTRE Consortium) divided into three sections: i) personal and academic profile of respondents; ii) satisfaction of graduates with the course of study and knowledge learned; iii) effectiveness of the course in terms of entry, retention and career advancement.

Among the 13,667 graduates who responded to the questionnaire (with a slight majority of male), there was a prevalence of ages between 25 and 34 (47.6%), over 35 years old students represented the 41.3% and about 11% of the final sample were under 25 years old.

With reference to the year of graduation, the most represented cluster is the one of students who graduated in 2018 (34.7%), followed by 2019 graduates (26.9%) and 2017 graduates (19.9%). Considering that the 2020 academic year was still in progress at the time the survey, data should still considered partial.

Considering the distribution among the various fields of study, answers came mainly from students who have obtained a three-year (bachelor's) degree. In particular, graduates in Business Administration represented the 22.5% of the sample, those in Physical Education the 14.4% and those in Education and Training the 14.1%. Among the master's degree programs, the Law course represented the 12.1% of the sample. All the other courses account for a little less than 10% of the responses received.

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Furthermore, when considering the level of education, the sample was composed of 8,058 bachelor's degree graduates and 5,608 master's degree, as reported in the following table.

4. LEVEL OF EDUCATION	Students	%
High School	0	0,00%
PhD	0	0,00%
Elementary school	0	0,00%
Asociate degree	0	0,00%
Bachelor´s Degree	8.058	58,96%
Master´s Degree	5.608	41,03%
None	1	0,01%
Total general	**13.667**	**100,00%**

The majority of respondents were working students (72.7%), a large majority of whom are employed in the field in which they obtained their degree (47.6%), either bachelor or master. A very small percentage (3.9%) state they are not studying, not working and even not looking for job position.

Finally, when it comes to the level of course attended, data are consistent with the ones reported in the previous table, with a 59% of respondents who provided their experience about the bachelor's degree course and the 41% responding on the master's degree course, as shown in the following table.

| 5. LEVEL OF COURSE ATTENDED	Students	%
Bachelor´s Degree	8.058	58,96%
Master´s Degree	5.608	41,03%
Others	1	0,01%
Total general	**13.667**	**100,00%**

Results

The relative majority of interviewed graduates (35.5%) states that they enrolled at the University to increase their knowledge, but more than two thirds of the sample states that they enrolled to improve their job position (since they were already employed); this is a significant result that corresponds to the programmatic inspiration of the Pegaso Online University which is to promote lifelong learning processes. A smaller percentage, but still not irrelevant (25.6%), is the one of those for whom the enrolment in a University course was functional to finding their first job, as reported in the following table. Moreover, the analysis of the correspondence between expectations at the time of enrolment and the results actually achieved, shows the effectiveness of the University's educational model in terms of achieving/improving students' job position, given that data converge to the same results.

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10. HAVE YOU ENROLLED IN THE COURSE TO IMPROVE YOUR PROFESSIONAL CAREER OR TO FIND A FIRST OR NEW JOB?	Students	%
Find a first job	3.451	25,56%
Improve professional career	5.265	38,99%
Others	4.788	35,46%
Total general	**13.504**	**100,00%**

Moreover, when it comes to the results obtained by getting enrolled in the university course, students confirmed that their professional profile gained a significative benefit. Taking into consideration that not all UniPegaso's students began their education path for professional means, as stated above, surprisingly, 12.251 of students states that they feel their professional profile has been enriched, as shown in the following table.

9. DID THE COURSE HELP YOU ENRICH YOUR PROFESSIONAL PROFILE?	Students	%
No	1.257	9,31%
Yes	12.251	90,69%
Total general	**13.508**	**100,00%**

Finally, we can summarize the main evaluation elements concerning the degree of satisfaction of graduates (as reported in the graph reported above).
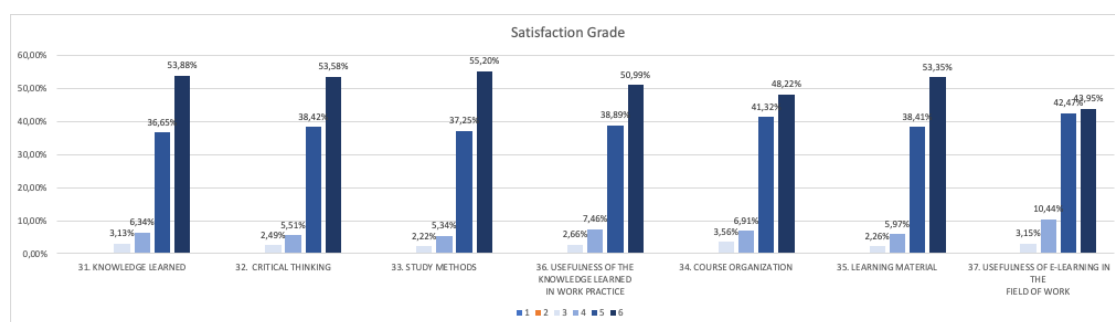
The analysis of data shows that the absolute majority of students, if they could go back, would enrol again at the University. The 83% of respondents would repeat the same course of study and 8.6% would choose another course, but still they will choose UniPegaso among other Universities. The sum of the two answers, equal to 91% of the sample, shows the high level of satisfaction of graduates for the Pegaso Online University. With reference to the knowledge, skills and ability to understand the topics covered in the course of study, more than 93.5% of

