

## Chapter 6

# Erasmus+ Educational Projects on eLearning and Related Methodologies: Data From Erasmus+ Project Results Platform

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### ABSTRACT

*Collecting data from Erasmus+ projects to detect those that have been identified as good practice or success story could be very useful in order to help teachers to define successful projects in a particular field. To compile projects of interest, the Erasmus+ Project Results Platform is available, which has a database with very useful information to locate educational projects that have been funded by the European Union. The advantage of using this tool is that it has a search engine that allows anyone to look up for keywords. Moreover, it permits to define different criteria so as to identify good practices projects that could serve as a reference in order to find useful parameters to improve the teaching process. This chapter presents the main data collected from educational projects that are related to eLearning and related methodologies in the aforementioned platform. It also defines which ones will be selected so as to be able to undertake an adequate analysis that allows the definition of a methodological guide to be carried out.*

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## **INTRODUCTION**

Today's society is changing at a dizzying pace and it is not escaping our knowledge as the increasing use of information and communication technologies (ICT) is booming. This creates a need for people to have the skills to participate effectively in a digital world. Therefore, it implies an increase in the use of digital technologies to improve the teaching-learning process.

The term eLearning refers to training by electronic means, which undoubtedly involves the use of ICT. This fact means that focusing on projects related to the Learning methodology allows not only to analyze the success of this methodology but also on the usefulness of ICT platforms and tools for this type of teaching (García-Peñalvo & Seoane-Pardo, 2015; Gros & García-Peñalvo, 2016; García-Peñalvo, 2020; Crisol-Moya et al., 2020). Therefore, it allows covering all aspects of interest for the analysis of both the use of ICT and teaching methodologies.

One way to analyze educational eLearning projects is to research projects funded by the European Union (EU) through the Erasmus+ Programme (EU, 2020a). These projects are listed in the Erasmus+ Project Results Platform (EU, 2020b), which contains all the projects funded by the Erasmus+ Programme and its predecessor programs in education, youth and sports since 2007.

In the indicated platform, all projects are classified, and it allows selecting those labeled as good practices or success stories. Hence, this database provides a means of gathering the necessary preliminary information required to identify the key factors that make these projects valuable.

Furthermore, this database offers a great opportunity to examine the evolution and scope of Erasmus+ projects related to eLearning or related methodologies in the 2014-2020 cycle up to the present, focusing on those that have been identified as good practices or success stories.

With the preliminary information collected from the projects, it will be possible to carry out an adequate selection of the sample for any study. In the case presented on this chapter, the group of projects of interest are those related to electronic learning that have been classified as good practices or success stories, examining the common variables that make them useful for researching good strategies in education.

In addition, it is important to carry out a good process of screening and selection of samples. There are more than 1000 European educational projects of the Erasmus+ Programme (2014-2020) related to eLearning classified as good practices and / or success stories. Bearing in mind that it is necessary to limit the scope of the study to be able to tackle it successfully, it is convenient to take a sample from that list of projects linked to the term eLearning.

This chapter shows how the study of eLearning projects has been carried out throughout the use of the aforementioned platform, the different necessary stages and the results obtained in the first step with the analysis of the projects, followed by the conclusions.

## **Background**

The increase in the use of ICT in all areas of our society, as well as the changes motivated by COVID-19 pandemic, is causing the urgent adaptation of schools, teachers, students and families to distance learning methodologies through ICT. This situation has highlighted the great need we have to advance in technological competence, especially in education (García-Peñalvo & Seoane-Pardo, 2015; Gros & García-Peñalvo, 2016; García-Peñalvo, 2020; Crisol-Moya et al., 2020).

This new educational model, adapted to special situations, has been analyzed in many publications. For example, Hodges et al. (2020) pointed out the differences between well-planned online learning that

creates meaningful experiences from courses offered online in response to a crisis or special situation that arises.

García-Peñalvo & Corell (2020) have analyzed the need for digital transformation of education as well as the methodological and skills crisis existing in Higher Education due to the COVID-19 pandemic.

In the same line of research, a guide of recommendations has been proposed to help professors and universities in the evaluation process due to COVID-19, which aims to help a large number of professors who share this problem at this exceptional moment in the entire planet (García-Peñalvo et al., 2020).

Moreover, a review has been carried out of the main difficulties faced by educational institutions in Ibero-America and some strategies used in the teaching and learning processes, including the proposal of an evaluation model in emergency situations in which should put contingency plans in place (Fardoun et al., 2020).

Additionally, Area-Moreira et al. (2020) provide a description and analysis of a university teaching experience designed and developed under the modality of blended teaching, that with the closure of the physical spaces during the Covid19 pandemic, it was redesigned and offered completely remotely. The pedagogical principles that inspire it are based on the self-organization and autonomy of the student, the offer of virtual environments with flexible learning itineraries, and the projects vs. learning by topics. The results indicate a high level of satisfaction, highlighting as positive aspects the flexible itineraries offered, the proposal of tasks and projects for self-employment, the online tutoring received, as well as the acquisition of the digital skills necessary for their professional future.

Furthermore, Ramirez-Montoya (2020) has analyzed how COVID-19 evidenced the need of digital transformation and pending aspects on educational innovation in Latin American university environments. The work has used the methodology of study of multiple cases with an instrumental approach, with descriptive and categorical analyzes in Argentina, Chile, Colombia, Costa Rica, Ecuador, Mexico, Peru, the Dominican Republic, Uruguay and Venezuela. The findings show the challenges for digital transformation (virtualization, training, infrastructure, connectivity, culture, management, open education) and educational innovation (new processes, products, services, knowledge and research).

International organizations, as for example the United Nations Educational, Scientific and Cultural Organization (UNESCO), the International Association for the Evaluation of Educational Achievement (IEA), Organization for Economic Cooperation and Development (OECD) among others, are not unaware of these investigations and needs, and they are also developing numerous initiatives related to digital transformation.

On the one hand, UNESCO has developed the ICT Competency Framework for Teachers (ICT-CFT) (UNESCO, 2019), which aims to help countries develop comprehensive national standards on ICT competencies for teachers and their inclusion in the school curriculum for the use of ICT in education. In addition, in the resolution approved by the General Conference of UNESCO in 2017, the UNESCO Institute for the Use of Information Technologies in Education (IITEM) (UNESCO, 2018a) is assigned among its functions research, forecasting, monitoring and reporting on Goal 4 of the 2030 Agenda for Education (SDG 4) (UNESCO, 2016; UNESCO, 2017), which recognizes the use of ICT as a key element (UNESCO, 2018b).

On the other hand, the IEA has developed the International Computer and Information Literacy Study (ICILS) which emphasizes the use of computers as tools for searching, managing and communicating information as key elements of the current digital age, and in its last cycle, in 2018, has included computational thinking (CT) (Fraillon et al., 2014; Fraillon et al., 2019).

In addition, the OECD analyzes the training of teachers in ICT, among other aspects of the professionalism of teachers, through its study Teaching and Learning International Survey (TALIS) (OCDE; 2020a) and in the Programme for International Student Assessment (PISA) for the 2025 edition will include the innovative domain of Learning in the Digital World which aims to measure students' ability to engage in self-regulated learning while using digital tools (OCDE; 2020b). It is also making several publications related to ICT and education due to the situation produced by the COVID-19 pandemic. In fact, this situation has highlighted the great need we have for teachers, students and even families to advance their technological competence in order to improve in education, as shown in the country notes published by the OECD that reflect the level of preparedness of educational systems (OCDE; 2020c).

At the national level, the current Organic Law for the Improvement of Educational Quality (LOMCE) (BOE, 2018) considers that ICTs are a transversal competence and a teacher training network is established in which many activities are carried out, including methodologies of eLearning or learning supported by digital resources, and this is not modified in the new law proposed for the current Government, but it will be supported and reinforced. The teacher training network is made up of the National Institute of Technologies for Education and Training (INTEF, 2017), with national competencies, and teacher training centers at the regional level. Additionally, there is training offered by universities or other recognized organizations.

The GRIAL research group (García-Peñalvo, Rodríguez Conde et al., 2019; Grupo GRIAL, 2019), from the University of Salamanca, is also aware of these needs and works on lines of research related to the link between ICT, the current knowledge and learning society. "Interaction and eLearning" is one of her lines of research, on which this chapter focuses. In this sense, they have multiple publications related to digital technology in education and eLearning. The group also investigates aspects related to computational thinking for pre-university studies, as can be seen in a recent publication that analyzes the use of computational thinking and robotics in education (García-Peñalvo, Conde et al., 2019; Rojas-López & García-Peñalvo, 2020).

All these evidences on the great interest on the part of international and national organizations in achieving improvements in learning through ICT, including eLearning, reinforce the hypothesis that research is needed to improve educational practices in this area. As found in ICILS 2013, although most of the teachers in the study indicated that they used ICT for teaching, this was more common for relatively simple tasks than for more complex tasks (Fraillon et al., 2014). For this reason, this work tries to delve into the projects that are being developed in this area and what makes some of them successful or good practice projects, identifying the factors that may be useful for future projects.

