

Grading Transfer System

Increasing Transparency of Access Qualifications for Higher Education in Europe

Submitted by the UK National Recognition Information Centre / National Reference Point to the European Commission, Directorate-General for Education and Culture

Grading Transfer System: Increasing Transparency of Access Qualifications for Higher Education in Europe
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1. Executive Summary

The Grading Transfer System is an online tool providing comparability information for qualification grades from 25 European countries at Upper Secondary, Bachelor and Master's levels. It supports the goals of the Bologna Process by increasing the transparency of international education and supporting the goal of greater European mobility.

This report outlines the principles and methodology underpinning of the Grading Transfer System. Furthermore, the data-gathering process is described, as are issues that arose in the course of the project.

2. Introduction and Guiding Principles

2.1. Aims of the Project

The increased mobility of students, professionals and workers within the EU, supported by developments in European policy, has in recent years highlighted the need greater transparency with regard to assessments of individual educational achievement.

Over the past years it has become apparent that as university admission departments and employers across Europe have been increasingly able to benefit from greater student and labour mobility, they have also faced difficulties in assessing the precise achievement of overseas applicants. The fair interpretation of grades obtained in another member state therefore is a major issue for students, university staff and graduate employers alike.

In response to this, UK NARIC is undertaking the following project with the objective of creating an online system that will enable users to access information on the comparability of grades, based upon the principle of overall comparability of qualifications at upper secondary, Bachelor and Master's degree levels between any two European countries. The information on the database will be based upon a distribution analysis of performance across each European education system. The statistical nature of the system will enable the achievement of an individual to be understood in the context of the entire cohort in the country of origin, and then support the identification of a comparable level of attainment in the destination country. This will integrate the development of ECTS, previous research in the area of upper secondary awards and collaborative analysis of new Bologna style degree programmes.

The Grading Transfer System developed by UK NARIC will allow European users to make more informed admission and policy decisions. It will encourage further recognition of the new Bologna style degrees. Equally, the system will help ensure that the true level of students' achievement will be given due recognition across the European learning space, thereby encouraging and supporting transnational learning experiences and professional mobility.

2.2. Grading Transfer System and the Bologna Process

The UK NARIC Grading Transfer System has been designed in consideration of European integration. The specific background to the Project is the Bologna Process, with its foundation in the Sorbonne Agreement, that was formally agreed in 1999 with the signing of the Bologna Declaration by the education ministers from 29 European states. The ultimate goal of the Bologna Declaration is to create a common European Higher Education Area by 2010 with a view to increasing the mobility and employability of European higher education graduates

and thus ensuring the competitiveness of European higher education and of the European economy on a global scale.

Without the Bologna Process the present study would have been more difficult as the Grading Transfer System works upon the assumption of the comparability of academic levels between different qualification systems. Across Europe, traditional academic qualifications in each country are based upon different principles and structures, some encompassing learning outcomes with others focusing more upon volume of study. In some cases the number of subjects studied varied and the duration often differed. Consequently, complex recognition issues arose when students and professionals sought to use their qualifications abroad.

One of the key objectives of the Bologna Process has been the harmonisation of the diverse European higher education models, which has coalesced over time around two main cycles of study. The first cycle, lasting three or four years, ends in a Bachelor-level degree, which should also be relevant to the European labour market as an exit qualification in its own right. The second, Masters cycle may be either one or two years in length and gives access to doctoral studies. The Declaration also calls for the promotion of European co-operation in quality assurance with a view to developing comparable criteria and methodologies and upon this basis the comparability of degrees across Europe can be taken as a starting point for our study.

The Bologna Declaration also calls for the removal of obstacles to the effective exercise of free movement in order to bring about the essential increases in the mobility of students, teachers, researchers and administrative staff. By making student achievement more comprehensible to assessors from other systems, the Grading Transfer System helps fulfill this objective.

3. General Overview of Project

3.1 Practical Background to Grading Transfer

In addition to European integration initiatives it has become apparent over the past few years that there is considerable demand for a more systematic approach to understanding and appraising educational achievement across Europe. UK NARIC information publications such as International Comparisons, which is distributed to hundreds of member organisations in the UK and globally, provides information about grading systems in the various European countries that employers and admitting institutions can use when assessing overseas candidates. However, it has been difficult to interpret or compare grades because it has been seen as a very subjective process needing to account for a range of factors relating to institutional policies, the experiences of individual admitting officers and special recognition agreements.¹ The very subjectivity of such decisions means that the issue of recognising overseas achievement requires a number of assumptions that vary in their objectivity.

The principal objective of the UK NARIC Grading Transfer System is to provide a more scientific contribution to the grading comparability debate. Based upon an analysis of the proportion of students gaining each given grade, the Mark Distribution Charts enable the user to examine the achievement of a student in the context of the rest of their cohort in the country of origin, and then to identify a comparable level of achievement in the destination country. As it provides an external point of reference for decision making, the statistical methodology behind the UK NARIC System supports a more objective and fairer admissions policy. Therefore, whilst recognising some weaknesses² with the current system, it is felt that the overall outcome of this project is to provide better information to end users.

3.2. Using the Grading Transfer System

To ascertain comparability, the user has only to select the Country of Origin of the qualification from the list of countries in the first drop down menu. This is followed by selecting the system against which the original qualification will be compared from a list of Destination Countries. Next, users will choose between the three qualification levels; Awards giving Entry to Higher Education, Bachelor or Masters.

Once all three factors have been selected, clicking on *Find Grade Comparability* will cause the database to automatically produce the relevant set of Mark Distribution Charts, illustrating the grading distributions for the two countries selected. These are divided into levels, each representing a grading category (for

¹ This issue is discussed further in section 4.2.