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respondents feel satisfied, compared to 3.1% who express a non-positive opinion. Data confirm a high level of satisfaction also with reference to the ability to translate knowledge into specific skills and to apply them in the world of work (the sum of positive judgments is equal to 89.9% of the total). More than half of those interviewed, indeed, consider themselves very satisfied (around 51%) and 38.9% express an overall positive opinion. The 88% of respondents express a positive opinion of the ability of the course of study to develop critical thinking and independent judgment. Approximately 91.8% of respondents were satisfied with the skills they learned in terms of written and oral communication. Data also show a very strong prevalence of students who are satisfied (92.5%) with the University's teaching methods. Satisfaction remains very high (89.5%) also with reference to the structure of the Course of Study, the annual foreseen ECTS, the prerequisite knowledge required and the study programs. Moving on to an analysis of the effectiveness of the degree, as aforementioned, about 90% of those interviewed affirm that the course of study has effectively enriched their professional curriculum. Furthermore, the 42% of respondents pointed out that the degree is essential for their work activity, but even where this is not required by law, graduates consider it a necessary requirement (19.3%) or in any case useful. The questionnaire also included three questions aimed at investigating, more in detail, the graduates' opinion about e-learning. Graduates were asked, first, whether, if they could go back, they would repeat this type of choice. Over 89% of those interviewed stated that they would enrol again in a course of study in distance mode. This is confirmed by the fact that around 33.5% of respondents stated that they had already get enrolled in another course of study in e-learning mode, after having obtained the degree under investigation. Consistently, about 80% of the respondents declared that they might, in the future, enrol again in another course offered in e-learning mode. Consistent with the findings about the usefulness of the degree, about 85% of respondents responded positively about the use in their jobs of the knowledge and skills learned during their studies.

The questionnaire then included some questions aimed at tracing the evolution of the working condition of graduates. First of all, they were asked to describe (by answering three questions) their position prior to graduation. The 24% of those interviewed declared that they had been unemployed prior to obtaining their degree; 21.9% declared a fixed-term job and 38.7% a permanent job. Furthermore, the number of freelance professionals, equal to 15.4% of respondents, is not marginal. More specifically, 65% of respondents state that they are working in the private sector; in 56% of cases, in a professional field consistent with the course of studies under investigation. One year after obtaining a degree, the percentage of unemployed dropped from 24.06% to 19.41%. This improvement is distributed, substantially equally, among those who have been employed on a temporary basis, those on a permanent basis and those who have taken up freelance work. Approximately 61% of respondents reported that they are working in the private sector and about 48% in a sector consistent with the course of study under investigation. Three years after graduation, there has been a slight improvement, in percentage terms, in the number of people employed on a permanent basis. There is still a prevalence of the private sector (60%) and of the sector consistent with the chosen field of study (48%). The situation is essentially the same with regard to placement five years after the degree. There has been a further improvement in permanent employment against a reduction in the number of unemployed individuals. From the point of view of sector and work environment, the prevalence, after five years, is still employed in the private sector (60%) and in a sector consistent with the chosen field of study (49%).