It is not only about carrying out projects using ICT, but also that projects make use of the maximum potential that technology brings to improve the ability of students to solve the problems they will face on a daily basis in their life and future work. For this, it is necessary to use an appropriate project design and implementation methodology, and that is what is intended with this research.

In order to narrow down the research, the reason for this chapter, eLearning has been chosen as a key topic in order to reduce the scope of the study so that it can be approached appropriately. Furthermore, this methodology is especially significant in the use of ICT to carry out training electronically. To the above, it must be added that this field is very relevant today given the exceptional situation experienced in 2020, in which almost all training, even traditional, has had to be carried out electronically and using ICT (Hodges et al., 2020; García-Peñalvo & Corell, 2020; García-Peñalvo et al., 2020; Beaunoyer et al., 2020; Daniel, 2020; Fardoun et al., 2020).

As regards to the analysis of the projects that may be of interest to the study, the guidelines specified in the systematic reviews of research projects will be used as a reference (García Holgado et al., 2019; García Holgado et al., 2020). The SRPR guidelines are based on the Kitchenham's adaptation of the systematic literature review (SLR) (Kitchenham & Charters, 2007; Kitchenham et al., 2009) and provide a research method to systematically analyze and map project databases. This methodology for analyzing projects provides an overview of current trends and identifies gaps and opportunities to define new advances in the area of research. In addition, they provide an opportunity to compare between closed projects and obtain a picture of the evolution of technological ecosystems in the field.

In summary, the study presented here deals with the investigation of trends and advances at a European level in Erasmus+ projects related to eLearning. In order to achieve that goal, the reference guidelines for mapping projects (García Holgado et al., 2019) and the SRPR method (García Holgado et al., 2020) are being used to carry out the research, undertaking four stages: definition of the study, definition of the screening, selection of projects and analysis. The following section shows the results of the first stage of the process.

## **RESEARCH APPROACH, METHODS AND RESULTS TO DATE**

This research involves collecting both quantitative and qualitative data and combining the strengths of each to answer research questions (Creswell, 2011; Creswell et al., 2013). For that goal the guidelines for systematic reviews of research projects will be really useful (García Holgado et al., 2020).

On the one hand, the common factors that influence the success of different Erasmus+ educational projects related to eLearning are quantitatively evaluated, and on the other hand, it will qualitatively analyze how the implementation, outcomes and sustainability of these projects can contribute to defining the guidelines so as to achieve good quality projects.

The work is being implemented in three distinct phases:

- Firstly, it has been carried out a detailed study of the state of the art from an academic point of view. The previous sections are a summary of it.
- Secondly, a study of Erasmus+ eLearning projects is under way, seeking to obtain a model that reflects the key factors for successful projects, catalogued as good practices or success stories.
- Thirdly, a quantitative analysis will be carried out first, based on a survey, and then a qualitative analysis, through interviews, in order to develop the methodological proposal to achieve educational projects with a real impact on the teaching-learning process. All this will allow to exploit all the possibilities that technology can offer in this process.

Below is described the results to date and their validity, as regards to the research related to the review of Erasmus+ projects related to eLearning which corresponds to the second phase indicated.

### **How to use Erasmus+ Projects Results Platform Search Engine**

The European Union (EU) encourages the implementation of ICT-based projects, such as in the European education project Programmes. In the case of Erasmus+, ICTs are one of the priorities and topics considered for the funding of projects.

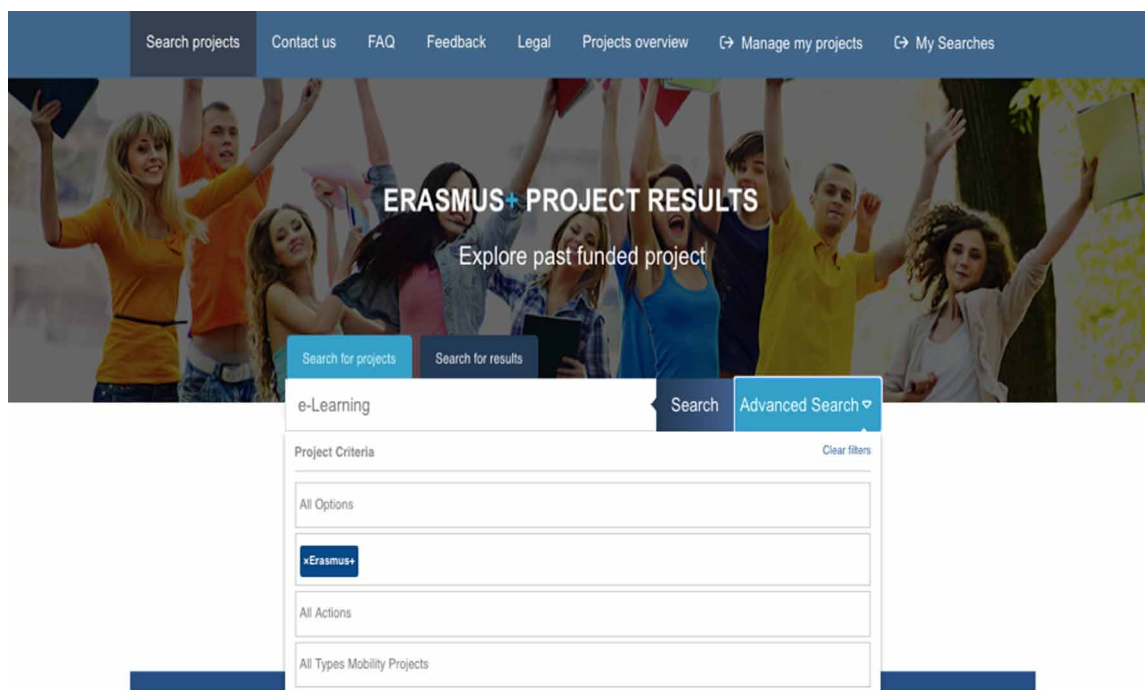
All the projects funded by the Erasmus+ Programme (EU, 2020a) are included in the Erasmus+ Project Results Platform (E+PRP) (EU, 2020b). As it is explained by EU (2020b) “this database provides access to descriptions, results and contact information of all projects funded under the Erasmus+ Programme and some of the projects funded under its predecessor programmes in the field of education, training, youth and sports. Anyone can find inspiration from the pool of good practices and success stories, i.e. projects that distinguished themselves in terms of policy relevance, communication potential, impact or design. The procedure is to type keywords in the search box and/or use the advanced search options to find the project(s) of interest” (p. 1).

In that database we find more than 20,000 projects related to eLearning or ICT and they are classified and allow for the selection of those that are labelled as good practices or success stories.

The search engine provided by E+PRP allows to enter one or several tokens and choose some criteria in order to get the projects that include all the tokens provided in their summary and comply with all the criteria established. For example, in the case of eLearning the result is different when you enter “eLearning” or “e-Learning”, there are more projects linked to “e-Learning” than “eLearning” considering that it is the same to insert “eLearning” that “elearning” because the search engine is not case sensitive.

Figure 1. E+PRP search engine

Source: own production, screenshot from E+PRP



Moreover, as the tool only allows to download an excel with data of 1000 projects, it is important to divide the search so as to be able to gather and analyze all the basic project data more easily. Hence, it is recommended to go token by token with the established criteria in order to find the projects of interest. Figure 1 shows an example of search (“e-Learning”, Erasmus+).

Once the basic data of the projects that meet the criteria and token of search have been obtained the next step is to review one by one all the public information published on the platform so as to retrieve the information of interest for the research, as well as the contact details to be able to contact the coordinator or partners and collect more data that could be useful for the work.

Using the indicated search method, the search by tokens with the selected Erasmus+ criteria has made it possible to gather all the basic information of the key projects in order to analyze the most important characteristics.

## **Mapping Questions**

In the current stage, which is part of the first phase of the SRPR research method (García Holgado et al., 2020) “study definition”, a series of mapping questions have been posed that fit the set of proposed meta-questions by the SRPR method (García Holgado et al., 2020). The following are those that have been considered relevant to define the selection process, coded as <MQn>/<MQn.m>:

1. **MQ1:** Distribution of related projects by their connection with eLearning or other related methodologies.
2. **MQ2:** Countries with coordinators or partners most involved in projects.
3. **MQ3:** Distribution of related projects by action or typology.
4. **MQ4:** Projects classified as good practice or success story:
  - a. **MQ4.1:** Countries with the most good practices or success stories.
  - b. **MQ4.2:** Topics most covered in the projects.
  - c. **MQ4.3:** Type of institutions involved in eLearning projects.
  - d. **MQ4.4:** Projects per year of call.
  - e. **MQ4.5:** Distribution of projects by amount of funds.

The analysis of projects linked to eLearning and related methodologies found on the E+PRP leads to interesting conclusions on these questions. This information helps to make selection of the sample and to choose the most outstanding projects for the research.

