

## Interpreting the Statistics of eTwinning: European Quality Label

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### **Abstract**

The present study makes an attempt to provide some insight into the performance of the forty-four countries participating in the eTwinning European Quality Label Awards. These awards set an area of competition for educators in those countries. The analysis attempts to determine the factors that set the countries apart in terms of performance. Making use of quantitative methods (descriptive and inferential statistics), the results suggest that the rank of each country in the EQL awards is not random at all. On the contrary, it can be explained by the specific characteristics of the country, which operate as reliable performance predictors. Those characteristics include the geographical location, the national income, or the quality of the provided education. The insight gained by the analysis, might as well serve as a tool for further use, in order to interpret similar educational programs.

**Keywords:** eTwinning, Quality Labels, Awards, Statistics

### **Introduction**

The growth of eTwinning has been widespread in the last couple of decades in Europe. Today, it appears as an established program among the educational communities, with more than 118,000 completed projects so far (June 2021; source: European eTwinning portal). With the United Kingdom leaving the eTwinning network at the beginning of 2021, the program has remained with 43 country-members; these are the 27 EU countries, plus 9 non-EU countries, such as Norway, and another 7 countries from the European periphery, such as Georgia. Having recently been integrated into the Erasmus+ strategic program of the European Union, eTwinning is a key program for promoting the 'Europeanization' of the educational curricula, a process backed by multiple actions in the past years (Grek et al., 2009; Camilleri, 2016). Apart from its European dimension, eTwinning promotes innovative teaching through educational, social, and technological competencies, which are in the epicenter of the educational transformation worldwide these days (Zhu et al., 2013). The European Quality Label (EQL) is an international certification of achievement for eTwinning projects fulfilling specific quality criteria. It is awarded to the teachers who implement the projects, and follows the new trends of assessing educational quality, that is, by means of Open Quality Labels or Badges (Young, 2012; Papadimitriou & Niari, 2017). Given the different goals, structures, and methods of the educational systems across the participant countries (e.g., Karabulut, 2018), it is not surprising that the distribution of the EQLs does not follow a linear pattern, based, for example, on the size of the country. The rationale behind the analysis that follows, is to explore possible patterns that successfully explain the EQL distribution, namely the performance of each country. In this context, a number of factors are analyzed; first, the European geography, which features two major clusters of countries: the Western (or Central) and the Eastern. The literature provides sufficient evidence that there are major differences in the educational systems of the two groups of countries (Steptoe & Wardle, 2001; Perry, 2009). These differences, of course, are linked to the political and social reality in those countries in a significant period of the recent past, the so-called Soviet era. Several terms are used to mark the existing diversity, such as the "market" versus "public" orientation of their educational systems. However, it is also true that both types of systems (i.e., former communist vs non-communist) have been undergoing a steady process of transformation –towards convergence– in the post-communist decades (Scott, 2007). As a second factor, pure geography comes into play, which dictates that neighboring countries are expected to feature

similar performance; very often neighboring countries share features such as the language, the history, or the political organization/system. National income is also analyzed as a factor of cross-country variation. For example, it has been well documented that high-quality national education leads to higher national income (Hanushek & Woessmann, 2010; Solaki, 2013). It has been also found that this relationship is reciprocal, as higher family income (which reflects national income) leads to more years of schooling. The latter is often used as an index for describing the quality of the educational system of a country (Cordoba & Ripoll, 2013), with numerous studies portraying the diversity among countries in Europe and worldwide (e.g., Adams, 1993; Masci et al., 2018). In the light of these facts, both the factors of national income and quality of education are employed to interpret the differences in performance among the countries of the sample. A final issue of consideration is the criticism articulated over the effectiveness of European programs such as eTwinning. Although there are certain advocates of the fruitful implementation of these programs, whereby the participants (e.g., teachers) find themselves gaining several benefits (Unlu, 2015), more and more voices are being heard pointing out that the actual goals of the programs are not fulfilled and the overall expectations are not met (Ryba, 1995; Kuhn, 2012). The aim of this study is to clarify the matters and determine whether the performance of each country in eTwinning –as manifested by the ranking in the EQL awards– is indicative of more important tendencies within each country.