² Please also see section 4.2 on key assumptions.

example A, B, First, Fail etc) in the selected countries. The categories are arranged in the charts in a hierarchical structure, starting with the lowest available grade at the bottom of the chart proceeding to the highest at the top. Each grade category is colour-coded against a simple key to allow the users to easily ascertain comparisons between the bandings.

Furthermore, descriptions of the grading systems in both the country of origin and destination country accompany each set of charts.

Where information on Grade Comparability at particular levels in certain countries is not yet available, a message indicates as such and a description of the grading system is provided. When such data becomes available from these countries, the database will be updated to include the appropriate Mark Distribution Charts for these countries.

4. Methodological Notes

4.1. Data Gathering

In collecting the necessary information, the project team contacted ENIC/ NARIC centres and Ministries of Education to request statistics on the grade boundaries and the percentage of students falling into each grade category for Awards for HE Admission, at Bachelor degree level and at Masters degree level³. In the case of upper secondary level qualifications, UK NARIC targeted only those academic qualifications that allow access to first cycle academic university programmes such as Bachelor degrees. Data pertaining to pass and failure rates was also requested for all levels.

One unexpected outcome of the data collection stage of the project was the gathering of a substantial amount of information on the current degree of compilation of statistics on achievement in upper secondary and higher education. The process revealed that in many European countries information on achievement within the higher education sector is not collected by the national authorities. Therefore in these cases UK NARIC was advised to contact individual universities directly to obtain the required data. Where this is the case, an average of the collected sources was calculated and guidance provided in the sources section in the Appendices.

The overall result of the data gathering exercise is summarised in Table 1 that follows, indicating the year, or range of years, to which our calculations refer. Where the project team was not able to obtain data for a particular country or year, this is indicated with 'N'.

The table on the following page summarises the results of the data gathering exercise:

Year = year or years of data collated by UK NARIC

Y = Data collected

N = No data available

³ A list of sources for all data used can be found in Appendix 1.

Table 1: Results of Data Gathering Exercise

Country	Upper Secondary	Bachelor	Masters
Austria	2003	Y	N
Belgium	N	2003/04	2003/04
Belarus	N	N	N
Bulgaria	N	Y	N
Croatia	2003	Y	N
Czech Republic	N	Y	N
Cyprus	N	N	N
Denmark	2000-2004	Y	N
England, Wales and N.I.	2005	1992 - 2004	N
Estonia	2004	2004	2004
Finland	2005	Y	N
France	2004	Y	N
Germany	2003	Y	N
Greece	2003-5	2003-5	2003-5
Hungary	Y	Y	N
Iceland	N	N	N
Ireland	N	1998-2002	2004
Italy	2003/04	Y	N
Latvia	N	Y	N
Lithuania	2004	Y	Y
Luxembourg	2004	N	N
Malta	N	N	N
Norway	2003/04	2003/04	2003/04
Netherlands (the)	2003	N	N
Poland	2003	Y	N
Portugal	N	N	N
Romania	N	N	N
Russia	N	N	N
Serbia and Montenegro	N	N	N
Slovenia	N	N	N
Slovakia	2003	N	N
Spain	N	Y	N
Sweden	Y	Y	N
Switzerland	N	N	N
Ukraine (the)	N	N	N

Assumptions Underlying the System

The development of the UK NARIC Grading Transfer System is founded upon certain key assumptions beyond those already described.

Firstly, the study assumes that the participation rate in higher education and the number following the academic route at upper secondary level is the same between one country and the next. This is at present not the case, but it is at least broadly the same among the countries for which data has been supplied to date, especially in comparison to other areas of the world.

Secondly, it is popularly accepted that within certain countries the standards in education at upper secondary or higher education level may vary somewhat. The Grading Transfer System works upon the foundation that there are no substantial differences in marking, between universities or between school authorities within a given country. To go into further detail on such aspects would require at the very least a ranking of universities or regional education standard, which is clearly beyond the scope of the present project, and it is also likely that such information is not available across the board.

In a similar vein, it is generally established that certain subjects or fields use the grading systems differently. For instance, in science and technology related fields, where it is possible to ascertain an objectively correct answer, the whole of the grading system is used, with some student being able to obtain over 90% of marks. Conversely, subjects in the Arts, where opinion is traditionally more subjective, examiners tend to use a more restricted range of grades, where grades of over 80% are seldom issued. Although the above is a very general characterisation of this trend, it is a phenomenon that the project team observed in many systems, and that should be addressed in future developments of the System.

Thirdly, in the context of harmonisation in European higher education and in order to make the Grading Transfer System accessible and relevant to users from all across Europe, the System is based upon the assumption that the overall level of the qualifications is comparable. With regard to Bachelor and Master qualifications, the presumption of comparability is rooted in the adherence of all participating countries to the objectives of the Bologna Declaration. In the case of upper secondary level qualifications, the UK NARIC Grading Transfer System takes into account only those upper secondary qualifications that give entry to higher education study at university or comparable level institution as these are the only ones that are covered by the European Convention (327 / 1957) and the ensuing EC Protocol (327 / 1987), which calls for members of the EC to recognise the equivalence of diplomas giving entry to universities.

Further to this, while the methodology of this exercise presupposes that students entitled to a certain academic status in their country of origin (e.g. qualification to enter university) should also be extended this right elsewhere in Europe, it also

assumes that those candidates who are unsuccessful in one country will not be deemed acceptable in another. For this reason, a fail grade at any level in any country will always be comparable to a fail grade at the same qualification level in any other participating country. Similarly, a pass grade in one country will represent a pass grade in any other. On this note, however, it should be considered that fulfilling the formal, minimum entry requirements for higher education entry, for instance, does not mean that any one candidate will automatically be accepted for entry onto any programme of their choice as competitive entry procedures often apply. What is more, policies concerning the authority over admissions procedures differ from country to country, ranging from a statutory, almost open admission policies for all formally qualified candidates to absolute institutional discretion.