### **MQ1. Distribution of Related Projects by Their Connection With eLearning or Other Related Methodologies**

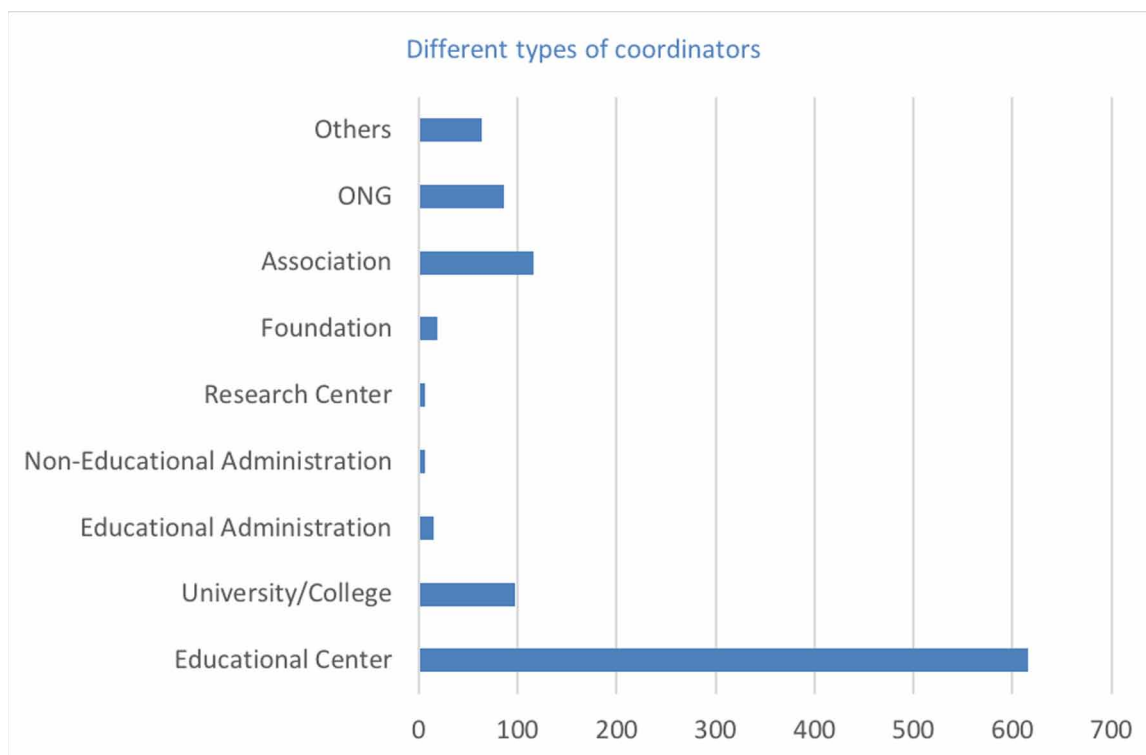
The first mapping question seeks to see the interest and number of existing projects connected to eLearning and related methodologies. The first step in obtaining that information is to find how many Erasmus+ projects are linked with tokens like eLearning, mLearning, uLearning, blended learning, bLearning and mobile learning as reflected in Figure 2.

It can be seen in Figure 2 that, among all the methodologies reviewed, eLearning is the area in which there are more Erasmus+ projects, there is quite a difference in relation to the rest of the methodologies. Therefore, it is considered more appropriate to focus on the analysis of projects connected with eLearning in the E+PRP, with the aim of having a sufficient number of projects that allow the elaboration of a guide of good practices.

In addition, these projects will allow combining multiple aspects of the rest of the methodologies, including the use of ICT that provide a suitable environment for research. In fact, when looking for

projects that combine eLearning and mobile learning or eLearning and blended learning, it is found that there are more than 500 projects linked to each combination of tokens. Thus, the review of eLearning projects also includes projects with similar methodologies.

*Figure 2. Erasmus+ projects linked with eLearning or related technologies*  
*Source: own production with data from E+PRP*



## **MQ2. Countries with Coordinators or Partners Most Involved in Projects**

The second mapping question tries to review the countries with the greatest number of coordinators and / or partners involved in the projects, in order to better understand the impact of the projects to be analyzed. This can be seen in Figure 3, which shows the countries with the highest representation in the projects that are in the E+PRP.



## Erasmus+ Educational Projects on eLearning and Related Methodologies

Figure 3. Countries with the most Erasmus+ projects related to eLearning

Source: own production with data from E+PRP



Figure 3 shows that Spain is the second country with the highest number of institutions participating in projects with the eLearning token, after Italy. More than 3000 projects can be found, a third of the total projects found in the field, in which Spanish institutions participate. This result helps to be more successful in the investigation, since it will facilitate communication and collaboration in the consultation, data collection and interview process.

Table 1. Key actions

| Acronym     | Meaning  |
|-------------|--|
| KA1         | Key action 1 – Learning Mobility of Individuals                              |
| KA2         | Key action 2 – Cooperation for innovation and the exchange of good practices |
| KA3         | Key action 3 – Support for policy reform                                     |
| Jean Monnet | Jean Monnet – action for driving excellence in Higher Education worldwide    |
| Sports      | Sports - European partnerships on grassroots sport                           |

Source: own production with information from E+PRP and Erasmus+ Programme Guide

Table 2. Actions on key actions KA1 and KA2

| Key action | Action  |
|------------|---|
| KA1        | KA101 – School education staff mobility<br>KA102 – Vocational Education and Training (VET) learner and staff mobility<br>KA103 – Higher Education student and staff mobility within Programme countries<br>KA104 – Adult Education staff mobility<br>KA105 – Youth mobility<br>KA107 – Higher Education student and staff mobility between Programme and Partner Countries<br>KA116 – VET learner and staff mobility with VET mobility charter  |
| KA2        | KA200 – Strategic Partnerships addressing more than one field<br>KA201 – Strategic Partnerships for School Education<br>KA202 – Strategic Partnerships for VET<br>KA203 – Strategic Partnerships for Higher Education<br>KA204 – Strategic Partnerships for Adult Education<br>KA205 – Strategic Partnerships for Youth<br>KA219 – Strategic Partnerships for Schools Only (from 2014 to 2017 calls)<br>KA229 – School Exchange Partnerships (it replaces KA219 projects from 2018 to 2020 calls) |

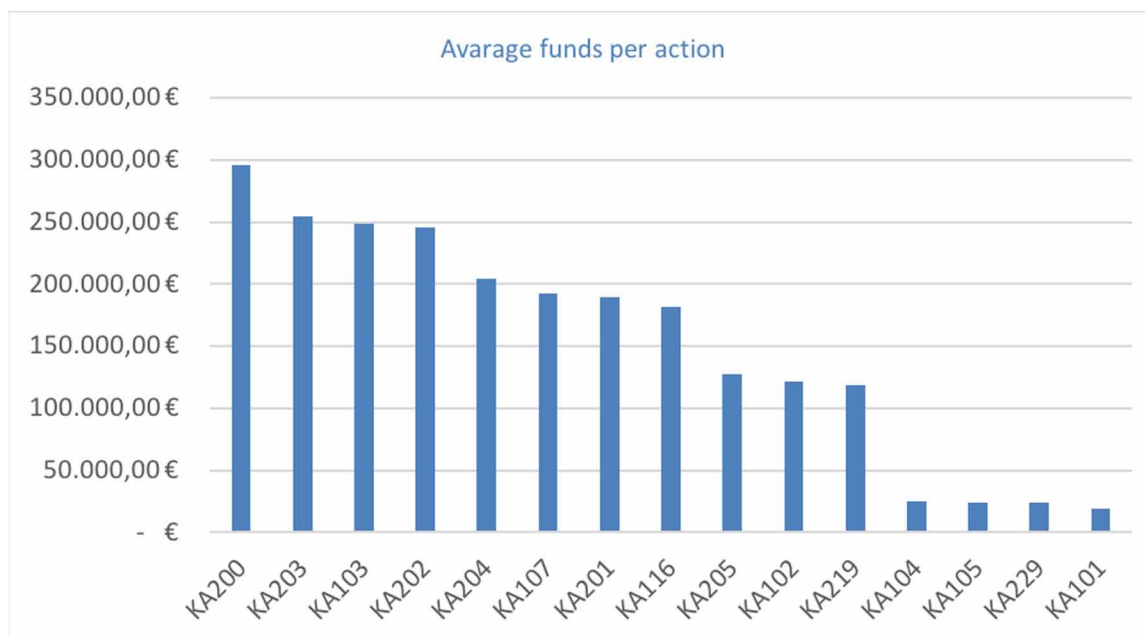
Source: own production with information from E+PRP and Erasmus+ Programme Guide

### MQ3. Distribution of Related Projects by Action or Typology

The third mapping question seeks to know how the projects are distributed according to the Erasmus+ actions, in that way it will allow to reduce the scope of interest in order to collect information about the projects.

Figure 4. Distribution of eLearning projects by key action

Source: own production with data from E+PRP



## Erasmus+ Educational Projects on eLearning and Related Methodologies

The most relevant actions, for the analysis of this research, included in the Erasmus+ Programme, are those described in Table 1 and Table 2.