#### **Data and method**

The sample of the study draws from the dataset of the EQL awards available on the European eTwinning portal for the year 2020. The first data category of the set refers to the absolute number of the EQLs awarded to the teachers of each of the 44 countries. The total number of the awarded EQLs is 11,367. The percentage of the awarded EQLs is then calculated for each country in the analysis. Given that the participant countries are very different in size, country population (source: The US Census Bureau) is correlated with the awarded EQLs, in order to create a basis for cross-country comparison. Thus, the normalized number of EQLs per country (EQLs per one million people) serves as the first statistic of reference. The second statistic of reference is the relative number of awarded EQLs per teacher, being the ratio of the country's EQLs for every 1000 eTwinners (i.e., teacher-members of eTwinning; source: European eTwinning portal). In this way, the performance of teachers across the participant countries can be measured and compared. After that, the geographical dimension is examined, with the 44 countries clustered into 3 groups. The first group ('Eastern') includes the countries of Eastern Europe, such as Poland and Ukraine, but not only these; it also includes countries such as Albania and Croatia, which, although not geographically classified as Eastern, share the same socio-political 'Eastern European' (i.e., former communist) heritage with the other 'Eastern' countries. A second, 'Western', cluster includes the countries of Western Europe plus the countries sharing basic socio-political characteristics, such as Greece or Finland. Therefore, the 'Eastern-Western' division is not just geographical, but also –or mainly – socio-political. The third cluster includes the countries of Middle East and North Africa, which are both geographically and socio-politically diverse from the rest of the countries. For a more comprehensive coverage of the geographical criterion, the sample is then geographically re-clustered, in order to determine which type of clustering ultimately functions as a better predictor for country performance. Therefore, the following five, clearly geographic, clusters are formed: 'Balkan', 'Baltic', 'Middle East & North Africa', 'Scandinavia', and the 'rest' (i.e., including the rest of the countries).

The analysis develops with two more factors, which are expected to function as additional predictors for country performance. One of them is of economic nature, and it takes the country's nominal GDP per capita as an index reflecting the living standards in each country (source: The World Bank). The correlation between the awarded EQLs and the GDP is expected to determine whether teachers with different living standards fare differently in the EQL

awards. The last factor of potential variation employed in the analysis is socio-educational, namely the ranking of the countries within the *Education* index of the United Nations (source: UN Human Development Reports); the index measures the ratio between the mean *Years of Schooling* against the *Expected Years of Schooling* in each country. Table 1 shows the complete dataset of the sample.