4.3. The NARIC Points Tariff

In many cases across Europe, pupils finishing upper secondary education receive one overall grade that takes into account an average of the range of individual constituent subjects studied over the period of the course. In the UK this is not the case; pupils aspiring to enter university may study for up to six A Levels, although the usual number is three, and receive a grade for each subject⁴. As offers of places at UK universities are generally based upon a combined set of grades rather than individual ones, it is more meaningful for the purposes of this study to use a combination of UK grades rather than individual grades in isolation. Therefore, a system of so-called NARIC Points has been devised in order to convert the multiple possibilities that UK⁵ A Level candidates can achieve into a single score that can be compared to individual, single final grade scores used in other European countries. Although in the present version this technique has only been applied to UK A Levels, it may be possible to adapt the system to take into account other multi-grade systems, such as the Irish Leaving Certificate and Scottish Highers. Further information on this can be found in Appendix 3.

⁴ University candidates in the UK today are often offered places at university on the basis of a Tariff Points system devised by the Universities and Colleges Admissions Service (UCAS), which enables a greater diversity of forms of achievement such as Scottish Higher and the BTEC National Diploma to be calculated in the same way as A Levels.

⁵ UK refers in this instance to England, Wales and Northern Ireland only.

4. Alternative Approaches to Grading Transfer

The interpretation of the grades of overseas candidates by admissions officers, employers and other organisations often follows an approach developed in-house by those dealing with applications on a day to day basis. Expertise in this area can vary greatly, and decisions are often taken on the grounds of previous experience with individual applicants from particular countries or other arbitrary formulas.

Other organisations, however, have sought to formulate more systematic tools for resolving the grading comparability issue. Some of these contributions are discussed below.

5.1. World Education Services (WES)

The World Education Services, the North American credential evaluators, have developed a grade conversions guide for higher education taking into account a range of factors such as tradition, philosophy, rules and regulations characteristic to the grading system in the given country. This set of online tables has been created to compare 120 international higher education grading systems to the US grade point average system.

The WES approach constitutes little more than stating overseas grades are closest to certain American grades in broad terms (A, B, C etc.), without going into the further subtleties such as + or – divisions. Universities are advised that the information provided is broad guidance and that the perception of grading systems varies widely. Subjective criteria are predominantly used to determine comparisons. There is little mathematical basis behind the information provided.

A second notable drawback of using grade conversion charts such as World Education Services' comparability chart that are based on subjective judgements is that they are generally very difficult to update and adjust. In contrast, the flexible format of the database developed by UK NARIC will enable regular updates as well as the inclusion of data about student achievement in other countries in the EU. It is important that the database is easy to update to reflect new changes in student assessment that are continually occurring across Europe. This will ensure that the database retains a high degree of accuracy in providing comparability of grades.

5.2. Linear Mathematical Formulas

Both in Europe and in the United States there have been numerous attempts to put together numerous mathematical formulas that calculate foreign grades in the national system of the user. Yet these formulas have not tended to produce

figures that are reliable and a fair reflection of the message conveyed by the original grade.

In many systems the full scale of grades is divided into various classes or categories corresponding to broad quality labels assigned to a certain bracket of numerical grades. Linear methods that ignore grade boundaries and class labels distort the original message in the same way as a literally word-for-word translation from a foreign language often produces a sequence of corresponding words, but loses the sense of meaning conveyed in the original language statement. Such results have shown that foreign grades are not just numbers that can be calculated by applying a mathematical formula but a message that needs first to be understood in the original system and secondly interpreted by users in their own system.

Previous attempts to calculate grade conversions using linear formulas have, for instance, often ignored grade boundaries and hence produced grossly inaccurate results. Using an example; the grade of 27/30 in the Italian *esame di stato* would be converted linearly into 90/100 in Britain, a mark which would be considered extremely high for most British A Level courses, although concurrently in Italy, where grades are biased towards the upper end of the scale, 27/30 does not represent an exceptional performance.

The underlying idea in our methodology is that grades should initially be seen as messages that need to be understood in the context of the original system first and in a second stage interpreted by users in their own system. To this end, the database also contains useful descriptions of each grading system including information about variations, minimum and maximum grades and grade descriptors. In this way, the UK NARIC Grading Transfer System combines both qualitative and mathematical approaches and draws upon the advantages of both.

5.3. European Credit Transfer System

As a transnational system designed to improve student mobility, the ECTS System has paid particular attention to the issue of grading conversions. ECTS grades serve as a neutral system between which national grades provided by the host university can be converted back for the use of the home university. Whereas the WES method is based on subjective analysis, the ECTS system is based on a set of outcomes that are derived from a set of mathematical distributions:

Table 2: ECTS grade distribution and grade descriptors:

ECTS Grade	Percentage of successful students normally achieving the grade	Definition
A	10%	Excellent – outstanding performance with only minor errors
B	25%	Very good – above the average standard but with some errors
C	30%	Good – generally sound work with a number of errors
D	25%	Satisfactory – fair but with significant shortcomings
E	10%	Sufficient – performance meets the minimum criteria
FX	x%	Fail – some more work required before the credit can be awarded
F	y%	Fail – considerable work is required

The system has proven to be extremely flexible in that it can be adapted to all possible national systems. For example it effectively bridges the gap between two widely differing grading systems such as the US and the Eastern European countries. By measuring relative distribution of student performance, ECTS system provides the best current method of achieving an objective grade comparison system.

