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Erasmus JOBS

T1.1 Literature Study Through Desk Research

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Preface

The ErasmusJobs Project¹ [1], in particular the task of **IO1 - A comprehensive Competence Profile**, is devoted to define which skills are provided by an Erasmus+ mobility abroad, map the skills employers seek and make a comparative analysis of the two, highlighting the concrete benefits that Erasmus+ brings for participants. Furthermore, it will produce a competence booklet, a report, and policy recommendations on how to support Erasmus+ Alumni.

To achieve these goals, the consortium members involved in the task T1.1 have done an extensive literature study. This study will build on the European Skills Panorama (<https://skillspanorama.cedefop.europa.eu/en>), co-created by the European Commission, Directorate-General for Employment, Social Affairs, and Inclusion.

The literature study will be complemented and validated with qualitative field research among employers, students, and university staff. This will include interviews with representatives from the various stakeholder groups and will provide essential data for the development of the competence profile.

Additionally, a mapping between the identified skills will be developed to facilitate dialogue between the various stakeholders. This mapping will also serve as a benchmark measuring the different competences gained and needed to identify where most work would be needed.

This study tries to answer the following questions:

- What transversal competences do employers need?
- What transversal competences do universities teach?
- What transversal competences do Erasmus+ students have?
- How do competences from Erasmus+ students translate into competences employers need?

By answering these questions, the research IO1 will identify where competences differ, and where the different actors can work together to bridge this competence gap, specifically taking a look at the Erasmus+ students competences.

The research will be concluded with the development of a comprehensive competence profile and a competence booklet for students and career offices. This will be based on a self-assessment tool developed in the Erasmus Skills project but extended based on a company and university input.

¹ <http://erasmusjobs.org/>

A report of the research results together with the competence booklet will form a solid base for further discussions and allow the project to increase the impact and sustainability of the website development named “The Job Platform for the Erasmus Generation” carried out in IO2.

Prior research in the field has been conducted, for example the *Erasmus Impact Studies*, where some consortium members have been involved. However, **a particular skills mapping** and research on what would be the **mobility² competence profile**, are not available.

This mapping and competence profile will provide a starting point for discussions and joint work, closing the skills gap between graduate students³ and the labour market.

The tangible outcomes from the project will be freely available and usable without any restriction.

² Mobility refers to a large quantity of experience not only Erasmus+ students, but other international grantships or abroad internships, curricular or extracurricular experiences related to university studies.

³ Graduate students refer in our context to any university studies: bachelor, master students.

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Introduction

It is commonly agreed that mobility activities during studies, as well as any active engagement in student branches or other similar student associations, are of significant added value when it is time to find a job. Nevertheless, it is equally known that the labour market remains challenging for recent graduates, mainly due to their apparent lack of skills and working experience. Acknowledging this situation, the project “Mobility ErasmusJobs-Bridging the skills gap of the Erasmus Generation” (ErasmusJobs) tries to give answers to these questions:

- *Why are the skills gained through a mobility experience not clear?*
- *Why does this lack of recognition still exist?*

A precise initial analysis of the needs of the parties involved (students, universities, and employers) is later provided. The ErasmusJobs project seeks to identify the transversal skills of the students, the needs of employers, and map both sides with a common understanding.

As a final and global outcome, the project will produce an online platform to manage practically all the exchanges, exposing additional training and best practice material as supporting resources. The ultimate goal is that the project develops different outcomes, suggesting solutions to overcome the obstacles for the success of mobility competences recognition.

General analysis

The ErasmusJobs project is also related to other projects as the ongoing project Erasmus Skills⁴ (project number 2018-1-ES01-KA203-050439), sharing several partners with our ErasmusJobs project. The Erasmus Skills project lets former Erasmus students reflect on the KSAs (knowledge, skills & attitudes) they developed during their stay abroad. ErasmusJobs takes a holistic approach and also focuses on identifying the skills taught by universities and the skills requested by employers. Both projects have different outcomes, but the output of ErasmusSkills will provide a stepping stone in ErasmusJobs, where the focus will be on providing a place for students to present the skills gained during their stay abroad to employers.