**Table 1. The dataset of the study**

Country	EQLs		EQLs/ population (1M) ratio	EQLs/ 1000 teachers	Region	Nominal GDP (in \$K)	UN Education index
	abs.	%					
ALBANIA	143	1.3%	49.3	26.7	Eastern	4.5	0.609
ARMENIA	34	0.3%	11.3	18.1	Eastern	3.9	0.701
AUSTRIA	12	0.1%	1.3	2.2	Western	47.3	0.794
AZERBAIJAN	476	4.2%	47.1	164.9	Eastern	4.1	0.700
BELGIUM	54	0.5%	4.7	6.0	Western	43.3	0.812
BOSNIA & HERZEGOVINA	173	1.5%	52.4	98.2	Eastern	5.4	0.655
BULGARIA	83	0.7%	12.0	8.2	Eastern	8.2	0.749
CROATIA	575	5.1%	140.2	36.1	Eastern	13.2	0.770
CYPRUS	19	0.2%	23.8	6.1	Western	18.7	0.776
CZECH REPUBLIC	41	0.4%	3.8	3.5	Eastern	20.3	0.866
DENMARK	7	0.1%	1.2	0.8	Western	57.5	0.873
ESTONIA	25	0.2%	19.2	4.7	Eastern	20.2	0.859
FINLAND	12	0.1%	2.2	1.4	Western	45.8	0.815
FRANCE	149	1.3%	2.3	2.3	Western	39.8	0.816
GEORGIA	42	0.4%	10.5	24.8	Eastern	3.8	0.770
GERMANY	55	0.5%	0.7	1.9	Western	44.7	0.884
GREECE	392	3.4%	37.7	12.9	Western	19.2	0.797
HUNGARY	27	0.2%	2.8	4.8	Eastern	14.4	0.805
ICELAND	10	0.1%	33.3	5.7	Western	73.2	0.847
IRELAND	4	0.0%	0.8	1.1	Western	69.7	0.887
ITALY	558	4.9%	9.2	6.2	Western	32	0.790
JORDAN	68	0.6%	6.7	72.5	M.E. & N.A.	4.1	0.700
LATVIA	34	0.3%	17.9	4.6	Eastern	15.6	0.813
LEBANON	3	0.0%	0.4	26.1	M.E. & N.A.	7.9	0.631
LIECHTENSTEIN	1	0.0%	33.3	25.0	Western	165	0.762
LITHUANIA	117	1.0%	43.3	11.1	Eastern	16.7	0.877
LUXEMBURG	1	0.0%	1.7	1.5	Western	105	0.762
MALTA	18	0.2%	36.0	4.7	Western	28.6	0.733
MOLDOVA	51	0.4%	12.8	64.6	Eastern	2	0.653
NETHERLANDS	11	0.1%	0.6	1.2	Western	48.8	0.894
NORTH MACEDONIA	121	1.1%	57.6	54.3	Eastern	5.4	0.642
NORWAY	6	0.1%	1.1	1.0	Western	75.4	0.910
POLAND	265	2.3%	7.0	3.5	Eastern	13.9	0.825
PORTUGAL	324	2.9%	31.8	16.6	Western	21.3	0.728
ROMANIA	463	4.1%	24.1	14.2	Eastern	10.9	0.748
SERBIA	243	2.1%	27.9	59.1	Eastern	4.7	0.695
SLOVAKIA	54	0.5%	9.8	4.6	Eastern	17.6	0.802
SLOVENIA	27	0.2%	12.9	5.3	Eastern	23.5	0.863
SPAIN	527	4.6%	11.3	7.1	Western	28.1	0.794
SWEDEN	8	0.1%	0.8	0.7	Western	54.1	0.830
TUNISIA	42	0.4%	3.6	19.5	M.E. & N.A.	3.5	0.621
TURKEY	5884	51.8%	69.8	21.9	M.E. & N.A.	10.5	0.652
UKRAINE	167	1.5%	3.8	60.9	Eastern	2.5	0.796
UNITED KINGDOM	41	0.4%	0.6	-	Western	39.5	0.860

**The statistics**

Taking a look at the dataset, one observes that all forty-four country-members of eTwinning are represented in the awards; even small countries such as Liechtenstein or Luxemburg are included in the list. Another highlight of the awards is the 5884 EQLs obtained by Turkish teachers, a number accounting for more than half (51.8%) of the total labels. This

value stands out as an extreme outlier, as it is almost tenfold higher than that of the second country (Croatia: 575 EQLs, 5.1%), and it will be further investigated later on in the analysis. Regarding the ranking of the other countries (in descending order), 8 of them feature an EQL share between 5% and 3%, another 9 countries a share between 3% and 1%, 17 countries a share between 1% and 0.2%, and a final number of 11 countries a share below 0.2% –with 2 of them (Liechtenstein and Luxemburg) featuring only 1 EQL (0.01%). The mean number of EQLs per country is 258, while the median is 46; the wide difference between the two values is mainly attributed to the relative very high score of Turkey. When the analysis takes into account the size of the countries (i.e., population), the ranking changes drastically. Picture 1 shows the relevant results (EQLs per 1 million people).



**Picture 1. Awarded EQLs per country (N=44) corrected for the population (1M people; darker shades: higher scores)**

Croatia is the country with the best score among the 44 countries: 140 EQLs for every one million people. Turkey comes second, with 70 EQLs, and North Macedonia third, with 58 EQLs. Bosnia & Herzegovina, Albania, Azerbaijan, Lithuania, Greece, Malta, Iceland, Liechtenstein, and Portugal follow in descending order, all with more than 30 EQLs. The next group of countries (in descending order), featuring 30-10 EQLs, includes Serbia, Romania, Cyprus, Estonia, Latvia, Slovenia, Moldova, Bulgaria, Romania, Spain, and Georgia. After that, a rather large group of countries featuring 10-1 EQLs includes Slovakia, Italy, Poland, Jordan, Belgium, Czech Republic, Ukraine, Tunisia, Hungary, France, Finland, Luxemburg, Austria, Denmark, and Norway. Finally, there is a group of countries featuring less than 1 EQL, including Ireland, Sweden, Germany, Netherlands, UK, and Lebanon. The mean score of the 44 countries is 20 EQLs per million people, while the median is 10.9 EQLs per million people. The overall performance of the countries in this category (awarded EQLs corrected for population), offers the first basis for direct and meaningful comparison. In what follows, the additional four factors employed by the study are examined by means of descriptive and inferential statistical