The distribution of projects by key action is shown in Figure 4 in which it can be seen how the actions with the greatest coverage in that area are those of KA1 and KA2. There is only a marginal number of projects remaining in the rest of the actions (KA3, Jean Monnet and Sports).

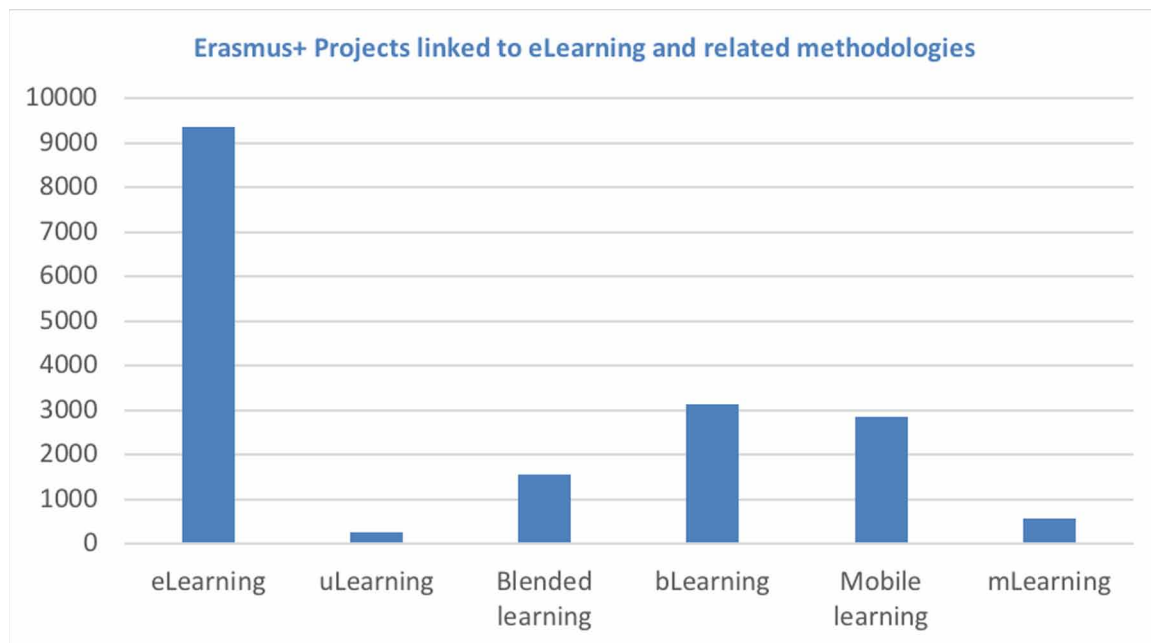
Figure 4 shows the distribution of projects by key action. The key actions with the highest coverage in eLearning are KA1 and KA2. Only a marginal number of projects are found in the rest of the actions (KA3, Jean Monnet and Sports).

These results lead to a reflection on the convenience of limiting the study to projects KA1 and KA2, which implies discarding all other actions that have very little representation in the proposed research.

In order to better focus the study, it is also necessary to review the actions within the KA1 and KA2 key actions, which are the most prominent in projects related to eLearning.

Figure 5. Distribution of eLearning projects by KA1 action

Source: own production with data from E+PRP

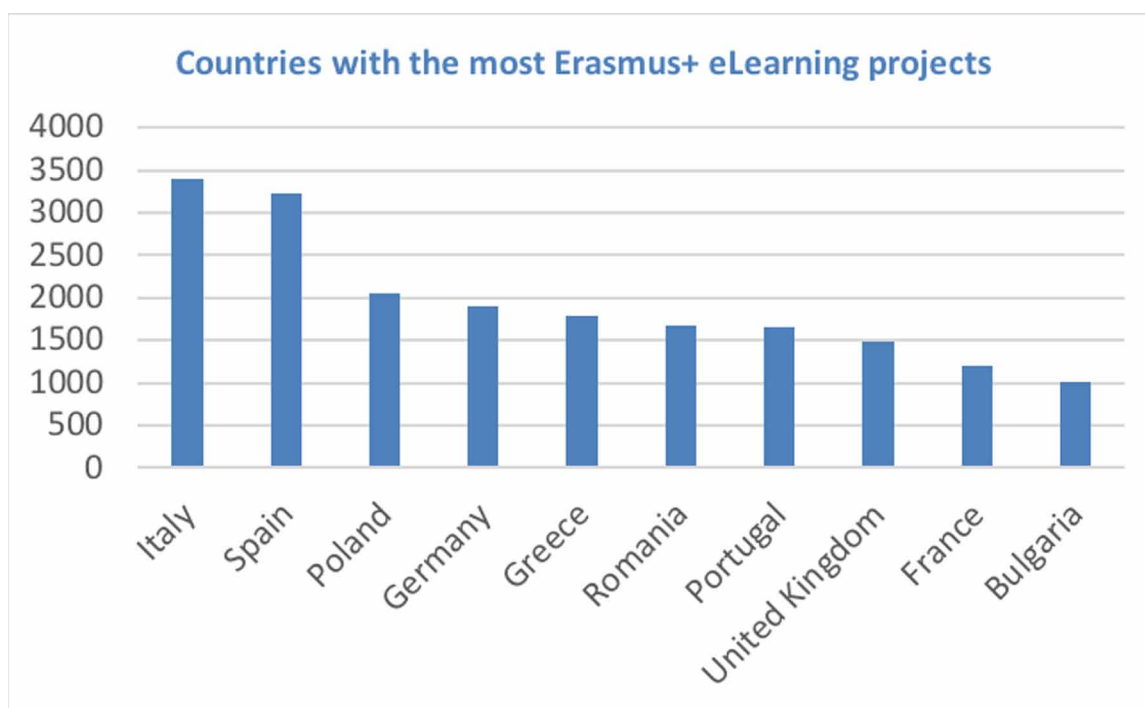


Regarding KA1 Figure 5 shows how the most active actions in Erasmus+ projects related to eLearning are KA101, KA105 and KA102.

The analysis can be better narrowed down if it starts from the basis that the actions in which the number of projects related to eLearning is less than 50 (KA125, KA135 and KA111) are not considered relevant to be included in the research. This is supported by the fact that the percentage of those projects that are classified as good practice or success stories is so small that it is not worth taking them into account. Therefore, it is valued the exclusion of those actions for the analysis that is being carried out.

As regards to KA2, Figure 6 shows how the KA2 shares with the highest participation in the research field are KA229, KA202, KA204, KA219 and KA201. In addition, if all those related to the school field are put together (Nursery, Primary, compulsory Secondary and Bacallaureate schools), it is observed that these actions are the ones with the most projects in relation to eLearning, followed by VET and Adults.

*Figure 6. Distribution of eLearning projects by KA2 action*  
*Source: own production with data from E+PRP*



In this case, it is also considered appropriate to exclude from the study all actions within KA2 that have fewer than 50 projects or those related to capacity building (KA207, KA206, KA213, KA214), in order to focus on actions with the highest representation of projects related to the research topic.

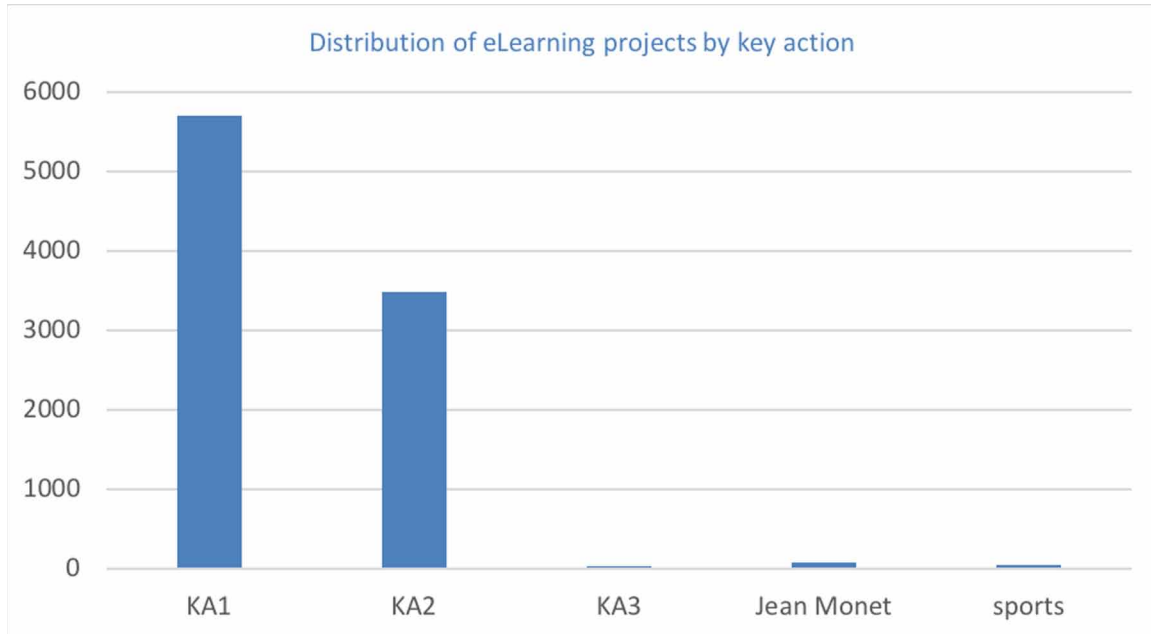
#### **MQ4. Projects Classified as Good Practice or Success Story**

In this fourth mapping question, it is studied what the results are if it is filtered by those that are labeled as good practices or success stories. This is feasible once the information on the actions with the largest number of related projects in the chosen topic is available.