There are some drawbacks to the ECTS system, however. European users of ECTS accept that it is not completely accurate. Distributions can also be applied somewhat arbitrarily, and interpretations of the grading descriptors may vary from system to system leading to inaccurate grade conversions.

Furthermore, the unreliability of conversion scales is exemplified by the data collected for inclusion in the database. The data showed in many cases that it is not possible to accurately calculate precise conversions based using a standard distribution of student achievement. Even distribution-based grade conversions such as those provided by the ECTS system often fail to reflect the range of grades that may be considered comparable between systems. For example, the distributions illustrate that one grade in one country may be comparable to a level of performance covered by two or three grades in another. In 2005 42% of students across England, Wales and Northern Ireland received an Upper Second Class degree, while distributions of student performance in Italy demonstrate that there are three grades in Italy that could be deemed comparable to the British 2:1. The charts of comparison developed for the UK NARIC Grading Transfer

System are able to illustrate these similarities and differences in student achievement between grading systems in a clear and informative way.

6. Development beyond the Pilot Project⁶

The present Grading Transfer System is the result of a pilot project conducted in 2003/ 2004, which focused only on qualifications at upper secondary level from 12 European countries. The outcomes of this study have informed this development project in a variety of ways.

Clearly, the present system is more ambitious in its aims than the pilot project and accordingly takes into account both more countries and a wider variety of academic levels, namely Bachelor and Masters level qualifications. Furthermore, the developed system can be accessed by organisations across Europe (and potentially beyond) through an online database. The initial project was presented as a paper document, which simply compared overseas upper secondary grades to ranges of UK A Levels. With the developed system, users are able to access comparability information between any two European countries.

Furthermore, the initial system issued the user with a range of grades that were deemed comparable to that attained in the Country of Origin. This was based upon comparing the probability of achieving a given grade in Country of Origin with the probability of attaining a range of NARIC points, which were then converted back into a range of possible A Level grades for the user. Clearly, this offered a very wide band and did not provide the user with the full context as it did not allow the user to see whereabouts the Original grade fell within the Destination bracket. It was therefore decided to present the information in charts that would depict the various grade bands according to the number or proportion of students achieving those grades and enable the user to draw their own conclusions from the suggestions made by the Mark Distribution Charts. These graphical representations are more user friendly than purely textual outputs as they convey the message of the comparability more clearly.

⁶ For further information on the functioning of the grading transfer system as it was operated in the pilot project, please contact UK NARIC.

7. Review of Outcomes

The development of the Grading Transfer System has delivered a variety of outcomes, some beyond the scope of what the project originally intended. In the first instance, the project achieved its primary objective, namely to provide a useful tool to demonstrate grading comparability of upper secondary, Bachelor and Master level qualifications between a range of European countries. In doing so, the system helps to forward the wider debate on the interpretation of overseas grades, taking on the formidable challenge of compiling such a large body of data from a diverse range of sources. Yet in addition to this, the very act of compiling the source data has yielded a useful piece of research into the status quo with regard to the extent of national compilation of educational statistics across a variety of European systems.

7.1. Issues Arising

The developers of the Grading Transfer System have encountered a variety of issues, some of which were resolved, while others which continue to pose interesting open questions. Many of these issues reflect the diversity of European approaches to education.

7.1.1. Incompatibility of Data

The UK NARIC Grading Transfer System is based upon the presumption that students will be issued with a final overall grade upon successful completion of the course. Unfortunately, not all European countries issue single final grade scores, which presents problems for the current System.

Where this is the case at higher education level, the project team has taken the decision not to include these countries in the present survey because information on achievement in individual courses is not collected nationally and in any case could not be processed in an analytically meaningful manner due to the diversity of courses.

At upper secondary level, however, the team has taken a rather different approach to this issue: in countries where pupils are issued with a transcript of grades, rather than a single overall grade, the project team has in some cases calculated a single grade average over all subjects. Since in these countries individuals tend to study a wide spectrum of subjects, and the individual courses in question are a more or less standardised selection of subjects from which pupils have at least some compulsory subjects, it was felt this would still represent a meaningful approach and would enable a useful overview of an individuals achievement. Indeed, in countries where pupils take lots of individual subjects and are not issued with a single overall grade, individual grades themselves have less significance to university admissions officers or employers

than is the case in the UK – deemed legitimate to use an overall average taking into account the probability of getting a given grade in all subjects.

The system in place in England, Wales and Northern Ireland is one such system where students receive multiple, and entirely separate results which are considered in their own right, although a combination is usually required in order to enter university. In order to address this situation, a system of so-called NARIC Points was devised, which converts the multiple possibilities that UK A Level candidates can achieve into a single score that can be compared to individual, single final grade scores used in other European countries. This has already been discussed further in section 4.2.

In this respect, the Irish system has posed the team with particular difficulties as individual subjects in the Leaving Certificate can be studied at two different levels; Ordinary and Higher. In Ireland, applicants to university would generally be expected to have achieved six to nine subjects, of which approximately six would be at Higher Level. There are various difficulties with this system for the purposes of the Grading Transfer System. Firstly, there is a greater diversity of university entry possibilities entrenched in the system, which makes it less straightforward to determine a base line. Secondly, the Irish system employs a greater variety of grades, and divides letter grades further with the addition of numerical qualifiers, resulting in a wider range of grades: A1, A2, B1, B2, B3, C1, C2, C3. This makes the development of a satisfactory methodology along the lines of the NARIC Points Tariff, used to analyse grade probabilities from England Wales and Northern Ireland, a most complex endeavour. This is particularly true due to the two different levels of study, Ordinary and Honours, which pupils studying for the Leaving Certificate can choose from.