analysis, in an attempt to form a better picture of the results and better interpret the ranking of the countries.

#### Teacher performance

In this section, the relative performance of teachers in each country is examined. The number of registered teachers in eTwinning per country is correlated with the number of awarded EQLs, in order to acquire some indication on the quality of their work. This time, UK is not included in the results, as there are no available data for registered British eTwinners anymore. Employing the ratio of the awarded EQLs per 1,000 teachers as the statistic of reference, a series of trends emerge from the results. According to them, Azerbaijan features the highest ratio, with 165 EQLs per 1,000 teachers. This means that in 2020, almost 17% of the Azerbaijani eTwinners were involved in a project whose quality fulfilled the criteria of the European Quality Label. Given that only a portion of the registered eTwinners must have finally submitted a project during the school year 2019-2020 –as is often the case across countries, then the success rate is even higher for Azerbaijani teachers. Another noticeable case is that of Bosnia & Herzegovina, which once again stands high in the ranking, in second place with 98 EQLs (per 1,000 teachers). Jordan, Moldova, Ukraine, Serbia, and North Macedonia follow with 73-54 EQLs, while a number of 12 countries follow with 36-11 EQLs (in descending order: Croatia, Albania, Lebanon, Liechtenstein, Georgia, Turkey, Tunisia, Armenia, Portugal, Romania, Greece, Lithuania). The majority of the countries (22 countries) feature between 10 and 1 EQLs (in descending order: Bulgaria, Spain, Italy, Cyprus, Belgium, Iceland, Slovenia, Hungary, Estonia/Malta, Latvia/Slovakia, Czech Republic/Poland, France, Austria, Germany, Luxemburg, Finland, Netherlands, Ireland, Norway). Finally, Denmark and Sweden feature the lowest scores, with less than 1 EQL (0.8 and 0.7 EQLs respectively). The results are informative of the level of commitment in eTwinning for teachers in each country. Therefore, the higher the score, the more submitted projects per teacher for this particular school year (2019-2020). In other words, higher scores reflect stronger involvement in eTwinning and less idle eTwinning memberships. However, another interpretation could also stand. That is, assuming there are no differences in the quantitative level of teacher commitment, higher scores could mean higher project quality for the teachers involved. This, in turn, means that teachers in specific countries are more concerned about quality in their projects than their colleagues in other countries. A combination of the quantitative and the qualitative parameters could also be plausible –something which is the most probable to happen. Whatever the case might be, higher scores show higher commitment, namely teachers taking eTwinning more seriously in their work. In the remainder of this unit, the three remaining factors are examined for a meaningful correlation with the awarded EQLs. Liechtenstein is not included in these analyses, as its very small population could distort the results.

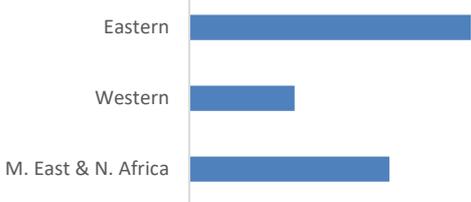
#### Geographical clustering

With the descriptive statistics suggesting there is some degree of correlation between the EQL distribution and the geographic location of the countries, the participant countries are clustered into 3 categories. The first cluster includes the 20 ‘Eastern’ countries, namely Albania, Armenia, Azerbaijan, Bosnia & Herzegovina, Bulgaria, Croatia, Czech Republic, Estonia, Georgia, Hungary, Latvia, Lithuania, Moldova, North Macedonia, Poland, Romania, Serbia, Slovakia, Slovenia, and Ukraine. Most of these countries are located in Eastern Europe, however, location is not the only selection criterion. Countries such as Croatia or Georgia are included in this cluster, despite being located in the Western Balkans and the region of Caucasus in Asia respectively. The reason is that countries like these have had a similar political, social, and educational heritage, which was formed during the Cold War era, an element expected to provide a meaningful insight into the results. The next cluster includes the 19 ‘Western’ countries of the sample, namely Austria, Belgium, Cyprus, Denmark, Finland,