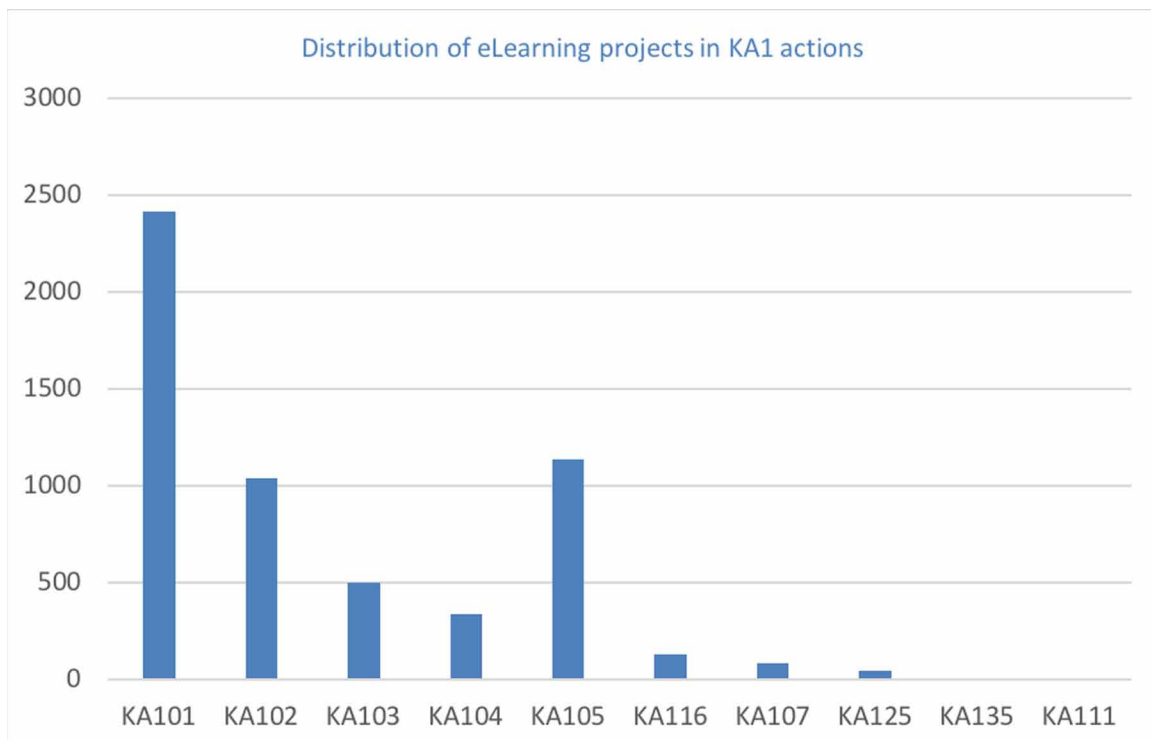
More than 1000 projects have been located, of all those found with the “e-Learning” or “eLearning” tokens in the E+PRP (more than 9000), which are labeled as good practices or success stories. This can be analyzed in Figure 7 which presents the distribution of good practices by key action. It has been decided to include only the most representative ones to simplify the presentation of the data obtained, although it follows the same trend as in the number of projects per key action.

**Erasmus+ Educational Projects on eLearning and Related Methodologies**

*Figure 7. Distribution of good practice projects or success stories by key action*  
Source: own production with data from E+PRP



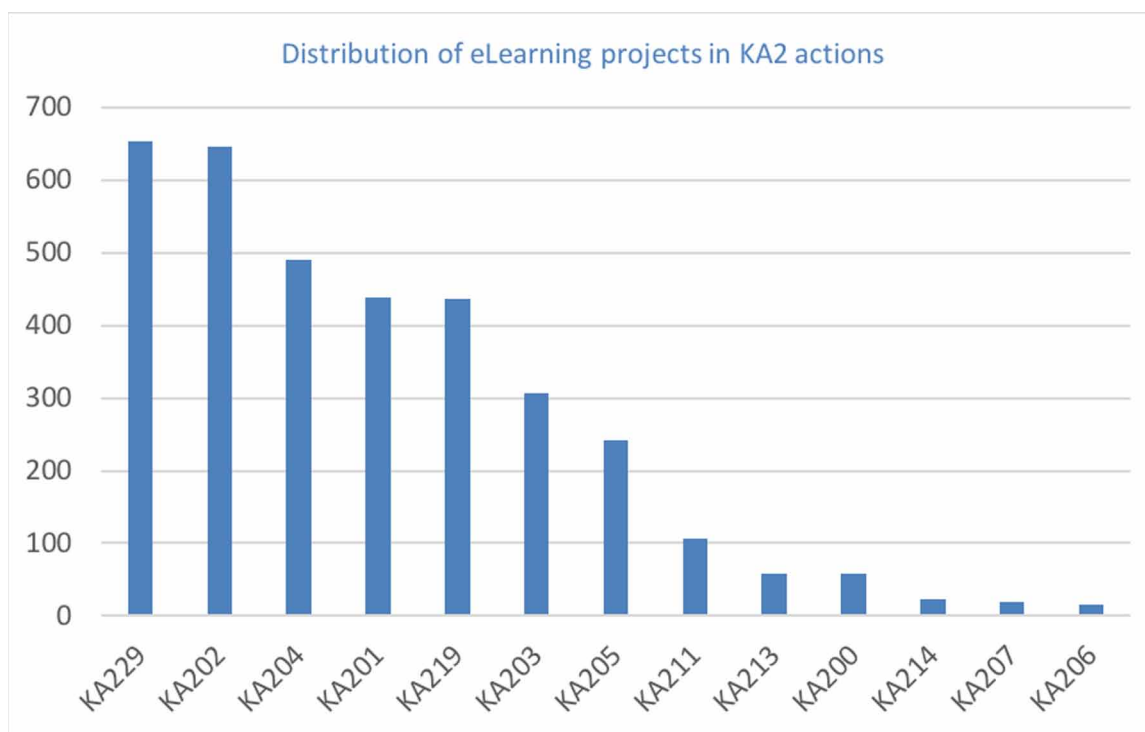
*Figure 8. Countries with the most good practices or success stories in eLearning projects*  
Source: own production with data from E+PRP



In Figure 7 can be seen that the projects of key action 1, related to mobility, are those with a higher number of projects labeled as good practice or success stories, in total there are more than 500. However, the number of projects in key action 2 is also close to 500, so between the two actions sufficient representation is achieved. This result suggests that it is possible to carry out an adequate analysis of the success factors of the projects in order to draw conclusions that can be extrapolated to other educational projects.

**MQ4.1. Countries With the Most Good Practices or Success Stories:** Among the Projects that are classified as good practices or success stories, it is interesting to know in which countries there are more projects related to eLearning than those classified in this way.

*Figure 9. Most covered topics in Erasmus+ projects linked with eLearning*  
 Source: own production with data from E+PRP

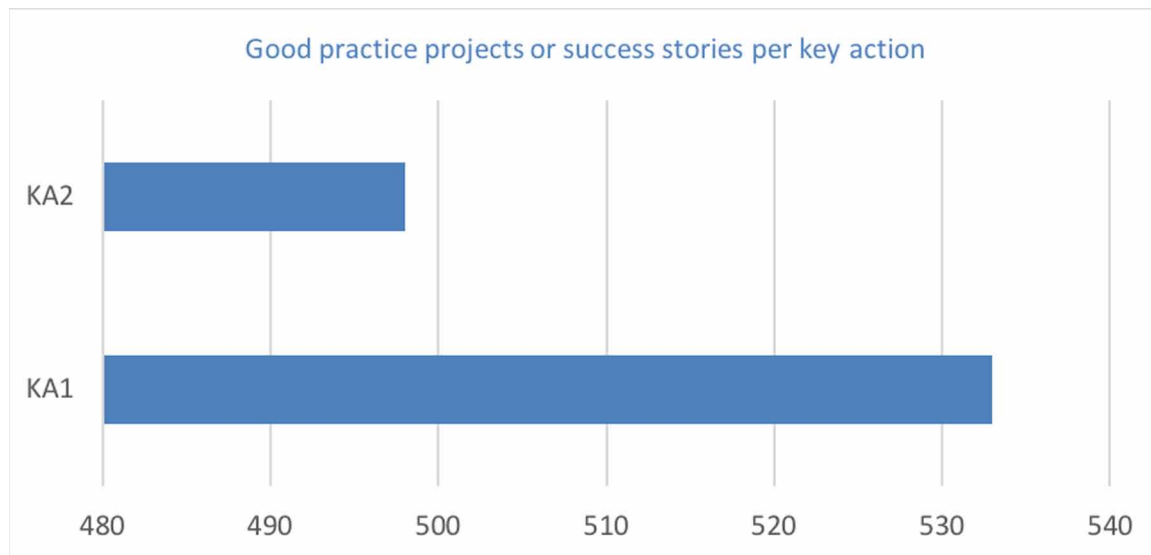


Spain leads the ranking of countries with more institutions participating in good practice projects or success stories, as can be seen in Figure 8. Spain is not only the second country with the highest participation in projects that include the research area, but it is also the first in projects that can serve as a model to prepare the guide for this research. This fact suggests that the investigation will have a better chance of success given that is the researchers' country and this can increase synergies and facilitate communication.