The present system strives to work in different ways with the data currently available. The nature of the online system has the virtue of enabling updates to be integrated easily, both when further details become available, and when more appropriate methodologies are devised.

7.1.2. Lack of Centrally Collated Data

One of the main barriers encountered by the project team when researching grading distribution in Europe is the fact that in many cases, such information is neither compiled nor published on a national level. This would seem to reflect differing priorities and perceptions of the significance of being able to analyse such data, as well as the presence or otherwise of bodies charged to carry out this task.

Indeed, at the outset it is worth noting that the systematic and centralised collection of such detailed pieces of information on higher education is to a certain extent a UK specific tendency not necessarily reflected in other European countries – the UK even has a dedicated national agency for the purpose of

processing statistics on higher education matters in England, Wales and Northern Ireland.

At upper secondary level, however, the project team encountered a much greater degree of recording of students' achievement than at higher education level, with usable data collected for 16 countries. This appears to be due primarily to the fact that many of the national governments do not require institutions to collate or submit such statistics.

That said, in the course of the research, the impression received by the project team suggested that steps in this direction are being implemented in other European states, and that institutions themselves may be taking the initiative e.g., Estonia and Lithuania, if only on an institutional level.

In other countries, the research team was advised that it was necessary to try enquiring even at faculty level, within the different institutions. This was the case in Sweden, for example, where the predominant belief is that education should not be competitive, so results are not officially collected or disseminated.

At higher education level, students are often not issued with an overall grade beyond a simple pass or fail, for instance in Denmark, although it is noteworthy that some departments in the University of Copenhagen are taking the initiative and have introduced a more nuanced grading system.

Returning once again to school qualifications, the project team was unable to compile statistics for upper secondary level for Belgium and Iceland as in these countries there is no nationally coordinated examination upon completion of upper secondary education. In these systems, students are awarded a diploma upon passing an exam set by the school, which qualifies them to enter university. Each school is responsible for assigning certificates and marking examinations. In the absence of a centralised coordinating body it is difficult to provide accurate comparisons against grades from other systems, since there is no official national benchmarking standard in either of the countries in question.

In Germany, responsibility for education is devolved to the 16 *Länder*, each of which has its own regional education ministry. Fortunately, the *Statistisches Bundesamt* (Federal Office for Statistics) was in a position to compile the relevant statistics concerning the *allgemeine Hochschulreife* (certificate giving entry to university) from fourteen of the *Länder*.

In the present project, the team compiled the statistics for the System using averages of the distributions for the individual grades of all years for which data was available. This was in order to ensure that the figure reflected were as representative as possible, and in the course of time the most current statistics could be added to further enhance the accuracy of the system. Future developments of the project could also, however, be tuned to reflect figures from

the most recent year and be updated on an annual basis to take into account factors such as grade inflation, changes in grading systems and so on. This would represent a particularly useful approach as more data is gathered from a wider range of countries.

7.1.3. Absence of Information on Failure Rates

In some cases, organisations released information on the number or proportion of students achieving each of the passing grades, but without reference to the number or proportion of candidates failing to merit the award of a diploma. For instance, we have been unable to obtain information on failure rates for Bachelor level in the cases of Austria, Bulgaria, and Germany for instance.

Furthermore, the concept of the “failure” is itself by no means self-evident. Records of failure may refer simply to those who do not successfully fulfil the requirements for an award at the point of final assessment, but the extent to which such figures include those who terminate their studies at an interim point and do not proceed as far as sitting the final examinations is unclear. Moreover, there are other reasons for discontinuing ones studies in the middle of the course other than academic failure, such as illness, pregnancy, assuming caring responsibilities, etc. So there is a debate as to whether those terminating their studies for such non-academic reasons can justifiably be classed with those failing in a more strictly academic sense. It seems, however, unlikely that overall university drop-out figures make such distinctions.

This predicament is exemplified in the case of the United Kingdom, for instance. The Higher Education Statistics Agency (HESA) does not publish information on failure rates⁷, and therefore the “failure” statistics at Bachelor degree level are based upon the drop-out rate. In the UK few students actually go so far as to complete the course and then fail their degree overall. A more common occurrence is that struggling students drop out of university in the course of the programme. Indeed, in the UK even those who fail the final exams often go on to retake the final year and be awarded a Pass degree (without Honours) the next year. Although HESA do record the numbers of Pass degrees awarded annually, this is not informative in the context of measuring failure rates as these figures also include medical students, whose degrees are graded only with pass or fail upon completion of their studies, and who have thus effectively been excluded from our survey of grading probabilities.

In cases where the project team have been unable to determine a failure or drop-out quota, or where there are differences in this figure between the selected two countries, a process known as ‘grade stretching’ has been employed. The key principle behind this technique is the notion that students who fail a qualification

⁷ The UK is not the only country that does not collect information on failure rates; in Ireland for example, Colleges are only obliged to forward the details of successful student details to the Higher Education and Training Awards Council (HETAC).

should not, due to differences in pass rates, be able to be considered to have passed in another European Union country, when the overall qualification level is deemed comparable. This is important as there are considerable differences in failure rates between countries: in France, for instance, 20.3% of candidates fail the *Baccalaureat*, while the figure for the German *allgemeine Hochschulreife* (*Abitur*) is only 3.69%. This explains why in some cases, some of the comparability charts are of different lengths. This concept is explored in greater detail in appendix two.