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Another aspect analysed by the questionnaire was the income progression. Respondents were asked to provide information on their gross income before obtaining their degree and one, three and five years after graduation. Before obtaining the degree, the sample is extremely heterogeneous, with a prevalence of responses (36.2%) belonging to the first cluster (less than 5,000 euros), followed by 20.2% from the 10,000/20,000 euros cluster and with 17.2% from the 20,000/30,000 euros cluster. The prevalence of the first cluster seems in many ways predictable, given that around 58% of those interviewed are under 35 years of age. One year after obtaining the qualification, those reporting an income of less than 5,000 euros are reduced by around 6 percentage points, while incomes between 10 and 20 thousand euros and those between 20 and 30 or above 30 thousand euros increase by around 1.5 percentage points. The increase is less important in the income cluster between 5 and 10 thousand euros. This trend is also confirmed three years after graduation. Those in the lower income clusters decrease, to the benefit of more satisfactory income positions. Comparing the initial data with data collected five years after the degree, it is possible to highlight how the first income cluster is the one that contracts the most, going from 36.2% to 29.6%; the second cluster decreases with less intensity, going from 17.0% to 16.4%. There is a slight increase in the third income cluster (from 20.2% to 21.3%) and substantial increases in the last two income clusters, which rise respectively from 17.2% to 19.7% and from 9.4% to 13.0%. These increases are entirely consistent with the composition of the sample and with the expectations of the respondents, most of which were attributable to career advancement.

All data illustrated above refer to an aggregate analysis that includes all the study courses that are part of the Pegaso Online University's educational offerings. Therefore, this report does not aim to provide an exhaustive representation of all the individual courses into which the answers can be aggregated. However, it is useful to emphasize some initial information coming from a detailed analysis in relation to some specific course of study. Hereafter, therefore, we intend to provide only some indicative data of a comparative nature useful for providing a trend picture of graduate satisfaction and placement of the ten study programs under investigation. Considering the relationship between expectations and the results achieved by graduates in finding their first job, it can be seen that the engineering programs (three-year course in Civil Engineering and master's degree in Safety Engineering) are those that are most able to guarantee compliance with students' expectations, followed by those in economics (three-year course in Business Economics and master's degree in Economic Sciences). From the point of view of satisfaction with the university experience, in general, data show that all the degree programs report excellent performance in the satisfaction of graduates in terms of knowledge acquired (students who declared themselves satisfied or very satisfied are for all the programs close to 90%). Focusing on the percentage of graduates who declared themselves "satisfied" or "very satisfied", it is possible to identify Economics, Business Administration, Education and Training Sciences and Law as the best performers among the programs. Equally high - although slightly lower if compared to the previous question - are the percentages of satisfaction regarding the actual applicability of the skills learned in the specific professional field. The best results obtained by the four previously mentioned study programs (Educational and Training Sciences, Economics, Business Administration and Law) are confirmed. Also in relation to the satisfaction of graduates with the structure of the degree programs (programs, ECTS, prerequisites, etc.), excellent performances are evident in all ten courses, with particularly significant peaks for Education and Training Sciences, Law and Business Administration. The last aspect that should be highlight is relative to placement. The

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analyses show that engineering degrees are the most performing in terms of placement (only about 11% are unemployed after 1, 3 or 5 years from graduation). The excellent performance, in terms of employment, of degrees in economics and law is also noted, for which the unemployment rate is below 17% after 1, 3 or 5 years.

Recommendations

The research made it possible to analyse the evaluations of UniPegaso's graduates with a very high response rate (more than 20% of total potential respondents). Particularly relevant is the fact that about 98% of the responses are attributable to graduates who graduated five years prior to the date of administration of the questionnaire, which confirms that the investigation provides a reliable picture of the recent University's performance. In terms of responses, there is a high level of satisfaction about the training offer, structure and teaching methodology of UniPegaso, both with regard to the specificity of e-learning, and with regard to placement opportunities and income progression of graduates. Equally encouraging are the data on placement one, three and five years after graduation, especially if coordinated with the analysis of the usefulness and application of the knowledge acquired by graduates in the world of work. The level of satisfaction appears to be homogeneous among all ten study courses; the differences in the level of satisfaction about the placement and the usefulness of the course do not appear particularly significant. The model of analysis proposed here therefore allows us to have a tendential, but still significant, picture of the degree of satisfaction of graduates. However, there are three working hypotheses for proceeding in the improving of the graduates' tracking. First of all we believe that we will need to carry out more in-depth analyses for each course of study. Second our institution should further refine the survey model on the basis of the experience made with this first experiment, in order to further refine the data collecting process in order to make more comparable analyses. On this point we should point out that the Information Technology and Statistics Office of the Pegaso Online University should provide panel data instead of aggregate statistics, in order to further analyse results in a more dynamic and comprehensively way. Third, define how to make the experimentation adopted here a structural instrument of the Quality Assurance Group of the Pegaso Online University to be used periodically to improve the self-evaluation of the University's performance. Finally, we can synthetize that graduates seems to be really satisfied about all the aspects that have been analysed in this survey. The only aspects that should be better addressed by our institution are related to the international experience that is granted to students during their educational path and to the support given to students in their professional placement. However, this latter two aspects have certainly been influenced by the pandemic crisis that has affected the whole world since 2 years now, so we should monitor graduates' opinion on these topics in the next period also in the light of the improvements we are recently putting in place.