There are also countries with high representation such as Italy, Portugal and France, with which Spain has a lot in common culturally and that can contribute with the purpose of research.

*Figure 10. Different types of coordinators in Erasmus+ projects linked with eLearning and labeled as good practice or success story*

*Source: own production with data from E+PRP*



Likewise, the other countries (Poland, Germany, the United Kingdom, Greece, Romania and Bulgaria) provide a very useful source of information that will also serve as support to reinforce the key aspects of the methodological guide to be achieved.

**MQ4.2. Topics Most Covered in the Projects:** The topics most covered in the best practice projects or success stories found with eLearning tokens in the KA1 and KA2 actions are useful in order to assess whether they fit into the areas of interest of the research.

Figure 9 presents the ten topics most covered in the projects and among those ten the two that stand out the most are “New innovative curricula/educational methods/development of training courses” and “ICT - new technologies - digital competences”, followed by “Teaching and learning of foreign languages” and “Inclusion – equity”.

It should be noted that the two main topics are related to curricular innovation and ICT, which are part of the objectives of the research that is being carried out and is described on this chapter.

Hence, having information on what topics are of interest in the eLearning projects to be analyzed helps to support the hypothesis that the chosen subject of study will be useful not only for analyzing the eLearning methodology but also for other two fundamental areas such as the use of ICT resources and the innovation of the educational curriculum to improve the teaching-learning process. In addition, limiting the scope of work makes it easier to conduct the research successfully.

**MQ.4.3. Type of Institutions Involved in eLearning Projects:** Having information on the type of institutions that participate in the projects under study gives an idea of two very important aspects:

- On the one hand, it provides enough knowledge regarding the type of contacts needed and how it is more appropriate to communicate with those institutions.
- On the other hand, it allows to value how these institutions will help meet the objectives of the research.

This research is focused on the field of education, which is why all institutions whose mission is to train people, regardless of educational level, are of great interest.

Therefore, it is necessary to identify the types of coordinating institutions, to achieve this it has been necessary to enter project by project to identify them. This is because the E+PRP search engine does not allow the export of that information.

The types of institutions been grouped by categories to limit the list of options and thus facilitate the analysis work. The defined categories are: educational center, university/college, educational Administration, non-educational Administration, research center, foundation, association, NGO and others.

*Table 3. Type of coordinators per action <sup>12</sup>*

| Action | Total | (1) | (2) | (3) | (4) | (5) | (6) | (7) | (8) | (9) |
|--------|-------|-----|-----|-----|-----|-----|-----|-----|-----|-----|
| KA101  | 223   | 218 |     | 5   |     |     |     |     |     |     |
| KA102  | 74    | 69  |     | 1   |     |     | 1   |     |     |     |
| KA103  | 52    | 40  | 12  |     |     |     |     |     |     | 3   |
| KA104  | 47    | 26  |     | 1   |     |     | 1   | 11  | 4   | 4   |
| KA105  | 115   | 6   |     | 1   |     |     | 4   | 50  | 50  | 4   |
| KA107  | 10    | 2   | 9   |     |     |     |     |     |     |     |
| KA116  | 9     | 9   |     |     |     |     |     |     |     |     |
| KA200  | 16    |     | 5   |     |     | 1   |     | 5   | 1   | 4   |
| KA201  | 93    | 68  | 5   | 6   |     | 1   | 1   | 3   | 4   | 5   |
| KA202  | 118   | 53  | 15  |     | 1   | 1   | 4   | 17  | 6   | 21  |
| KA203  | 55    | 13  | 37  |     |     | 1   | 1   |     | 1   | 2   |
| KA204  | 73    | 5   | 10  | 2   | 3   | 2   | 6   | 17  | 13  | 15  |
| KA205  | 34    | 1   | 5   |     | 1   |     | 1   | 13  | 7   | 6   |
| KA219  | 104   | 104 |     |     |     |     |     |     |     |     |
| KA229  | 2     | 2   |     |     |     |     |     |     |     |     |
| Total  | 1025  | 616 | 98  | 16  | 5   | 6   | 19  | 116 | 86  | 64  |

Source: own production with data from E+PRP

Figure 10 and Table 3 allow to know the typology of coordinating institutions of Erasmus+ projects linked to eLearning and labeled as good practice or success story.

From the data it can be seen that most of the coordinators of the projects are educational centers, universities/colleges and educational Administration (more of 700 projects). Result that was to be expected when dealing with educational projects.

In relation to KA202 a more diverse type of institutions is detected. In addition, of the educational centers we find companies, unions, chambers of commerce, etc. This is because the VET sector is closely linked to the labor sector to ensure that training is as close as possible to the needs of the labor market.

Associations and NGOs are more frequent in projects related to youth (KA105, KA205) and adults (KA104, KA204). In the case of the youth field, it is surprising to find so many projects linked to the term eLearning, it is something to analyze in more detail. On the other hand, it is important to bear in



mind that getting in touch with these types of institutions will be more complicated, so that throughout the selection process some of these projects may be discarded.

**MQ.4.4. Projects Per Year of Call:** It is interesting to know how the distribution of projects by year of call is, in order to get an image of the range of years in which the projects are being taken place.

It must be considered that although the Erasmus+ Program covers from 2014 to 2020, the last call was in 2020 and a good percentage of the projects in this call will not end until 2023, in the same way, there are still projects from 2018 and 2019 due to complete.

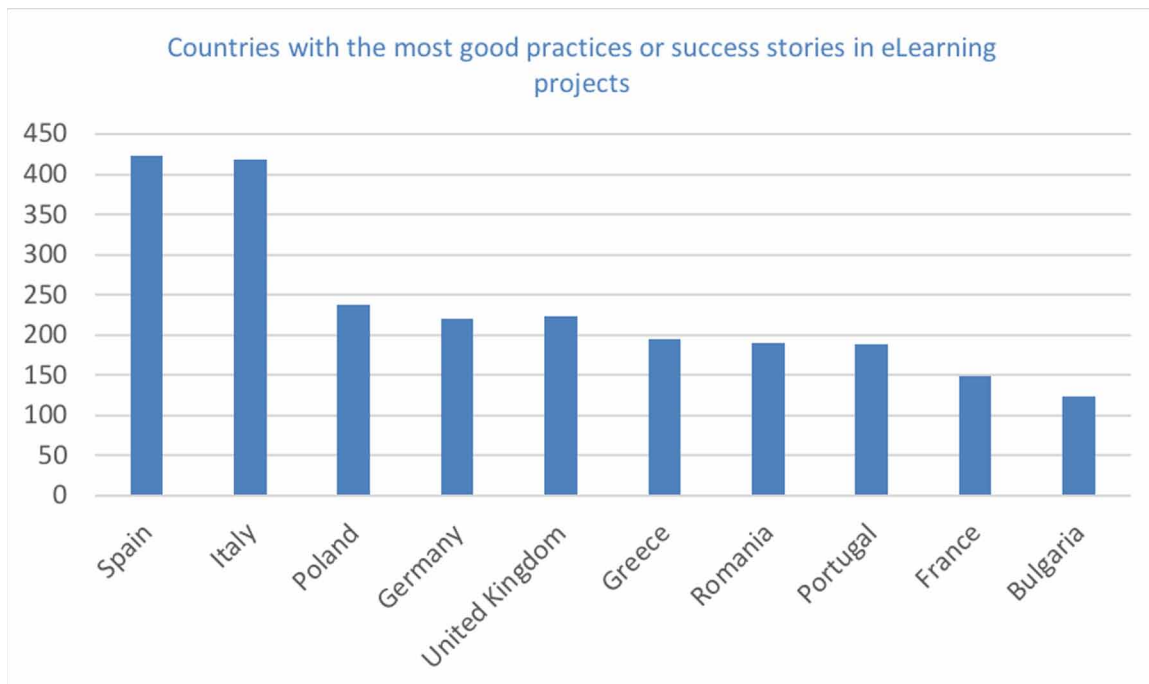
This investigation will not be able to cover all the projects of the Programme since it is foreseeable that it will end before all the projects of the Programme are finished.