Furthermore, there are additional synergies with the ESN-internal project #MyESNCareer⁵. In this successful campaign, ESN volunteers showcased the skills they gained while volunteering. The ultimate goal is to raise awareness of the recognition of skills gained through non-formal learning.

According to the Erasmus Impact Study done in 2014 (Commission 2014), participating in a mobility experience increases the long term employability of students. At the same time, young people who actively engage in student societies or other types of associations develop various transferable/non-formal skills, which are highly valued in the workplace (European Union 2019). However, at the same time, young people in Europe are facing important challenges to find a job right after graduation due to the challenging labour market, the lack of skills and working experience.

Learning mobility is associated with future mobility, higher earnings, and lower unemployment. It also correlates with improved mutual understanding, openness, and citizenship skills. Transnational learning mobility is one of the major objectives of the European Education Area.

The Eurostat databases⁶ are very relevant to study learning mobility statistics. These are the latest highlights extracted from 2019 data:

- There were 1.7 million students from abroad who were undertaking tertiary level studies across the EU-28 in 2017.
- Across the EU-28 in 2017, some 436 000 students from abroad (25.5 % of the total) were studying in the United Kingdom, far more than in any other EU Member State.

⁴ <https://uni-foundation.eu/project/erasmus-skills/>

⁵ <https://esn.org/blog/myesncareer-focus-business>

⁶ https://ec.europa.eu/eurostat/statistics-explained/index.php/Learning_mobility_statistics

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- More than one third (37.8 %) of the students from abroad who were undertaking tertiary level studies across the EU in 2017 were from Europe, 30.1 % were from Asia, and 13.0 % were from Africa.

Going back to the labour market of Erasmus+ students, according to the ESNsurvey 2011⁷ on the topic of “Exchange, employment and added value”:

- More than 97% of all respondents consider having studied abroad an advantage on the labour market.
- Students who studied abroad evaluate many professional and study-related skills consistently higher than the peer group without a mobility experience.
- Studying abroad helps widening individual career opportunities by enlarging networks, improving knowledge of foreign languages and boosting self-confidence.

The Erasmus Impact Study done in 2014 (Commission 2014) stated that for employers, a mobility experience generally looks nice as 64% believe international experience is important, but eventually, the obtained transversal skills and knowledge are the aspects that matter the most (92%). On the other hand, they are very few employers who consider international experience in their recruitment criteria (Van Mol 2017) .

Why are the skills gained through a mobility experience not clear, and why does this lack of recognition still exist?

There seem to be several reasons for this:

- Mismatch in the skills graduates have compared to the skills employers need
- There is little emphasis on transversal key competences for Lifelong Learning both from graduates and from employers (European Union 2018)
- Depending on their background, young people are still relatively limited to find a job in their country, while more labour mobility would bring an opportunity to cover local vacancies with other European citizens.

There seems to be a need to create synergies and find ways to bridge the skills gap between graduation and employment. However, in order to further elaborate on the needs, an extensive requirements assessment for the three different stakeholders linked to an Erasmus+ mobility will be done in a later stage of the ErasmusJobs project.

Acquisition of transversal skills, including those acquired through mobility, are not the prerogative of the students enrolled in higher education programmes. Many other fields of education can be faced with the same issues, for which the solutions developed within this project can be equally relevant.

⁷ <https://esn.org/ESNSurvey/2011>

In the article from (Monteiro et al. 2019) it is shown that the impact of globalization and rapid technological advancement drives to a new concept of working, which encourages continuous competences' development, taking into account individuals' interests, personality and labour market opportunities. This new perspective implies, on the one hand, high levels of self-knowledge and, on the other hand, in-depth knowledge of the needs of employers' organizations. In the above context, the document presents a study with the analysis of (mis)matches between the perceptions of mastery and utilization of graduates' competences, taking graduates' and employers' perspectives. The posed questions on this study are very similar to those questions of the ErasmusJobs project. How do students perceive their curricula and utilization of their competences during professional activities? How do employers perceive graduates' mastery and use of their competences? Are there mismatches in the use of competences?.