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Report from the implementation of the ASTRE Tracking survey in Germany

FAU-ILI has implemented the ASTRE Tracking system in its new MOOC (https://mooc.ili.eu/) platform. However, because the platform is still in its beta form and it is undergoing testing there is no user data yet. Data will be obtained in the next few months when the platform will be used and the appropriate analysis will be performed

The FAU-ILI MOOC platform is based on the open source LCMS ILIAS (https://ilias.de) developed by the University of Cologne. ILIAS is a powerful learning management system that fulfils a wide range of learning and management requirements.

The technical deployment of the tracking system was straight forward thanks to the work done by the consortium. The technical personnel who implemented the tracking system were not involved into the development of the system and the project but they were able implemented the tracking system in a single day. Their feedback was that the guides developed by the consortium were informative and sufficient to implement the tracking system and the whole process is straight forward and not very time consuming.

Recommendations

- Implement the ASTRE Tracking system as part of the individual MOOCs and make it part of the course.
- The implementation on different systems is a big advantage.
- Allow for internal testing before you publish the system to the stakeholders

Report from the implementation of the ASTRE Tracking survey in Greece

The pilot run of the tracking system at the Lifelong Learning (LLL) Centre of the University of the Aegean, produced 513 responses to the survey. Below are presented main findings from the quantitative and qualitative data analysis of specific survey items.

4. LEVEL OF EDUCATION?

95,91% of the respondents in MOOCs of the Centre have already completed studies in a HEI.

LEVEL OF EDUCATION	STUDENTS	%
HIGH SCHOOL	4	0,78%
VET	17	3,31%
BACHELOR	264	51,46%
MASTER	220	42,88%
PHD	8	1,56%
TOTAL GENERAL	**513**	**100,00%**

|	HIGH SCHOOL	VET	BACHELOR	MASTER	PHD
%	0,78%	3,31%	51,46%	42,88%	1,56%
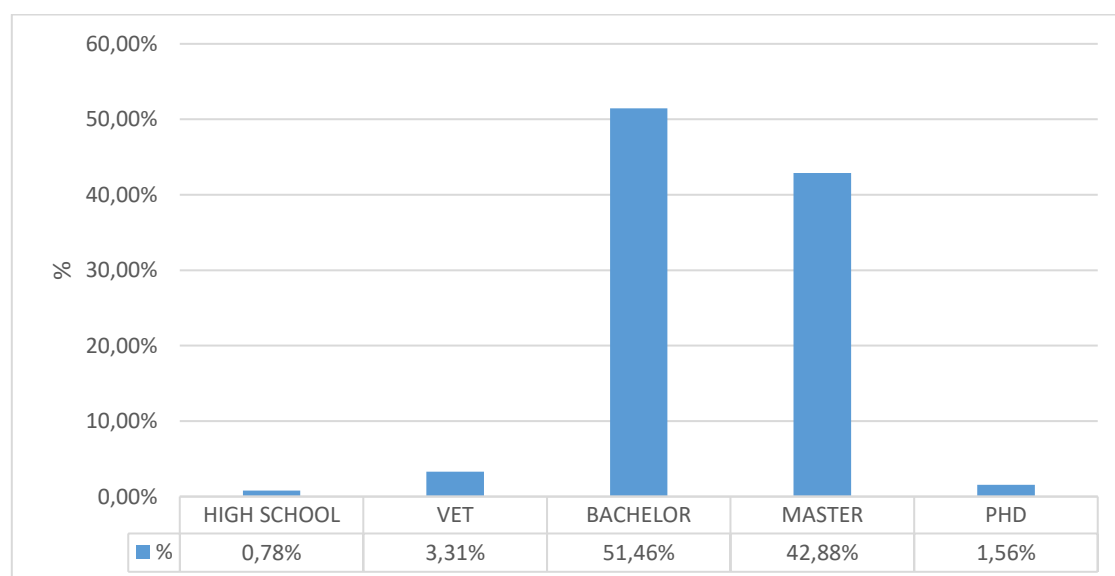
5. LEVEL OF COURSE ATTENDED?