The distribution of projects by call year can be seen in Figure 11 and it shows what has been indicated above, that from 2014 to 2017, years in which all projects have been finalized, have numbers between 200 and 260, while 2018 and, especially, 2019 have much lower figures.

Additionally, among the first four years, in which all projects have been closed, the one with the most projects labeled as good practice or success story is 2015, followed by 2014, the first two years of the Programme. It is also true that we must not lose sight of the fact that good practices or success stories are still being defined in the projects of recent years (2016, 2017, 2018, etc.), so this may vary from now until the end of the of the Erasmus+ Programme, when all funded projects close by 2023.

*Figure 11. Good practice projects or success stories by year of funding*

*Source: own production with data from E+PRP*



**MQ4.5. Distribution of Projects by Amount of Funds:** The average funds according to the action provides an idea of the funds used in the projects. Figure 12 shows the average per action.

It is observed that the projects with the highest funding are those of KA200 action, which were transversal Strategic Partnerships projects only funded in 2014 call. Those are followed by KA203, KA103, KA202 and KA204, all of them connected with the Education fields of Higher Education, VET and Adults. At the other extreme there are projects in the School Education field (Nursery, Primary, compulsory Secondary and Bacculaureate).

The projects with less funding are precisely those with a greater number of projects in the field of study, a fact that makes sense given that being projects with less funding allow more beneficiaries to be subsidized.

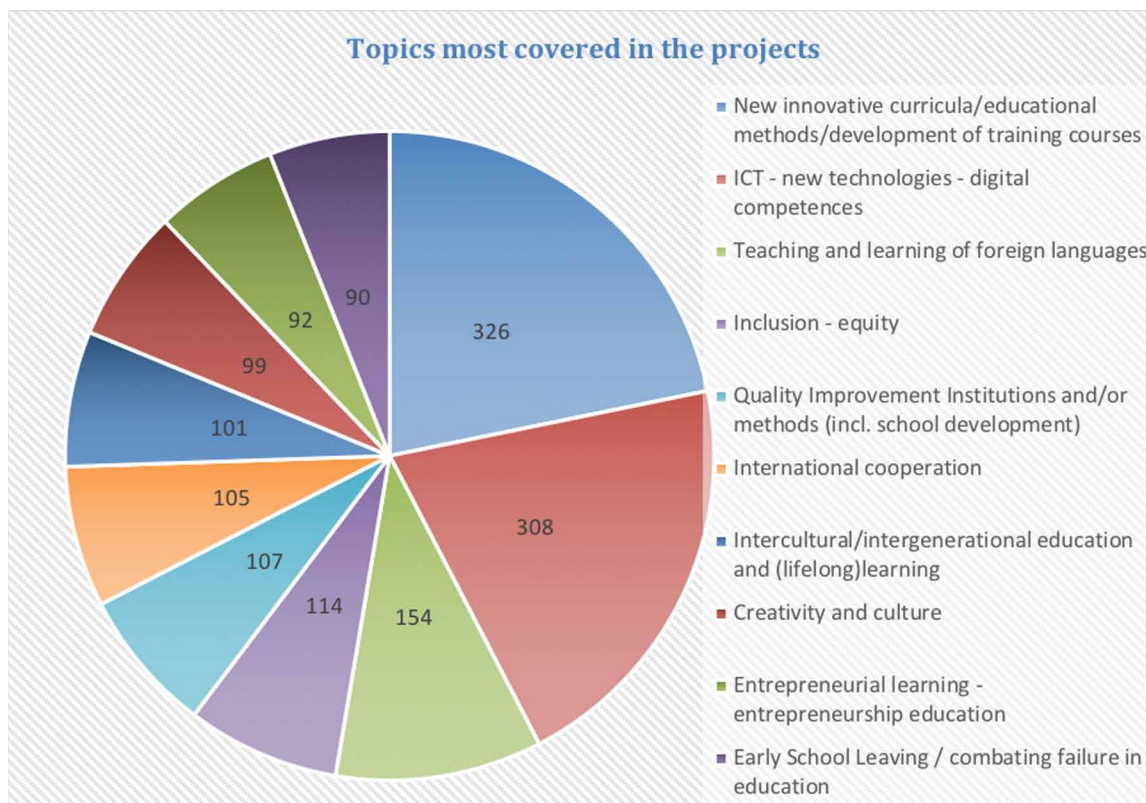
Furthermore, it is also the case that school sector projects further promote interaction and exchange of good practices between educational centers. And they seek to achieve educational results and improvements that have an impact on the participating schools. Thus, these projects could contribute to an efficient use of funds for educational purposes.

In addition, despite being small projects, they have a considerable educational impact, since the main actors involved are students, families, teachers and the management teams of the schools themselves.

For this reason, the educational centers of these levels are going to be one of the main types of institutions of interest for this research in order to obtain a useful guide for them, as the main actors of these European educational actions.

*Figure 12. Average funding per action*

*Source: own production with data from E+PRP*



## **Issues, Controversies, Problems**

The first aspect to bear in mind is that, since the number of projects in the Erasmus+ database increases day by day, as projects are completed, or new ones are added, it will be necessary to make updates throughout the research.

However, for the 2014-2020 cycle, more than 60% of the projects are already finalized and no excessive variations are expected regarding those related to eLearning that are identified as good practices or success stories.

Another of the main limitations of project analysis with the E+PRP is that, although projects with specific themes and actions can be found, the process of reviewing those projects and collecting contact data, summary, outcomes, etc. must be done manually, entering project by project and website by website.

Regarding the contacts, one of the problems is that they are not usually specified in the public space of the platform and it is necessary to access the websites provided and these do not always work, in some cases they were working during the project, but afterwards they stopped being maintained and this makes it difficult to collect contact information. It also limits the real possibilities of getting a response from all project coordinators because the data is out of date or the right person is not contacted.

Another limitation is that the direct link between what is specified in the project in the visible part of the platform and the token used to search for projects is not always found. For example, in the case of searching for “eLearning” or “e-Learning” there are not always direct references to these terms when you go to review project by project. This is a challenge since when contacting the coordinators or partners of these projects, it is possible that it is discovered that they were not really linked to the topic of interest for the research and it is necessary to discard them by reducing the size of the study sample.

These factors can lead to a reduction in the number of projects that can be successfully analyzed.

## **CONCLUSION**

The aim of the research, described on this chapter, is to get a guide that helps teachers to design electronic learning projects in a more effective way.

For this purpose, educational projects, compiled in the E+PRP, are being analyzed. This platform provides a means to be able to analyze the typology of projects, their outcomes, their topics and review those that have been classified as a good practice or a success story. This database is the main information gathering tool together with the collaboration of the main actors of those projects that have been successful, the teachers and management teams involved in them.

In order to carry out a systematic analysis of the project the guidelines for systematic reviews of research projects is being used as a reference (García Holgado et al., 2019; García Holgado et al., 2020).

At this stage, the project selection process for sampling is being carried out, compiling the main information that can also be found on the E+PRP.

The analysis of the main data related to the above mapping questions has resulted in the definition of the following criteria in order to carry out the review of the projects:

1. They should be linked with the term eLearning.
2. Projects of key actions KA1 and KA2 with more than 50 eLearning projects.

3. Involving educational centers, that are an important element for analyzing the improvement in the learning process.
4. Labelled as good practice or success story.

Projects that meet these criteria will provide enough information to achieve the research objectives. In addition, these projects are representative enough to achieve the design of a methodological guide on the key aspects that must be considered to implement eLearning projects that include ICT and obtain improvements in the teaching and learning process. Moreover, since Spanish institutions are the most active in this type of projects, it will be easier to contact them to obtain more data in relation to the reasons for the success, through a survey first and interviews later.

The next step, therefore, will be to analyze the projects that meet these four criteria before moving on to the next phases of the analysis starting for analyzing their contacts, summaries and outputs and getting relevant information that may help to design the survey.

As a result, a methodological guide will be developed that will allow teachers and teacher trainers to know the key factors that help to achieve a good design of educational projects with the optimal use of ICT and the greatest impact on the teaching-learning process.