Literature about Skills/Competences Classification And Definition

In this section, we will review the main sources related to skills/competences classification and definition. First, the information provided by public institutions are provided, next some works from relevant authors are introduced.

Information from public/non-profit institutions

The ESCO handbook (European Union 2019) is the main reference book for the European Skills, Competences, and Occupations for all European Qualification levels (defined in the European Quality Framework - EQF⁸).

The EU Commission services have developed an EU tailor-made monitoring framework – the European Skills Index (ESI) – that measures the performance of a country's skills system taking into account its multiple facets from continually developing the skills of the population to activating and effectively matching these skills to the needs of employers in the labour market.

The European Skills Index builds on three pillars: skills development, skills activation, and skills matching. These pillars are used to organise and aggregate 15 individual indicators into a single summary measure. This framework inevitably entails both conceptual and practical challenges.

Another important source of information is the European skills index done by CEDEFOP⁹ (Cedefop 2018). Though it is intended to be focused on Vocational Education and Training (VET) studies providing occupational skills, whereas university courses are better known for focusing on theory and professional career paths.

The book (Scoreboard 2013) report contains a set of draft proposals for **indicators of conditions for learner mobility in higher education**. Produced by Eurydice in 2011, this mobility scoreboard might be of large interest to convert those “marks” as comparative indicators for skills that are enhanced/improved with Transnational educational mobility (TEM).

The recognition of competences and skills is of great interest but some of them are hidden. In the figure below, several skills and competences are shown in a pyramid of knowledge trying to include more competences that could be hidden, below or in-relation with others.

⁸ http://ecahe.eu/w/index.php/European_Qualifications_Framework

⁹ CEDEFOP - European Centre for the Development of Vocational Training (Cedefop) - <https://www.cedefop.europa.eu>



There are more or less strong connections among hidden competences. The next table shows a possible relationship.

	Productivity	Curiosity	Resilience
Efficiency	0.77	0.03	0.08
Analytical ability	0.67	0.08	0.20
Problem-solving ability	0.58	0.31	0.22
Reliability	0.57	0.13	0.32
Creativity	0.35	0.31	0.28
Tolerance	0.15	0.66	0.09
Interest towards new issues	0.20	0.60	0.45
Cultural knowledge	-0.07	0.53	0.06
Co-operation	0.47	0.52	0.22
Adaptability	0.32	0.51	0.38
Networking ability	0.14	0.47	0.17
Communication skills	0.33	0.45	0.24
Languages	0.05	0.40	0.02
Self-awareness	0.30	0.20	0.84
Persistence	0.53	0.20	0.54
Self-confidence	0.37	0.24	0.43
Empathy	0.23	0.31	0.34
Anxiety	-0.07	-0.11	0.05
Elitism	0.28	-0.02	-0.11
Ambition	0.34	0.11	0.12
Laziness	-0.16	-0.17	0.03

Our aim is not to produce new data but to review all the information related to mobility & employability.

Another possible classification is the ISCO-08 International Standard Classification of Occupations, the article (Daniels 2012) reviews and describes it.

Information provided by relevant authors

In (Waibel et al. 2017), *Career consequences of transnational educational mobility: A systematic literature review*, it is shown an analysis of the Transnational educational mobility (TEM) – stays abroad between and during basic and post-secondary education. The research review findings of existing empirical studies on the potential career benefits of educational mobility. The authors have done an extensive search procedure through 65 documents that were reviewed concerning three vertical career outcomes: career planning skills, transition into employment, and professional status or income. In some aspects, this study is similar to the current literature review under work here. Results revealed that there exists a moderate positive effect of educational mobility on income after graduation. While individuals themselves perceive a connection between their transnational mobility practices and subsequent job search success, objective effect assessments disprove assumptions about the faster school to work transitions. Individuals also perceive a positive impact of TEM on career planning skills, but studies using more elaborate methods report no impact. The article review also buttresses the relevance of individual and contextual factors as moderators of the career impact of educational mobility.