Clearly, in countries where there is usually open access to higher education for those in possession of the requisite upper secondary school leaving certificate, such as Belgium, Germany and Iceland there is considerable scope for problems with this approach. Although the national authorities in Germany do not collate statistics on student achievement at the present time, it seems likely that they would reveal a high level of students failing to successfully complete the first year of university studies, which serves as an effective filter of students. Were these figures to be taken into account in the generation of future statistics, it is possible that they would clearly skew the picture quite considerably.

These factors mean that the notion of failure in successfully passing or completing a qualification in European higher education is at present imprecisely defined. Furthermore, a survey that seeks to compare achievement across European borders faces the problem that different countries, or even different institutions have different individual policies on this issue.

7.2. Areas for Development

The development of the present Grading Transfer System has raised many issues that may be resolved in future versions.

It is hoped that more information on grading distributions from a wider range of countries will become available over time, which will help facilitate the expansion of the system. Furthermore, the scope of the system could also be increased to include countries from beyond the European area, although the qualifications would have to be analysed to ensure methodological consistency. It is also hoped that an appropriate methodology will be developed that will allow the inclusion of the Scottish Highers, whereby five or six subjects are usually studied⁸ and which allow entry to university studies in Scotland and often elsewhere in the UK and beyond.

Whilst there are obvious drawbacks of using mathematical formulas to linearly calculate grade conversions, the method of comparing distributions used in the ECTS system was considered to be a reasonable model for comparing grades.

⁸ Having successfully completed *Highers*, pupils in Scotland may stay on at school to do *Advanced Highers*, which are considered comparable to A Level standard, although these are not necessary for entry to university in Scotland and are not taken by all students.

However, in contrast to the ECTS and WES systems, our approach does not provide a conversion scale whereby one grade can be converted precisely into a grade in a different system. Instead the UK NARIC Grading Transfer System provides interpretative mark distribution charts of grades from any two selected European countries allowing the user to draw their own conclusions regarding the equivalencies of particular grades. As a result, our system does not currently differentiate between varying degrees of performance within grading categories. It is apparent that some classes/categories encompass a disproportionately wide range of achievements. This is particularly true of the 2:1 class used in the British degree classification system (which included 42% of successful candidates in 2004) and *passable* used in the French grading system. Presently there does not appear to be any centrally collected data on the individual breakdown of grades in European countries including the UK. If this data becomes available in the future, the database may be updated to include subdivisions indicating varying levels of achievement within these broader categories.

8. Conclusions

For such a system to be fully implemented, data is required from all countries. Additionally, though, there needs to be agreement on the definition of failure, and how drop-outs will be recorded at both inter-European and national levels so that statistics can be consistently recorded and interpreted.

The present system is a useful indicative tool that has highlighted the issues at stake.

In compiling the system, the project team came across various stumbling blocks that required innovative approaches to resolve. However, in persevering with the work, the team made a useful contribution to the debate, which served to highlight problematic issues at a more advanced stage than was previously the case.

Whilst there remains much work to be done on this front, there are also many promising signs. Many organisations that we contacted in the course of our research, although unable to provide the information we requested, indicated that developments were underway that would lead to a more systematic collation of the requisite data. However, the present work can justifiably claim to contribute to this debate by facilitating a more systematic approach to understanding grades within and across the European Higher Education Area.

Appendix 1: List of Sources

Belgium

University of Leuven

Bulgaria

Ministry of Education & Science, European Integration & Bilateral Cooperation
Department

Croatia

Ministry of Science, Education and Sports, Department for European Integrations

Denmark

CIRIUS National Information Centre (Danish NARIC)

University of Copenhagen

University of Roskilde

England, Wales and Northern Ireland

HESA (Higher Education Statistics Agency)

DfES (Department for Education and Skills)

Estonia

Akadeemilise Tunnustamise Infokeskus / Estonian NARIC

Tartu University, International Student Office

Finland

University of Joensuu, International Student Services

France

ENIC-NARIC France - CIEP

<http://www.wes.org/gradeconversionguide/articleable.gif>

Germany

Kultusminister Konferenz (KMK)

Statistisches Bundesamt, Wiesbaden, Statistical Information Service

Bauhaus University, Weimar

University of Applied Science, Mainz

<http://www.wes.org/gradeconversionguide/articletable.gif>

Greece

British Council, Athens

British Council, Thessaloniki

Ionian University, International Relations Office

Ministry of National Education and Religious Affairs

Hungary

Magyar Ekvivalencia és Információs Központ, Oktatási Minisztérium, Hungarian Equivalence and Information Centre, Ministry of Education

Ireland

Athlone Institute of Technology, Registry

HETAC

Institute of Technology Carlow, Registry

Institute of Technology, Sligo

Institute of Technology, Tallaght, Registry

National Qualifications Authority of Ireland

Italy

University of Verona

University of Milan

Eurydice Italia

Lithuania

National Europass Centre, Lithuania

University of Vilnius

Luxembourg

Ministère de l'Éducation Nationale et de la Formation Professionnelle (National Ministry for Education and Professional Training)

University of Luxembourg

The Netherlands

Afdeling Diplomawaardering & Certificering / Centre for International Recognition and Certification, the Netherlands

Norway

Stavanger University

Poland

Bureau for Academic Recognition and International Exchange (Polish NARIC)

Slovakia

ENIC / NARIC Bratislava

Slovenia

Ministry of Education, Science and Sport

Spain

<http://www.wes.org/gradeconversionguide/articletable.gif>

Sweden

University of Stockholm, Division for Student Affairs

Gothenburg University, Humanities Faculty

Gothenburg University, Registry

Högskoleverket (National Agency for Higher Education)