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## **REFERENCES**

- Area-Moreira, M., Bethencourt-Aguilar, A., & Martín-Gómez, S. (2020). De la enseñanza semipresencial a la enseñanza online en tiempos de Covid19. *Visiones del alumnado. Campus Virtuales*, 9(2), 35–50.
- Beaunoyer, E., Dupéré, S., & Guitton, M. J. (2020). COVID-19 and digital inequalities: Reciprocal impacts and mitigation strategies. *Computers in Human Behavior*, 111, 106424. Advance online publication. doi:10.1016/j.chb.2020.106424 PMID:32398890
- BOE. (2018). *Ley Orgánica 8/2013, de 9 de diciembre, para la mejora de la calidad educativa*. <https://www.boe.es/buscar/act.php?id=BOE-A-2013-12886&p=20131210&tn=2>
- Creswell, J. W. (2013). *Research design: Qualitative, quantitative, and mixed methods approaches* (4th ed.). SAGE.
- Creswell, J. W., Klassen, A. C., Plano Clark, V. L., & Smith, K. C. (2011). *Best practices for mixed methods research in the health sciences*. Office of Behavioral and Social Sciences Research. National Institutes of Health. Retrieved from <https://obsr.od.nih.gov/training/mixed-methods-research/>

## **Erasmus+ Educational Projects on eLearning and Related Methodologies**

Crisol-Moya, E., Herrera-Nieves, L., & Montes-Soldado, R. (2020). Educación virtual para todos: Una revisión sistemática. *Education in the Knowledge Society*, 21(0), 15. doi:10.14201/eks.20327

Daniel, S.J. (2020). Education and the COVID-19 pandemic. *Prospects*, 49(1-2), 91–96. doi:10.1007/11125-020-09464-3 PMID:32313309

EU. (2020a). *Unión Europea. Erasmus+ y proyectos europeos en Educación y Formación*. <https://ec.europa.eu/programmes/erasmus-plus/projects/>

EU. (2020b). *Erasmus+ Project Results Platform*. [https://ec.europa.eu/programmes/erasmus-plus/projects\\_en](https://ec.europa.eu/programmes/erasmus-plus/projects_en)

Fardoun, H., González-González, C. S., Collazos, C. A., & Yousef, M. (2020). Estudio exploratorio en Iberoamérica sobre procesos de enseñanza-aprendizaje y propuesta de evaluación en tiempos de pandemia. *Education in the Knowledge Society*, 21. Advance online publication. doi:10.14201/eks.23437

Fraillon, J., Ainley, J., Schulz, W., Friedman, T., & Duckworth, D. (2019). *Preparing for Life in a Digital World. The IEA International Computer and Information Literacy Study International report*. Springer. Retrieved from <https://www.springer.com/gp/book/9783030387808>

Fraillon, J., Ainley, J., Schulz, W., Friedman, T., & Gebhardt, E. (2014). *Preparing for life in a digital age: The IEA International Computer and Information Literacy Study international report*. Springer. doi:10.1007/978-3-319-14222-7

García Holgado, A., Marcos Pablos, S., & García-Peñalvo, F. J. (2020). Guidelines for performing Systematic Research Projects Reviews. *International Journal of Interactive Multimedia and Artificial Intelligence*, 6(2), 136–144. doi:10.9781/ijimai.2020.05.005

García Holgado, A., Marcos Pablos, S., Therón, R., & García-Peñalvo, F. J. (2019). Technological ecosystems in the health sector: A mapping study of European research projects. *Journal of Medical Systems*, 43(4), 100. Advance online publication. doi:10.1007/10916-019-1241-5 PMID:30874909

García-Peñalvo, F. J. (2013). Education in knowledge society: A new PhD programme approach. In *Proceedings of the First International Conference on Technological Ecosystems for Enhancing Multiculturality (TEEM'13)*. ACM. DOI:10.1145/2536536.2536624

García-Peñalvo, F. J. (2014). Formación en la sociedad del conocimiento, un programa de doctorado con una perspectiva interdisciplinar. *Education in the Knowledge Society*, 15(1), 4–9.

García-Peñalvo, F. J. (2020). Modelo de referencia para la enseñanza no presencial en universidades presenciales. *Campus Virtuales*, 9(1), 41–56.

García-Peñalvo, F. J., Conde, M. A., & Gonçalves, J. (2019). Computational thinking and robotics in education. In *TEEM'19 Proceedings of the Seventh International Conference on Technological Ecosystems for Enhancing Multiculturality*. ACM. 10.1145/3362789.3362957

García-Peñalvo, F. J., & Corell, A. (2020). La COVID-19: ¿enzima de la transformación digital de la docencia o reflejo de una crisis metodológica y competencial en la educación superior? *Campus Virtuales*, 9(2), 83–98.

- García-Peñalvo, F. J., Corell, A., Abella-García, V., & Grande, M. (2020). La evaluación online en la educación superior en tiempos de la COVID-19. *Education in the Knowledge Society*, 21(0), 26. Advance online publication. doi:10.14201/eks.23013
- García-Peñalvo, F. J., Rodríguez Conde, M. J., Therón, R., García Holgado, A., Martínez Abad, F., & Benito Santos, A. (2019). Grupo GRIAL. *IE Comunicaciones. Revista Iberoamericana de Informática Educativa*, (30), 3348.
- García-Peñalvo, F. J., & Seoane-Pardo, A. M. (2015). An updated review of the concept of eLearning. Tenth anniversary. *Education in the Knowledge Society*, 16(1), 119–144. doi:10.14201/eks2015161119144
- Gros, B., & García-Peñalvo, F. J. (2016). Future trends in the design strategies and technological affordances of e-learning. In M. Spector, B. B. Lockee, & M. D. Childress (Eds.), *Learning, Design, and Technology. An International Compendium of Theory, Research, Practice, and Policy* (pp. 1–23). Springer International Publishing. doi:10.1007/978-3-319-17727-4\_67-1
- Grupo, G. R. I. A. L. (2019). *Producción Científica del Grupo GRIAL de 2011 a 2019 (GRIALTR2019010)*. Salamanca, España: Grupo GRIAL, Universidad de Salamanca. Retrieved from <https://repositorio.grial.eu/bitstream/grial/1624/1/GRIAL-TR-2019-010.pdf>
- Hodges, C., Moore, S., Lockee, B., Trust, T., & Bond, A. (2020). The difference between emergency remote teaching and online learning. *Educause Review*. Retrieved from <https://er.educause.edu/articles/2020/3/the-difference-between-emergency-remote-teaching-and-online-learning>
- INTEF. (2017). *Una breve historia de las TIC Educativas en España*. Instituto Nacional de Tecnologías Educativas y de Formación del Profesorado (INTEF). [https://intef.es/wp-content/uploads/2017/05/Breve\\_historia\\_TIC\\_Educativas\\_Espana.pdf](https://intef.es/wp-content/uploads/2017/05/Breve_historia_TIC_Educativas_Espana.pdf)
- Kitchenham, B., Brereton, O. P., Budgen, D., Turner, M., Bailey, J., & Linkman, S. (2009). Systematic literature reviews in software engineering – A systematic literature review. *Information and Software Technology*, 51, 7-15. <https://dl.acm.org/doi/10.1016/j.infsof.2008.09.009>
- Kitchenham, B., & Charters, S. (2007). Guidelines for performing Systematic Literature Reviews in Software Engineering. Version 2.3. Technical Report. School of Computer Science and Mathematics, Keele University.
- OCDE. (2020a). *Teaching and Learning International Survey (TALIS)*. <http://www.oecd.org/education/talis/>
- OCDE. (2020c). *School education during COVID-19: Were teachers and students ready? Country notes*. <http://www.oecd.org/education/coronavirus-education-country-notes.htm>
- OECD. (2020b). *Programme for International Student Assessment (PISA)*. <https://www.oecd.org/pisa/>
- Ramírez-Montoya, M. S. (2020). Transformación digital e innovación educativa en Latinoamérica en el marco del CoVid-19. *Campus Virtuales*, 9(2), 123–139.
- Rojas-López, A., & García-Peñalvo, F. J. (2020). Evaluación de habilidades del pensamiento computacional para predecir el aprendizaje y retención de estudiantes en la asignatura de programación de computadoras en educación superior. *RED. Revista de Educación a Distancia*, 20, 63. doi:10.6018/red.409991

## **Erasmus+ Educational Projects on eLearning and Related Methodologies**

UNESCO. (2016) *Educación 2030: Declaración de Incheon y Marco de Acción para la realización del Objetivo de Desarrollo Sostenible 4: Garantizar una educación inclusiva y equitativa de calidad y promover oportunidades de aprendizaje permanente para todos*. [https://unesdoc.unesco.org/ark:/48223/pf0000245656\\_spa](https://unesdoc.unesco.org/ark:/48223/pf0000245656_spa)

UNESCO. (2017) Report of the Education Commission. *UNESCO. General Conference, 39th, 2017*. <https://unesdoc.unesco.org/images/0026/002600/260065e.pdf>

UNESCO. (2018a) Records of the General Conference, 39th session, Paris, 30 October-14 November 2017, v. 1: Resolutions. *UNESCO. General Conference, 39th, 2017*. <https://unesdoc.unesco.org/ark:/48223/pf0000260889>

UNESCO. (2018b) *Ratifican la función de las TIC en la consecución del ODS 4 durante la ceremonia de entrega de los premios para la utilización de las TIC en la educación*. <https://es.unesco.org/news/ratifican-funcion-tic-consecucion-del-ods-4-durante-ceremonia-entrega-premios-utilizacion-tic>

UNESCO. (2019) *Marco de competencias de los docentes en materia de TIC UNESCO*. <https://unesdoc.unesco.org/ark:/48223/pf0000371024>

## **ENDNOTES**

- <sup>1</sup> Table title codes meaning: educational center (1), university/college (2), educational Administration (3), non-educational Administration (4), research center (5), foundation (6), association (7), NGO (8) and others (9).
- <sup>2</sup> It should be noted that these data are approximate, since the identification of the typology of the institutions has been carried out manually, at the end of the research process there will be more precise data.