In the document (KeySTART2Work 2016) as an outcome of a previous Erasmus project (KeyStart2Work¹⁰), there are presented the definition of 12 'transferable skills' that might be considered relevant competences to jobs and occupations:

1. Intercultural skills & global awareness
2. Flexibility & adaptability
3. Strategical & innovative thinking
4. Organization & time management
5. Decision making
6. Teamwork
7. Empathy / ability to build relationship
8. Problem solving
9. Learning orientation
10. Negotiation skills
11. Leadership
12. Collecting and processing information.

¹⁰ <http://keystart2work.eu/en/outcomes>

Additionally, that report presents the catalogue of transversal competences key for employability with the definition of how would be the factual and theoretical knowledge of the competence, which are the skills that each competence includes, and different attitudes that one person with such a transversal competence will show.

These competences may also have been acquired through non-work or leisure activities or participation in education or training. Therefore as Erasmus mobilities generally present to students new situations, special problems, the resolution of them can be transferred to different contexts easily. For example, in “Organization and time management” competence, theoretical knowledge includes “time management techniques”, one related behaviour/skill is “to define priorities” and one related attitude is “responsibility”. This mapping could be used while creating awareness about how mobility improves different transversal competences. This correspondence set of knowledge, skills and attitudes are usually known as KSAs.

In the article (Price et al. 2016), the authors studied the critical set of skills which successful entrepreneurs have in common. This report finds that the entrepreneurial skill-set was demonstrated by all interviewees and important to their success, whichever the type or sector of their business.

European studies reviewing Skills gained with E+ mobility

The report about Erasmus Impact (Commission 2014) studies the effects of mobility on the skills and employability of students and the internationalisation of higher education institutions.

The study stated that participating in a mobility experience increases the long term employability of students. According to (Janson et al. 2009) international experience inside of a study stage can be an embedded value of the study. For instance, foreign language, international law or European studies should be accomplished with this type of experience to acquire the full set of expected skills of these studies. However, what happens with other studies where international experience is not included in the core of the study? This situation is the most common for most studies. To understand the benefits of international experience in terms of gained skills, (Janson et al. 2009) took four different and general disciplines to analyse the impact of Erasmus mobility in the students enrolled in those studies. Mechanical engineering, Chemistry, Sociology and Business were chosen to do an exhaustive analysis. Due to we are moving in a new globalisation era, the companies related to the chosen disciplines claim the cooperation between multidisciplinary stakeholders and international customers. They should communicate with customers and team members for other countries, cultures and/or disciplines. According to the students' feedback, skills related to understanding and tolerance of international differences in culture, self-autonomy, initiative or written communication skill were improved thanks to international experience. These factors were key when former Erasmus students applied to job positions and for their professional career. To acquire these skills enabled the upgrade or enhance job positions to them.

Other interesting work developed by (Bryla, 2015) analyses the impact of international student mobility on employment and professional career focus into Polish students. With more than 2450 questionnaires this work studies the benefits for students in terms of gained skills for the job market. First conclusion to watch over is the percentage of Erasmus alumni developing white-collar jobs. More than $\frac{2}{3}$ of responses assert that they are covering one of these relevant positions. A low percentage of the former international student mobility participants (1,6%) mentioned they had never worked. Another impressive indicator is that more than $\frac{2}{3}$ of former students affirmed that they have worked abroad. Thus, the link between international students and the skills to work abroad are connected through Erasmus mobility acquiring the expected skills from international companies to work into an international team.

Some articles, such as (Brandenburg et al. 2015), have extracted different conclusions from the data of the Erasmus impact study. This work shows how mobility has an impact on the career as

those transversal skills such as confidence or tolerance are not only predictors for studying abroad but also relevant for employability.

The large-scale VALERA study (The Professional Value of ERASMUS Mobility. Final Report. Presented to the European Commission - DG Education and Culture, 2006) revealed that former Erasmus students associated their experience of mobility with improved international competences and facilitated access to the labour market. The study concluded that students “do not only mature during their stay but they also gain in competences often summarised as soft or key skills like intercultural awareness, adaptability, flexibility, innovativeness, productivity, motivation, endurance, problem solving abilities and being able to work productively in a team” (Bracht et al. 2006)

National/Regional studies reviewing Skills gained with E+ mobility

Similarly to the global report for European Erasmus mobilities, in 2016 a report with a regional analysis was done (Commission 2016). While the original Erasmus Impact Study (Commission 2014) published in 2014 looked at aggregated data at the European level, this new study analyses the regional trends in the effects of student mobility under the Erasmus programme on employability, skills, careers and social lives. The analysis is based on the four regions of Europe, showing a comparative analysis of the effects of Erasmus on the personality, skills, and career of students of European regions and selected countries.