France, Germany, Greece, Iceland, Ireland, Italy, Liechtenstein, Luxemburg, Malta, Netherlands, Norway, Portugal, Spain, Sweden, and UK, using similar criteria once again. Finally, the 4 countries of the Middle East and North Africa, namely Jordan, Lebanon, Tunisia, and Turkey, form the final cluster ('M. East & N. Africa'), with the geographical criterion being more prevalent here. However, the ethnological criterion cannot be disregarded, as these countries share a lot of characteristics, such as culture and religion. In the light of these facts, the 3 clusters are correlated with the distribution of the EQL awards, the latter being expressed through the awarded EQLs corrected for the country's population (see table 1). The results are shown in table 2.

**Table 2. Geographical clustering #1: means of awarded EQLs per 1 million people**

Clustering #1	Mean	N	Std. Deviation
Eastern	28.3	20	31.8
Western	10.6	19	14
M. East & N. Africa	20.1	4	33.2
Total	19.7	43	26.3

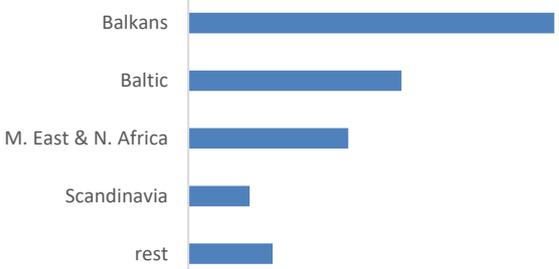


The differences seem to be clear-cut, with the Eastern countries achieving the highest score (28.3 EQLs), the countries of the Middle East and North Africa following with a good clearance (20.1 EQLs), and the Western countries achieving the lowest score (10.6 EQLs). The analysis of variance (one-way), however, reveals a statistically non-significant overall difference ( $F= 1530.2$ ,  $df=2$ ,  $p=.108$ , partial  $\eta^2=0.105$ ), something attributed to the extensive standard deviations present in the sample. The post-hoc analysis (Bonferroni) has also yielded non-significant results, even for the 'Eastern-Western' pair of categories ( $p=.108$ ). As a result, a small portion of the variance can be explained by the present clustering (partial  $\eta^2=.105$ ).

In order to explore more potential trends, the countries have been regrouped in a different manner, this time with solely geographical criteria. The following clusters are thus analyzed: 'Balkans' (9 country-members: Albania, Bosnia & Herzegovina, Bulgaria, Croatia, Greece, North Macedonia, Romania, Serbia, Slovenia), 'Baltic' (3 members: Estonia, Latvia, Lithuania), 'M. East & N. Africa' (4 members: Jordan, Lebanon, Tunisia, Turkey), 'Scandinavian' (5 members: Denmark, Finland, Iceland, Norway, Sweden), and the 'rest' of the countries (the remaining 22 countries). This different –and more expanded– clustering has yielded different results, with the means shown in table 3.

**Table 3. Geographical clustering #2: means of awarded EQLs per 1 million people**

Clustering #2	Mean	N	Std. Deviation
Balkans	46	9	39
Baltic	26.8	3	14.3
M. East & N. Africa	20.1	4	33.2
Scandinavia	7.7	5	14.3
rest	10.6	22	12.8
Total	19.7	43	26.3



The Balkan countries achieve the highest score (46 EQLs) with a significant difference from the rest of the categories. The Baltic countries are found in second place, achieving a relatively high score (26.8 EQLs), with the countries from the Middle East and North Africa following close (20.1 EQLs). The Scandinavian countries, however, achieve a much lower score (7.7 EQLs), while the rest of the countries achieve a slightly higher score (10.6 EQLs). This time, the

standard deviations are smaller compared to the previous clustering, something reflected in the statistically significant overall difference found in the variance (one-way analysis;  $F=2230.1$ ,  $df=4$ ,  $p<.001$ , partial  $\eta^2=.307$ ). In this case, almost 1/3 of the total variation is explained by the employed clustering, which shows that differences in the performance of the countries are more easily found in smaller, more refined geographical clusters. It also means that the location of a country predicts its performance in the awards with a moderate probability of success.