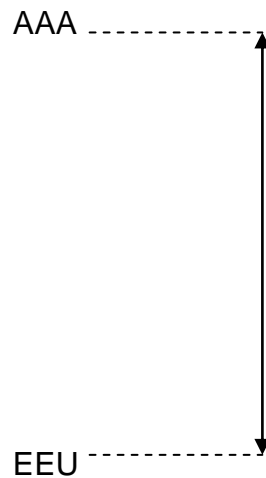
Uppföljningsenheten / SKOLVERKET (National Agency for Education)

Appendix 2: Grade Stretching

Grade Distribution “Stretching”

[Dig. 1] presents a rather simplified diagram representing the range of possible grades available for a hypothetical qualification:

[Dig. 1]



Now please consider [Table 3], which is a hypothetical grade distribution for *Qualification X*.⁹

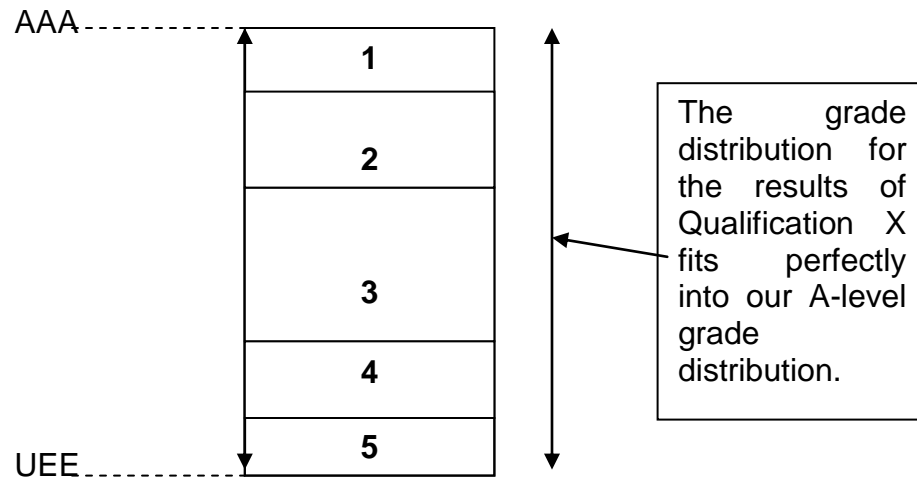
[Table 3] – Qualification X

Result	Grade Distribution (%)	Cumulative Grad. Dist. (%)
1	5	5
2	25	30
3	40	70
4	20	90
5 (Fail)	10	100

⁹ *Qualification X* is a theoretical secondary school leaving certificate that we are assuming to be IDENTICAL in academic stature to A-levels.

If we 'map' the grade distribution in [Table 3] onto our initial diagram representing the range of possible grades for *Qualification X* [Dig. 1], we get [Dig. 2].

[Dig. 2]



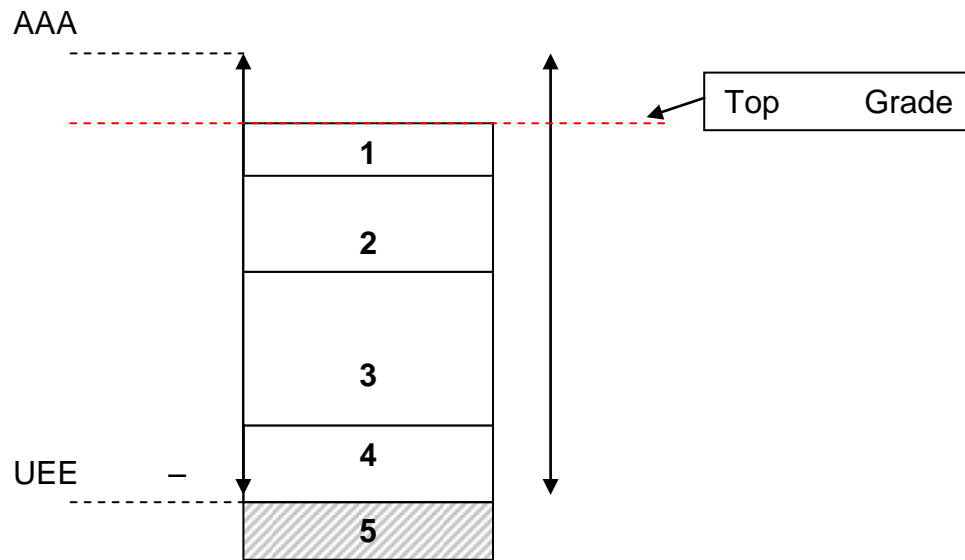
[Dig. 2] is a basic representation of the grade comparison system. It is understood that a fail in one system should be considered to be equivalent to a fail in any other system. Therefore when comparing all (appropriate) overseas qualifications to A-levels, a fail in *Qualification X* must be equivalent to less than 2 NARIC tariff points.

By saying that, however, a problem arises - For holders of *Qualification X*, a score of 4 is the minimum entrance requirement for UK universities, we are losing the percentage of the population that achieve a grade of 5 – we are in fact stating that ***“it must be the case that 99.48% of the population who take Qualification X achieve a grade of 4 or higher”***.¹⁰

See [Dig. 3] below for further clarification.

¹⁰ The reasons as to why there is a greater percentage that fail *Qualification X* compared to the number that fail A-levels could be great, but we are taking the viewpoint that if one country has a higher rate of failure, it is due to the fact that the process of selecting and 'weaning' students who are suitable to take a particular overseas qualification is not as strict as it is for A-levels. The reason that the percentage of fails for A-levels are so low is due to the fact that students are often advised to take alternative exams if it is thought that they are unsuitable for A-levels.

[Dig. 3]



As illustrated in [Dig. 3], by removing the percentage of students who achieved a score of 5 in *Qualification X*, the highest achievable grade (in this instance by about 2 or 3 NARIC tariff points from AAA to ABB/BBB) would have been lowered, which challenges the general statement that “*Qualification X* is considered comparable to the overall GCE Advanced / Scottish Advanced Higher standard”.