The Erasmus Regional Impact Study confirms that while undertaking an Erasmus student exchange significantly improves young people's chances of securing high quality managerial jobs, this is especially true for students coming from Southern and Eastern Europe.

	Northern Europe	Southern Europe	Eastern Europe	Central Europe
Higher Motivation to go abroad	Meet new people and broaden career prospects in home country	Develop language and soft skills and broaden career prospects abroad	Develop language skills and broaden career prospects in home country	Live abroad and meet new people
Long-term	2%	3%	1%	2%

unemployment of Erasmus alumni				
Long-term unemployment of non-mobile alumni	3%	6%	6%	3%
level of personality traits before Erasmus mobility	69,8%	70%	69,7%	67,8%
level of personality traits after Erasmus mobility	69,3%	70,8%	71,2%	69,3%

In the article (Liwinski 2017), the authors identify the impact of international student mobility on the first wages of tertiary education graduates focused in Poland. It is interesting how they have designed a methodology/approach to make the analysis. In order to reduce the bias due to selection to international student mobility, the author includes a set of variables representing abilities and skills, characteristics of studies, and international experience as control variables. The author addresses the possible selection to employment bias by using *the Heckman correction* with various exclusion restrictions. The findings were that studying abroad brings a wage premium only if it is followed by working abroad.

In the book (Rodrigues 2013), data from 16 European countries has been used in the analysis of the effects of student mobility during higher education not only on the transition from education to employment but on future mobility, and on hourly earnings five years after graduation. The findings point to a positive association between mobility and future mobility and earnings, while the transition to employment seems to be slightly delayed, and only found in few countries.

The paper (Crescenzi et al. 2016) looks at the geographical mobility of graduate students and their skill matching in the labour market. The paper assesses the impact of a learning mobility grant scheme funded by the European Social Fund in Sardinia (Italy). The scheme aims to foster regional human capital and increase the employability of local graduates by covering the cost of post-graduate studies in other regions or countries. The results suggest that learning

mobility grants can reinforce skill matching only if the problem of self-selection of the beneficiaries are properly addressed.

The motivation of the article (Brooks et al. 2012), is to study those students that go abroad to 'distinguish themselves' from other graduates: paying increased attention to university status; engaging in a range of extra-curricular activities; and pursuing postgraduate qualifications. This article explores the extent to which an overseas education can be seen as part of a broader strategy on the part of British students to seek distinction within the labour market and whether such an education does indeed offer tangible employment benefits.

The article (Hyvärinen 2019) presents whether or not International studies and training experiences are commonly thought to increase graduate employability, specifically viewed by Finnish employers. The paper focuses on several questions:

1. What are the competences valued by employers when recruiting graduates?
2. How do employers perceive international competences?
3. What is the role of international experience in recruitment decisions?

The article (Luca Favero; Andreina Fucci 2017) entitled "The Erasmus effect on earnings, examines the impact on salaries of Erasmus participation for graduates from the University of Siena". Specifically, it investigates whether mobile alumni experience an increase in terms of net monthly salaries, using panel data for 2010 graduates from the University of Siena who were interviewed again each 2 years till 2015, to track the Erasmus impact. The results show the existence of a wage premium of around 7-9%. The link between TEM and the first salary has been validated in several countries: Greece (Lianos et al. 2004), Switzerland (Messer and Wolter 2007), Italy (Cammelli et al. 2010) , Poland (Liwiński 2019), France (Calmand et al. 2018).