#### Income (nominal GDP)

Another factor under analysis is the national income (nominal GDP), which is again correlated with the index of the awarded EQLs corrected for the population (EQLs per one million people). The nominal GDP reflects the living standards in a country, and is expected to explain some of the variance in the performance of the countries. The countries of the sample display large differences regarding the nominal GDP, as it ranges from \$2,000 (Moldova) to \$105,300 (Luxemburg). The mean GDP in the sample (43 countries) is \$26,258, while the median GDP is \$18,700. The linear correlation (Pearson) performed on the data reveals a moderate negative correlation between nominal GDP and the awarded EQLs ( $r=-.34$ ,  $p<.05$ ). In other words, there is a mild but significant tendency of countries with lower income to perform better in the awards. As to why this happens, it might have to do with the educators in these countries, who probably show a stronger desire to open up to other countries and come closer to (the rest of) Europe. Apart from that, it could also be a matter of educational prestige for those countries, as they enjoy international recognition through the awards. The latter is a very important reason, because it means that there must have been encouragement for participation and excellence at a central educational (or higher) level in those countries.

#### Education Index (UN)

The last factor refers to the United Nations Education Index, which is the ratio of mean years of schooling against the expected years of schooling, and reflects the quality of education in each country. From this respect, Albania displays the worst performance overall, as it features the lowest education index (.61:1) among the participant countries. On the other end of the scale, Norway features the highest index (.91:1), while the mean index of the sample is .78:1 and the median is .79:1. This index is highly relevant to the nature of the EQL awards –as they both refer to quality, so it is expected to explain a large portion of the countries' performance. The present analysis correlates Education Index with the awarded EQLs corrected for the population (EQLs per one million people). The linear correlation (Pearson) has been found to be moderately negative ( $r=-.356$ ), something suggesting that there is a moderate tendency for countries scoring low in the Education Index ranking to perform better in the EQL awards. This goes contra to expectations, as quality education does not seem to generate more Quality Labels. This seemingly unexpected finding requires a plausible explanation. A reason could be found in the high levels of recognition that EQLs offer, something more desired by countries with lower educational quality and achievements. The publicity of the EQL awards and the international impact they make/have, seem to serve as an image maker for the countries that need it more. Another reason could be that excelling in eTwinning through obtaining an EQL does not add quality to the educational system itself, therefore, eTwinning seems to be rather detached from the real educational needs.

#### Discussion and conclusions

The distribution of the European Quality Labels awarded in 2020 provides significant insight into certain educational aspects. First of all, there is extensive diversity among the participant countries at several levels. From country to country, the performance varies substantially, something also reflected at teacher's level. Significant differences are also observed at the geographical level. Moreover, the EQL distribution is –to a certain degree–

correlated with country income and educational quality. In order to present a more concentrated image of the results, table 4 presents them in a visual manner.