Different countries’ education systems have different percentages of students who fail. By comparing two qualifications where different percentages of students achieve a passing grade, we end up lowering the highest possible grades in one of the qualifications. This means that if a student in one country fails the qualification granting them access into university within the national system, he/she will not be able to enter higher education in the UK.

By removing the fail grade ‘5’ of *Qualification X*, the number of students falls by 10%. Using the constant 99.48 from the base data, it is possible to divide the total percentage of students who achieve the minimum required A-level grades (99.48) by the total percentage of students who pass *Qualification X* (90). See [Dig. 4].

[Dig. 4]

$$\frac{99.48}{90} = 1.1053333\dots$$

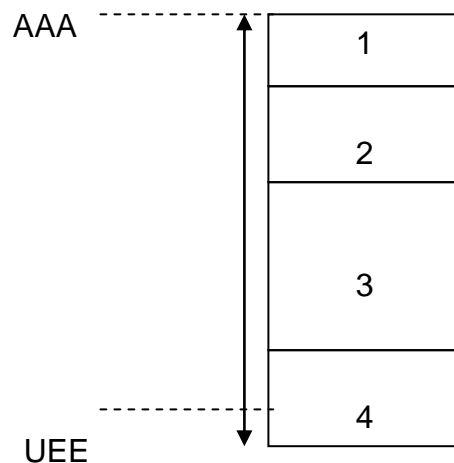
Taking this number and multiply it by each of the remaining percentages in *Qualification X*'s grade distribution, each of the grade boundaries is shifted up by an equal amount enabling the minimum score to be equivalent to the A-level grades UEE, and the maximum score to be equivalent to AAA. See [Table 4].

[Table 4]

Result	Grade Distribution	Cumulative Grad. Distribution	Amended Cum. Grad. Distribution
1	5	5	5.5266666666
2	25	30	33.1599999999
3	40	70	77.3733333333
4	20	90	99.48

If we map these new results onto [Dig. 2], we get [Dig. 5].

[Dig. 5]



By following this method we are adhering to what has been established in International Comparisons¹¹ but it also means that students with failing grades from one country 'lose access' to UK universities. Although this case study focussed on the UK example, the principal of 'grade stretching' is equally applicable to other relevant non-UK awards.

Appendix 3 – UK NARIC Tariff Points

¹¹ International Comparisons is an internet publication, produced by the UK NARIC that provides detailed information about different education systems from around the world. It also contains detailed comparisons of overseas qualifications to UK qualifications.

In order to compare grades between qualifications culminating with single and multiple grades, UIK NARIC has devised a system to calculate multiple grades (such as A Levels) as a single score, ready to be compared to other awards graded single final mark.

In this sense, the system bears close resemblance to the older university admission offer system, where points were assigned to each grade and a total calculated along the following lines:

A	=	10
B	=	8
C	=	6
D	=	4
E	=	2
U/N	=	0

It is, therefore, possible to calculate a NARIC Points Score for any A Level candidate that will range from 0 (in the unlikely event of complete failure) to 4 points representing two grade Es (the formal minimum requirement for entry to UK universities) to 30 points for candidates achieving 3 grade As¹². These scores can subsequently be converted into overseas systems using the NARIC Grading Transfer System.

For users choosing England, Wales and Northern Ireland Access to H.E. Award as an option, the grade from the country of origin will be compared to A Levels, as converted into a NARIC Tariff Point Score. This system will provide a general picture of achievement; for instance 24 NARIC Points suggests a level of achievement comparable to three grade Bs, although in reality the candidates actual performance may of course be less consistent and perhaps more accurately compared to a grade combination of AEC, with a candidate showing a particular strengths and weaknesses in different areas of study – transcripts should therefore, as ever, be examined to confirm consistency of achievement.

The NARIC Points Tariff starts from the assumption that since a single A Level of any grade is unlikely to lead to higher education entry, basing the performance distribution analysis simply on a breakdown of the probability of attaining each subject grade individually is of little use. Therefore, the system is based upon using the proportion of students gaining individual grades to calculate the probabilities of achieving every grade combination by any one student. This is done by converting combinations of grades into a score out of 30 on the UK NARIC Points Tariff to ascertain a percentile rank.

The theory of calculation is based upon any one student being mutually exclusive to the next and also that each subject taken is again mutually exclusive to the

¹² If students take more than 3 A Levels often only the 3 highest grades, or the most relevant subjects for the desired course of study are usually taken into account.

next. This enables the grade percentages to be converted to probabilities. The total probability of a student's NARIC tariff can be calculated using this formula:

$$P(s) = p(A1, A2, A3)$$

Where: $p(A1)$ = the probability of the grade of the 1st A Level subject

$P(A2)$ = the probability of the grade of the 2nd A Level subject

$P(A3)$ = the probability of the grade of the 3rd A Level subject

These are calculated by multiplying the individual grade probabilities. Each of the 216 combinations has been calculated.

Table 2: Probabilities for NARIC Tariff Points:

NARIC Tariff Points	Typical A Level Grade Combination	Distribution Of Grades
30	AAA	0.011239
28	AAB	0.035224
26	ABB	0.071719
24	BBB	0.112118
22	BBC	0.143617
20	BCC	0.156996
18	CCC	0.147877
16	CCD	0.122088
14	CDD	0.088498
12	DDD	0.056231
10	DDE	0.031164
8	DEE	0.014826
6	EEE	0.005961
4	EEU	0.001923
2	EUU	0.000456
0	UUU	0.000064