The article (Bryła 2015) shows that the Erasmus programme contributes to quality improvement in higher education at 3 different levels: system (policy), institutional, and individual, and thus enhances the employability of university graduates who have taken part in Erasmus mobility. A questionnaire of 2450 Polish alumni, including all Erasmus programme participants in 2007 and 2008, was conducted in 2012, the respondents reported their professional career after 5-6 years. Only 1.6% of the former international student mobility participants mentioned they had never worked, with a vast majority having a white-collar job or even a managerial position. As much as 68.6% reported they had ever worked abroad. Higher education and proficiency in foreign languages were judged very important by the majority of study subjects. One third of former international student mobility participants considered international experience to have a very important influence on their professional development and position.

The novel article (Gabor et al. 2019) presents a transnational research study of the perception of the heterogeneous sample of employers regarding a sustainable and experimental innovative tool for the assessment of competences to support employability. The study has been conducted with employers from Austria, Romania and Sweden, from five different sectors of activity. In the study, a quantitative analysis was carried out using data based on Eurostat indicators for quality of employment and a qualitative analysis using face-to-face interviews. The results show that even if there are significant statistical differences, regarding the quality of employment according to the Eurostat indicators, all these 3 countries have a good, equal and strong perception with an innovative and sustainable tool for continuous assessment of skills to support employability.

There are other non-EU articles and studies related to mobility and skills for the labour market. For example, the article (Fischer 2010) discusses study abroad programs, students who participate in them, and the perception that employers hold of those programs. It shows workshops and programs from a particular American University. The relevance of the report is the conclusion about market job skills that students learned while studying abroad and valued by employers. Relationships between career placement offices and study abroad programs are mentioned.

In the article (Iriondo 2019), the author states that little empirical literature assessing the impact of Erasmus study program on graduate career prospects exists. In this sense, the Erasmusjobs project should address the lack of empirical evidence, directing the quizzes of data toward the analysis of the relationship between E+ mobility and skills acquired. In an attempt to obtain less biased evidence on the effect of E+ students' mobility on career and salary prospects, a propensity score matching approach was used. The presented study has been carried out in Spain through the analysis of two graduate surveys. The main conclusion reached was that in the medium term, Erasmus programs do in effect have a positive impact on the prospects of recent graduates, who in terms of income, were able to command salaries that were 10–12 percent higher than their counterparts.

Literature pro Skills gained with E+ mobility

An increasing number of studies pointed to transformative experiences gained from study, work and volunteering abroad, which can be linked to transferable and employability skills.

In the study done by (Soares and Mosquera 2019) through a sample of 196 students who participated in the Erasmus program between 2013 and 2017, the authors analyze the relationship between perceptions of employability and development of skills. The aim of this study is to measure to which extent former Erasmus students perceived that this experience enhances their employability.

Their literature review leads them to four topics, four motivation to study abroad:

1. Achieving distinction from national peers: the graduate labor market is in congestion, so young graduated need to distinguish themselves, and an international experience like Erasmus is one of them;
2. Meeting national employers 'requirements: national employers value qualifications obtained abroad;
3. Having an international career or finding a job abroad: an international exchange is seen as improving skills like cultural intelligence, language proficiency...requested criteria to obtain an international job;
4. Developing career-oriented skills: having an international experience leads to more job opportunities.

First, they measure the perception of employability by proposing six items related to the literature review above.

1. I have more job opportunities than my colleagues who did not do Erasmus

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2. Employers in my country value CVs with an Erasmus experience when recruiting young graduates
 3. Employers in Europe value CVs with an Erasmus experience when recruiting young graduates
 4. I have more job opportunities than I would have if I had not done Erasmus
 5. It is easier to find a job in my field if you have an Erasmus
 6. I believe doing Erasmus had a positive effect on my employability

Second, following a fuzzy set of qualitative comparative analysis (fsQCA), they measure the development of skills before Erasmus. They use the 33 skills identified by (Martínez-Usarralde et al. 2017). Third, they measure the same, but after the Erasmus international mobility. Fourth, they ask questions about demographic data.

Their results allow them to conclude that “students clearly perceive that the exchange has a positive effect on their employability” (Soares and Mosquera 2019).

Their second objective was to propose a set of skills developed during Erasmus. They identified five groups of skills. Their results highlight that Erasmus students perceive a positive impact on all those groups of skills. They also subtracted ratings “before Erasmus” to ratings “after Erasmus” to discover positive means.