**Table 4. A visual (4-level color scale) representation of the results (darker shades: higher ranking; blanks: N/A)**

Country	EQLs awarded	EQLs aw./ population	Teacher performance	Geographical clustering #2	Income (nom. GDP)	Education index (UN)
ALBANIA	Light Blue	Dark Blue	Dark Blue	Dark Blue	Dark Blue	Dark Blue
ARMENIA	Light Blue	Light Blue	Light Blue	Light Blue	Dark Blue	Dark Blue
AUSTRIA	Light Blue	Light Blue	Light Blue	Light Blue	Light Blue	Light Blue
AZERBAIJAN	Dark Blue	Dark Blue	Dark Blue	Dark Blue	Dark Blue	Dark Blue
BELGIUM	Light Blue	Light Blue	Light Blue	Light Blue	Light Blue	Light Blue
BOSNIA & HERZEGOVINA	Dark Blue	Dark Blue	Dark Blue	Dark Blue	Dark Blue	Dark Blue
BULGARIA	Light Blue	Light Blue	Light Blue	Light Blue	Light Blue	Light Blue
CROATIA	Dark Blue	Dark Blue	Dark Blue	Dark Blue	Light Blue	Light Blue
CYPRUS	Light Blue	Light Blue	Light Blue	Light Blue	Light Blue	Light Blue
CZECH REPUBLIC	Light Blue	Light Blue	Light Blue	Light Blue	Light Blue	Light Blue
DENMARK	Light Blue	Light Blue	Light Blue	Light Blue	Light Blue	Light Blue
ESTONIA	Light Blue	Light Blue	Light Blue	Light Blue	Light Blue	Light Blue
FINLAND	Light Blue	Light Blue	Light Blue	Light Blue	Light Blue	Light Blue
FRANCE	Light Blue	Light Blue	Light Blue	Light Blue	Light Blue	Light Blue
GEORGIA	Light Blue	Light Blue	Light Blue	Light Blue	Dark Blue	Light Blue
GERMANY	Light Blue	Light Blue	Light Blue	Light Blue	Light Blue	Light Blue
GREECE	Dark Blue	Light Blue	Light Blue	Dark Blue	Light Blue	Light Blue
HUNGARY	Light Blue	Light Blue	Light Blue	Light Blue	Light Blue	Light Blue
ICELAND	Light Blue	Dark Blue	Light Blue	Light Blue	Light Blue	Light Blue
IRELAND	Light Blue	Light Blue	Light Blue	Light Blue	Light Blue	Light Blue
ITALY	Dark Blue	Light Blue	Light Blue	Light Blue	Light Blue	Light Blue
JORDAN	Light Blue	Light Blue	Dark Blue	Light Blue	Dark Blue	Dark Blue
LATVIA	Light Blue	Light Blue	Light Blue	Light Blue	Light Blue	Light Blue
LEBANON	Light Blue	Light Blue	Dark Blue	Light Blue	Light Blue	Dark Blue
LIECHTENSTEIN	Light Blue	Dark Blue	Light Blue	Light Blue	Light Blue	Light Blue
LITHUANIA	Light Blue	Dark Blue	Light Blue	Light Blue	Light Blue	Light Blue
LUXEMBURG	Light Blue	Light Blue	Light Blue	Light Blue	Light Blue	Light Blue
MALTA	Light Blue	Dark Blue	Light Blue	Light Blue	Light Blue	Light Blue
MOLDOVA	Light Blue	Light Blue	Dark Blue	Light Blue	Dark Blue	Dark Blue
NETHERLANDS	Light Blue	Light Blue	Light Blue	Light Blue	Light Blue	Light Blue
NORTH MACEDONIA	Light Blue	Dark Blue	Dark Blue	Dark Blue	Dark Blue	Dark Blue
NORWAY	Light Blue	Light Blue	Light Blue	Light Blue	Light Blue	Light Blue
POLAND	Dark Blue	Light Blue	Light Blue	Light Blue	Light Blue	Light Blue
PORTUGAL	Dark Blue	Light Blue	Light Blue	Light Blue	Light Blue	Light Blue
ROMANIA	Dark Blue	Light Blue	Light Blue	Dark Blue	Light Blue	Light Blue
SERBIA	Dark Blue	Light Blue	Dark Blue	Dark Blue	Dark Blue	Dark Blue
SLOVAKIA	Light Blue	Light Blue	Light Blue	Light Blue	Light Blue	Light Blue
SLOVENIA	Light Blue	Light Blue	Light Blue	Dark Blue	Light Blue	Light Blue
SPAIN	Dark Blue	Light Blue	Light Blue	Light Blue	Light Blue	Light Blue
SWEDEN	Light Blue	Light Blue	Light Blue	Light Blue	Light Blue	Light Blue
TUNISIA	Light Blue	Light Blue	Light Blue	Light Blue	Dark Blue	Dark Blue
TURKEY	Dark Blue	Light Blue	Light Blue	Light Blue	Light Blue	Dark Blue
UKRAINE	Light Blue	Light Blue	Dark Blue	Light Blue	Dark Blue	Light Blue
UNITED KINGDOM	Light Blue	Light Blue	Light Blue	Light Blue	Light Blue	Light Blue

The 4-level color scale in the table divides the 44 countries into 4 bands, where darker shades denote higher rankings, thus better results. The scale is applied to every quantitative parameter of the analysis (6 columns), showing how each country fares in each of them. It must be noted that, due to the negative overall correlations found in the last 2 factors (i.e., income and Education Index), darker shades correspond to lower income and Education Index respectively.