Most of the students were enrolled in courses leading to an official accreditation within the LLL Centre of the University of Aegean, recognized by the National Authority responsible for calls about jobs in the public sector.
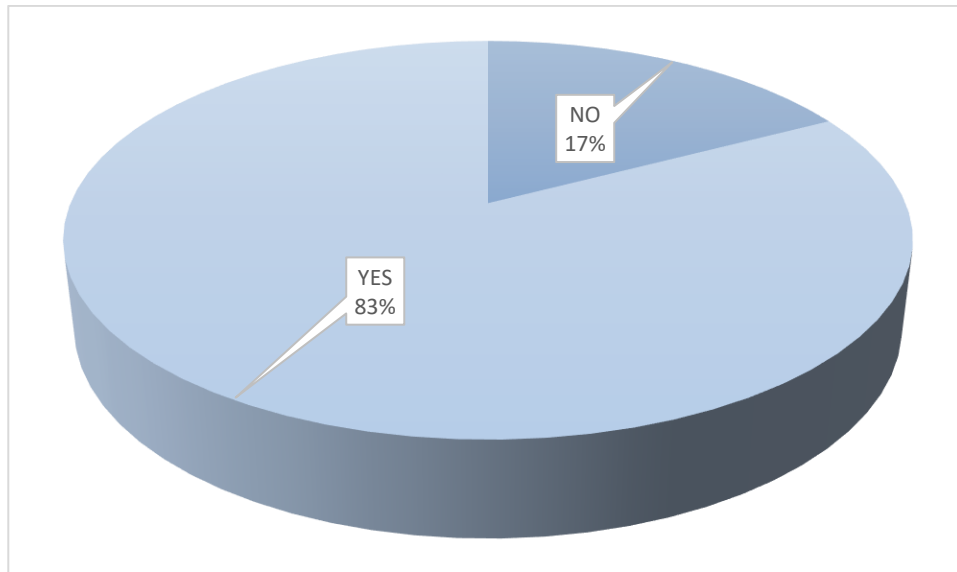
LEVEL OF COURSE ATTENDED	STUDENTS	%
0-3 MONTHS	89	17,35%

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4-6 MONTHS	15	2,92%
7-9 MONTHS	128	24,95%
10-12 MONTHS	23	4,48%
ACCREDITATION	207	40,35%
NO ACCREDITATION	51	9,94%
TOTAL GENERAL	**513**	**100,00%**
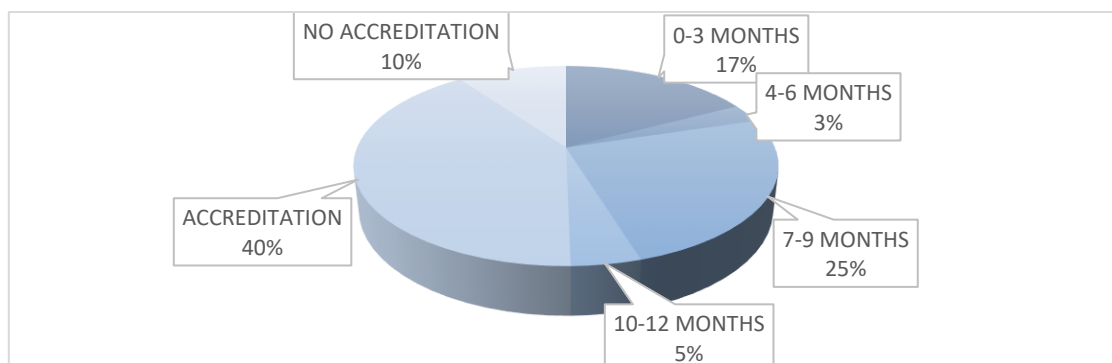
9. DID THE COURSE HELP YOU ENRICH YOUR PROFESSIONAL PROFILE?