Their third goal was to analyze the link between those skills development and the enhancement of employability. The results of the fsQCA show that there is “no single type of skills that can be developed to promote employability, that is, there are no ‘necessary’ or ‘almost necessary’ conditions” (Soares and Mosquera 2019).

From the above information we can excerpt that two combinations of skills are perceived as enhancing employability:

1. Adaptability skills and Teamwork skills
2. Career-orientation skills, Managerial skills and Personal skills.

These two combinations can be linked with the two main motivations for choosing an international exchange as a strategy to enhance employability: pursuing an international career and pursuing distinction from peers.

In the article (Phuong 2019), the author presents useful recommendations for actively enhancing the graduates’ employability with transversal skills. This document employs a deductive approach using a mixed-research method, both qualitative and quantitative data for answering different research questions, such as: “is there a lack of critical transversal skills that can enhance their employability and become useful for their working life?”

Besides, in the article (González-Baixauli et al. 2018), focuses on the outcomes of mobility, related to the improvement in the academic performance of the students who participate. The results highlight that students participating in a mobility programme improve their scores at the host university, but this upgrading: a) is not homogeneous across the mobility programs or geographical areas considered; and b) partially vanishes off when the students come back to their home university.

The article (Hedvig and Caperna 2018) shows how the increased worldwide connectivity, pushed forward by novel technological development, changes in work organisation and demographic trends have profound effects on the future of work and workplaces. These reasons supported the idea that TEM improves the possibility for a better job in the future.

The article (Engel 2010) “The impact of Erasmus mobility on the professional career: Empirical results of international studies on temporary student and teaching staff mobility” shows the impact of an Erasmus study period abroad for mobile students and teaching assignments of Erasmus teachers on professional development. Temporary study abroad is expected to have a positive impact on personal and academic development, but also to be conducive to transition to employment and career development. Though the impact has been declining, study abroad remains an important experience for the professional career. Erasmus teaching assignments often do not last longer than a few days. Nevertheless, mobile teachers report a positive impact on their careers.

The article (Di Pietro 2015) investigates the extent to which participation in study abroad programs during university studies impacts subsequent employment likelihood. To address the problem of endogeneity related to participation in study abroad programs, a combination of fixed effects and instrumental variable estimation where the instrumental variable is exposure to international student exchange schemes. It shows that studying abroad has a relatively large and statistically meaningful effect on the probability of being in employment three years after graduation. This effect is mainly driven by the impression that study abroad programs have on the employment prospects of graduates from disadvantaged (but not very disadvantaged) backgrounds, though positive but imprecise effects are also found for graduates from advantaged backgrounds.

Literature against Skills gained with E+ mobility

On the contrary, the article (Van Mol 2017) presents the International student mobility as not-interesting. Authors show several empirical evidence where there is a limited enhancing graduates' employability in globalised labour markets. For our purposes, it is important to see the main drawbacks of previous studies, as for example, this article which says that the

perspectives of employers remains understudied. It should be taken into account whether European employers value study abroad; which are the specific skills employers seek when evaluating international experience; and whether 'signaling effects' of employing international graduates exist. Even if not many employers consider international experience when making recruitment decisions, others value/require graduates with decision-making skills or international experience to expand the company abroad.

Other related works

In this section, we include related works that seem to be relevant to the final goal of the ErasmusJobs project to go further in recognition of the skills and abilities that TEM provides.

The article (Yarosh et al. 2018) reports on the study focused on the identification of intercultural competence (IC) related learning needs of students enrolled in Erasmus Mundus Joint Master Degrees. International joint master programmes pose multiple intercultural challenges for students (and those working with them).

Other work, (Velliariis and Coleman-George 2016), shows how the internationalization of higher education has become mandatory in the largely globalized workforce. This outbound mobility has the potential to contribute to greater understanding between cultures, countries, and individuals. The authors offer a comprehensive look into motivations for and opportunities through all forms of outbound mobility programs. As many HE institutions are sending their students to study abroad programs, they require to establish the benefits, difficulties, and rewards of such an internationalization program.