According to the table, there are countries with consistently high scores in the various factors, including Bosnia & Herzegovina, North Macedonia, Serbia, and Albania. On the other hand, there are countries with consistently low scores, including Denmark, Ireland, Netherlands, and Norway. Both these groups represent the best cases of usage of the employed factors as successful predictors of country performance. For example, the low income and Education Index (UN) of Bosnia & Herzegovina successfully predicts the high ranking of the country and its teachers in the eTwinning EQL awards. Vice versa, the high income and Education Index of Denmark, successfully predicts the country's low ranking in the awards. Even the geographical location of the countries –as a factor of analysis– successfully predicts the rankings of the aforementioned countries. For a number of other countries, however, including Greece and Jordan, the predictors fail to work as successfully. For example, with Greece belonging to the second highest/best band of countries regarding income and Education Index, the country is awarded a disproportionately higher number of EQLs.

The results also suggest that country size is not a good cue for the performance of a country. For example, Croatia features almost 350 times more EQLs than Lebanon, even though Lebanon has a larger population by more than 60%. In the same context, Turkey features almost 100 times more EQLs than Germany, although they have a similar population (84.3 vs. 83.8 million people). What is also found, is that eTwinning teacher-members display different degrees of commitment across countries. This suggests either less submitted projects per teacher or lower quality of the projects. Whether the quantitative or the qualitative dimension is prevalent, the fact is that cross-country differences are so pronounced, that teachers seem to approach eTwinning in a totally different way in some cases, as, for example, in the case of Azerbaijan versus Sweden. Regarding this factor, the main trend from the data suggests that the largest differences are observed at the upper end of the scale, meaning the countries with the best performance in the awards. So, the question remains as to why teachers in some countries take eTwinning more seriously than their colleagues in other countries. It could be a matter of personal or professional choice, or a matter connected to country-dependent factors. Table 4 (columns #2 and #3) attempts to provide an answer. In this context, combining the results of country performance (awarded EQLs corrected for the population) against teacher performance (EQLs per 1,000 teachers), the chromatic designations match in most of the cases, while most of the remaining cases feature a 1-band difference. This picture suggests that teacher performance generally matches country performance. Therefore, teacher performance could be indicative of a central orientation towards the awards, whereby less is to be attributed to personal/professional motivation and more to a national stance towards programs such as eTwinning. From this point on, the focus of the analysis is directed towards elements that correlate with cross-country differences. Thus, regarding the geographical factor, the analysis reveals that the first attempted clustering of the countries, which incorporates socio-political parameters (i.e., geopolitical clustering), fails to explain much of the observed variation of the EQL distribution. On the other hand, a solely geographical clustering has proved to be a rather reliable predictor of country performance (moderate correlation). In this context, a Balkan country is expected to achieve high ranking in the awards, while a Scandinavian country is expected to achieve relatively low ranking. Another reliable predictor is country income,

(nominal GDP), as there is a moderate level of probability, that countries with lower income fare better in the EQL awards. Furthermore, the quality of the educational system (UN Education index) also reveals a moderate tendency of countries featuring lower quality to fare better in the awards. The last two results combined, make the trend even more robust. Therefore, countries with higher income and educational quality are not expected to produce relatively more eTwinning projects qualifying for an EQL. On the contrary, what seems to happen, is an effort of the countries with lower standards to achieve a distinction at international level through eTwinning. The structure of eTwinning at national level, with the National Support Services having an important organizational role and –at the same time– being supervised by the Ministry of Education of the country, dictates that there must be a central coordination towards excellence in eTwinning. Therefore, eTwinning could serve as a tool of promotion or image making for those countries by placing them in the club of the educationally more advanced countries. In order to form a clearer image, a diachronic analysis of the EQL awards is necessary. In addition, if more European/international programs are investigated in future analyses, the conclusions will be more robust.

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