Almost all of the respondents (82,65%) stated that the course enriched their professional profile.
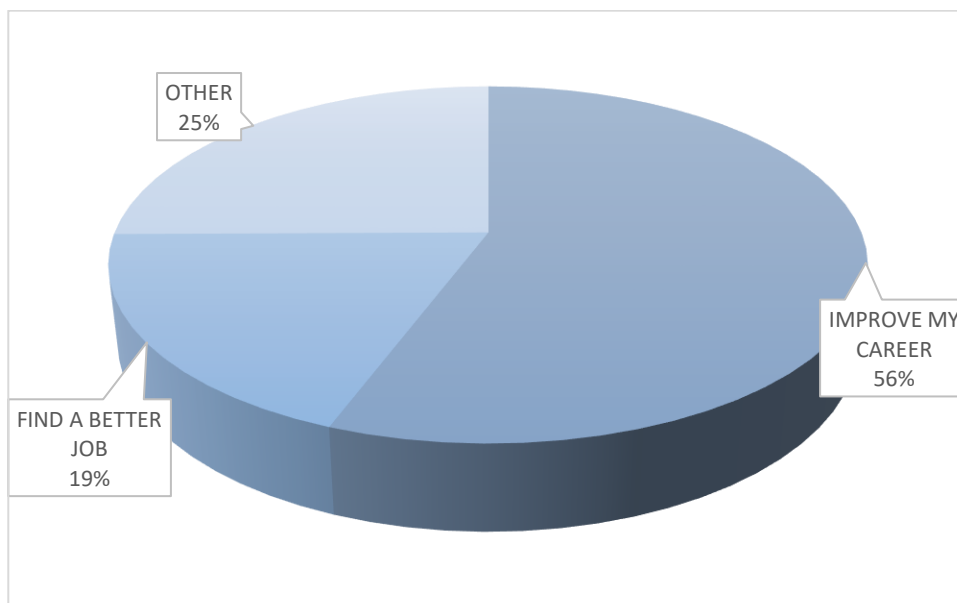
DID THE COURSE HELP YOU ENRICH YOUR PROFESSIONAL PROFILE?	STUDENTS	%
NO	89	17,35%
YES	424	82,65%
TOTAL GENERAL	**513**	**100,00%**

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10. HAVE YOU ENROLLED IN THE COURSE TO IMPROVE YOUR PROFESSIONAL CAREER OR TO FIND A FIRST OR NEW JOB??

Almost 45% of the sample answered that their enrolment to the course was a need to improve their professional status.

| 10. HAVE YOU ENROLLED IN THE COURSE TO IMPROVE TOUR PROFESSIONAL	STUDENTS	%
IMPROVE MY CAREER	286	55,75%
FIND A BETTER JOB	98	19,10%
OTHER	129	25,15%
TOTAL GENERAL	**513**	**100,00%**

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31-37 LEVELS OF SATISFACTION WITH COURSE

In all 7 categories, students' satisfaction levels were mainly above 4. From all categories, the highest rated one is the satisfaction about the learning material (36.77%) and the course organization (35,41%).

SATISFACTION GRADE	31. KNOWLEDGE LEARNED	32. CRITICAL THINKING	33. STUDY METHODS	34. COURSE ORGANIZATION	35. LEARNING MATERIAL	36. PRACTICAL APPLICATION OF KNOWLEDGE IN THEIR JOB	37. E-LEARNING FOR ACQUIRING KNOWLEDGE IN THEIR JOB
1	0,78%	1,95%	1,75%	1,36%	1,36%	3,50%	2,53%
2	2,72%	3,50%	3,11%	2,33%	1,95%	4,86%	4,09%
3	7,98%	7,20%	7,59%	7,39%	6,03%	9,34%	8,17%
4	20,04%	20,62%	22,57%	17,32%	12,26%	20,62%	18,09%
5	38,91%	37,16%	35,60%	36,19%	41,63%	34,05%	34,24%
6	29,57%	29,57%	29,38%	35,41%	36,77%	27,63%	32,88%
	100,00%	100,00%	100,00%	100,00%	100,00%	100,00%	100,00%
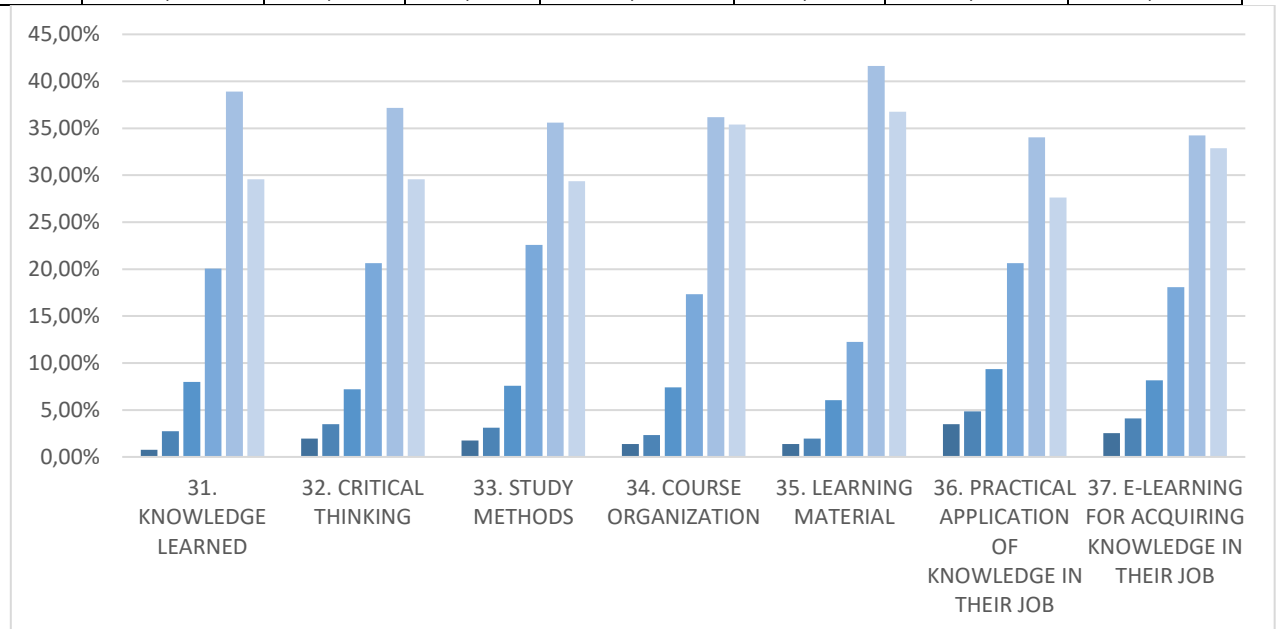
38. What would you change to improve e-learning in your field of work?