The book *Structural Indicators for Monitoring Education and Training Systems in Europe 2015 (European Union 2015)* includes a report that contains more than 30 structural indicators that focus on country progress and key policy developments in five areas: early childhood education and care, achievement in basic skills, higher education, graduate employability, and learning mobility.

Additionally, for our work is relevant the report named *The Education and Training Monitor* which is an annual publication of the European Commission which captures the evolution of Europe's education and training systems by bringing together a wide range of evidence in a concise manner.

The review has been focused in graduate employability and learning mobility. In 2017, 11.6% of higher education graduates were mobile, meaning that they studied abroad, partly or entirely. On average in Europe, 8% of them had a temporary experience abroad (so called 'credit mobility'), and 3.6% of them graduated in a country which wasn't the one where they received their upper secondary diploma ('degree mobility'). Different EU countries show different combinations of credit mobility and degree mobility, reflecting the availability of different funding schemes or geographical factors as well as network effects. Though our work will be focused in Erasmus+ students, but EU mobility programmes approximately half of the credit mobility stays occurring in the EU.

The article (Petzold and Bucher 2018) refers to the concept of the 'mobility regime' to gain a deeper understanding of the interrelations between internationalisation of higher education and

individual perceptions of members of the academic system in Germany. Several indicators were analysed for the mobility regime dimensions of normalisation, rationalisation and time-space compression are structured particularly in the academic system. The authors propose the specific concept of an 'academic mobility regime' in order to capture the specifics of the mobility regime in the academic system.

The work (Iglesias-Sánchez et al. 2019) shows the effects of training entrepreneurial competences on employability in higher education. It identifies teaching methods that are more effective in order to improve entrepreneurial competences. These are hackathons, team building, role play, and practical cases with entrepreneurs. In contrast to the methods shown in previous literature, a mixed-method is proposed. Firstly, a qualitative technique based on three focus groups with the participation of lecturers, students, and entrepreneurs are used. Additionally, a regression analysis seeks links between entrepreneurial intentions and employability with entrepreneurial competences with 329 students. The findings show the direct effect on skills appreciated in companies, using collaborative and practical activities focusing on competency perspective. This research work provides a new approach to training entrepreneurial competences that demonstrates the main role of Open Innovation enhancing the main stakeholders' motivation and improving their skills. Useful information is provided to design the academic syllabuses and improve the level of employability of university graduates.

The article (Lörz et al. 2016) shows how it becomes more important for students' labour market success to spend part of their studies abroad. However, only a fraction of students have an experience abroad, in particular, **students from underprivileged families refrain from doing so**. While the social selectivity of international student mobility is well documented, the mechanisms underlying this pattern of inequality are insufficiently understood. Aiming to narrow this research gap, we examine an early stage of the process leading to international mobility and address the question why students from underprivileged families intend to study abroad less often. Applying theories of rational choice and cultural reproduction, we develop a theoretical framework that integrates several mechanisms explaining the observed social inequality. Related to their previous educational decisions and experiences, underprivileged students have worse performance-related preconditions for studying abroad. Furthermore, their higher cost sensitivity and lower benefit expectation explain their reluctance to study abroad.

Conclusions

Considering the objectives of the project about studying abroad gained skills relevant for labour market, it is particularly clear that the transnational dimension is a prerequisite to be considered in our work. Many skills considered here embed indeed a European dimension which can only be fully addressed within an international perspective.

A wide range of competences and skills are increasingly valued by employers in Europe. This comprises skills such as interdisciplinary knowledge, foreign languages, adaptability, flexibility, resilience, greater intercultural awareness, the ability to assess one's own strengths and weaknesses, to make decisions and to be a problem-solver. Next tasks of the ErasmusJobs project will be devoted to get information about particular competencies that employers require when hiring young graduates and later mapping and fill-in gaps mismatching for these relevant skills and personal attitudes.

Abbreviations

TEM	Transnational educational mobility
KSAs	Knowledge, skills and attitudes
IC	Intercultural competence
E+	Erasmus+
ICT	information and communication technology
HEI	Higher Education Institution

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