Analysing this open question, we conclude the following categories/themes. In some of the responses there were more than one them, so the numbers could not be sum up to 100%.

91 students stated that they should change anything in the course and 320 students didn't answered or answered irrelevant.

25 students mainly asked for more practical examples and real cases and improvement of the material and 22 students asked for better and more to the point learning material. But, as a percentage to the total sample is quite low and this could be explained by the results of the survey item No 35, which wea graded with the highest score, meaning that there were an

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overall satisfaction with the content, despite some different opinions. In any sae, this is something that should be considered as an interesting result.

38. CHANGES FOR THE IMPROVEMENT OF E-LEARNING	STUDENTS	%
NO ANSWER - IRRELEVANT ANSWER	320	62,26%
NOTHING	91	17,70%
PRACTICE - EXAMPLES	25	4,86%
CONTENT - MATERIAL	22	4,28%
ASSESSMENT METHODS	11	2,14%
VIDEO	11	2,14%
FEES	8	1,56%
COMMUNICATION	6	1,17%
LEVEL OF INTERACTIVITY	5	0,97%
CERTIFICATION	5	0,97%
DIDACTICS	5	0,97%
SPECIALIZATION	4	0,78%
MODE OF DELIVERY	3	0,58%
DURATION	3	0,58%
CRITICAL THINKING	3	0,58%
TECHNOLOGY	3	0,58%

Recommendations

According to the above results, some recommendations could be proposed as follows:

- Emphasis should be given to people who haven't already acquire a higher institution's degree. This mean that there is a need to design programs for this target group as well, in the context of an open education philosophy and relate courses in a type of formal accreditation.
- Course mainly offered "within job" professional development opportunities and not "change job/find new job" opportunities. This finding suggests that LLL Centre should reconsider the general policy of courses design and offering, in order to be more job-specific or skills-specific.
- Increase the level of multimedia assets and interaction within the training material for the asynchronous e-learning.
- Enrich the assessment methods used for the certification of the acquired knowledge and skills.
- Integrate the tracking mechanism in a sustainable manner within the administrative processes of the LLL, in order to gain higher response rates and thus obtain more data for a more reliable and precise analysis.
- Tracking mechanism should be used in combination with the formal evaluation process of the LLL Centre's courses.

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Synthesis report

The consortium, through the pilots in Spain, Germany, Italy and Greece gathered, in total, 14.947 responses from graduates of MOOC and Online courses. All data illustrated above refer to an aggregated analysis that includes all the data collected from the four partners. Therefore, the results are not representative of all MOOC and e-learning providers. However, it is useful to emphasize some initial information coming from a detailed analysis in relation to the experience, motivation and satisfaction of MOOC and e-learning graduates, in the specific cases above.

A first observation is that the majority of people who choose to enrol in MOOC and e-learning programs are graduates of Higher Education Institutions with a bachelor's or master's degree. However, in some cases (like UPV) there is interest from both High school seniors and Doctoral graduates.

In regards to the level of the courses attended, the results differ in each case. Specifically, at the Lifelong Learning Center of the University of Aegean, most students (40%) enrolled in courses leading to formal accreditation recognized by the National Authority responsible for job vacancies in the public sector. Whilst, at the Polytechnic University of Valentia most students (76.14%) enrolled in courses other than undergraduate or graduate level. Most courses are MOOCs in horizontal subjects and professional skills development.

In addition, at Pegaso Online University the majority of respondents were enrolled in courses with the aim to obtain either a bachelor's (58.96) or a master's (41.03%) degree. Because, the majority of respondents were working students (72.7%). A large majority of them are employed in the field in which they obtained their degree (47.6%), either bachelor or master. Therefore, it is reasonable to assume that the type of courses and the level of courses selected by the students to attend depend on the personal aims and goals of each student.

Even though the needs motives of the students may differ, the majority of the graduates who responded to the survey, stated that they enrolled to attend such courses in order to improve their professional career and find a better job. Moreover, when it comes to the results obtained, by getting enrolled in the courses, students confirmed that their professional profile was enriched. This is a significant result that supports the notion that MOOCs and e-learning courses contribute to the Lifelong Learning of adults. However, the major challenge, to make Lifelong learning more inclusive, remains.

Finally, if we summarize the results of all pilots concerning the degree of satisfaction of graduates, the results are very positive with the main evaluation elements: "knowledge learned, critical thinking, study methods, practical applications, course organization, learning material, usefulness of online learning in your field of work", scoring between 4-6, which are the highest points in the satisfaction scale. Based on the above, we could say that if e-learning becomes a positive and pleasant experience, it will motivate more e-learners to use it.

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Recommendations

Considering the above, in terms of responses, there is a high level of overall satisfaction among the graduates who participated in the survey. However, there were some recommendations for the enhancement and improvement of the quality of MOOC and Online courses to make it more appealing to prospective students. These recommendations refer to four topics: "the learning material, the MOOC and e-learning course methodology, the variety of the courses and the accreditation and certification of the courses".

Before we present the main recommendations, there is an important element that the MOOC and e-learning providers should have in mind when designing new courses or updating the existing ones. The fact that, the majority if the students who enrol in MOOCs and e-learning courses, are working professionals, who wish to upgrade their professional skills and competences and value the application of the acquired knowledge in their work practice. Therefore, the contents should be more job-oriented or skills-specific oriented to help the practical application of the acquired knowledge.

Based on the above, the recommendations regarding the learning material are:

- Constant update and enhancement of the content, in terms of applicable legislation and regulations, new processes, new technologies, new IT systems, etc., in order to adapt to the needs of the labour market and the need for continuous and updated training and learning.
- Update and improve the support material with more case studies and exercises based on real situations. More case-study training exercises that will allow students to develop their critical thinking and apply the knowledge they acquired.
- Invest to the international experience that the students gained during their educational path and provide more support to the students in their professional placement.
- Design programs for people who haven't as yet acquired a higher education degree, either in the context of an open education philosophy or in the formal traditional education.

In regards to the MOOC methodology, most participants suggested that the providers should enrich the assessment methods used for the certification of the acquired knowledge and skills. Also, although most MOOCs have an asynchronous format, the students request methods (like discussion forums) to be able to interact more with the teachers, to be able to communicate and clarify questions. Also, the participants requested more flexibility in the time provided for completion of the course, because as the students stated, it is difficult to combine daily work and study.

In regards to the range of courses offered, the graduates suggested that the MOOC and e-learning providers should consult and take into account the needs and preferences of the students, about the courses they would be more interested in, and to see the possibility to update and expand the range of the courses they offer. Moreover, some graduates suggested that providers of online learning should offer different levels of knowledge and skills for specific fields and topics and accordingly differentiate the acquired certificate by awarding different degree of certification e.g. diplomas, higher diplomas, degrees.

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Finally, concerning the accreditation of courses the participants suggested that the providers should help financially the students by making offers for the completion and certification of courses. For example, the fees could be paid by number of courses completed, or after completing several courses in the same field, etc.. This could encourage students to enrol in more MOOCs. In addition, providers should receive feedback from the students and the labour market about what should be the form and content of the certificates in order to be more appealing and acceptable by the organisations and companies. Recognition of certificates is very important for the students and the providers alike.

There is a considerable amount of recommendations received, however, we believe that more responses would be more useful. It is essential for all providers of online education to develop and integrate their own tracking system in a sustainable manner, within the administrative processes of their LLL education programmes, in order to gain the necessary feedback to obtain reliable and precise results to develop and improve their education programmes. The Tracking system could be a part of the online education and training courses or MOOCs offered.

The tracking system for graduates is a useful tool for the online teaching and learning because it will help both learners and e-learning providers. The learners seek for effective and motivating e-learning courses and the providers wish to update, develop and make attractive the e-learning courses they offer. The tracking system for graduates, developed by the ASTRE project, aspires to help LLL education.