1. THE SCOPE OF THIS STUDY

As agreed with those in charge of the OECD-IMHE project, this response presented by the Université Louis Pasteur (ULP) will not describe national policies for the assessment of the French higher education system. It was agreed that the National Evaluation Committee (Comité National d’Évaluation, CNE) would be responsible for this aspect of the response, which will therefore be prepared jointly with the French universities participating in this project. This paper will present a comprehensive overview of assessment as it is perceived by the ULP and will describe its objectives and how it is used within the university.

2. THE MAIN CHARACTERISTICS OF THE ULP

The Université Louis Pasteur comprises 17 separate institutional components (i.e. schools, education/training and research units, an “observatory” and various institutes), in which some 18,000 students are enrolled. Its human resources consist of some 1,400 teaching/research staff and 1,100 support staff (technical and administrative staff). The university’s researchers work in close co-operation with researchers in the major national research bodies, such as the National Centre for Scientific Research (CNRS), the National Institute for Health and Medical Research (INSERM), in over a hundred laboratories grouped together into 18 federations according to research fields. The ULP has 6 campuses and a total of 78 buildings.

A broad range of subjects are taught in the fields of medical science (medicine, dentistry, pharmacy) and the exact sciences (mathematics, computer science, physics, chemistry, life sciences, geology, geophysics, astronomy, technology). The only human and social sciences taught are economics and management, geography, psychology and educational sciences.

This range of subjects makes it possible to offer a variety of courses, which lead to the Diploma of General University Studies (Diplôme d’études universitaires générales or DEUG), Bachelor (Licence) and Master’s Degrees (Maîtrise), the Master’s of Science and Technology (Maîtrise de Sciences et Techniques, MST), the Master’s of Management Sciences (Maîtrise de Sciences de Gestion, MSG), the Post-Graduate Diplomas of Specialised Higher Studies (Diplôme d’études Supérieures Spécialisées, DESS) and of Advanced Studies (Diplôme d’études approfondies, DEA). There are also four engineering schools specialising in physics, biotechnology, chemistry and geophysics and a University Institute of Technology (Institut Universitaire de Technologie, IUT), which has five departments, and two Vocationally-oriented University Institutes (Instituts Universitaires...
Professionalisés, IUP). Lastly, approximately 30 per cent of students are enrolled in medical science programmes.

All of these programmes are backed up by highly developed basic research. This research, which is recognised internationally, is carried out in some 60 research units affiliated with the CNRS or the INSERM. Its researchers have received numerous national and international scientific prizes, including the Nobel Prize for Chemistry awarded to Jean-Marie Lehn in 1987. Ten of the university’s researchers are members of the Institut Universitaire de France (IUF) and eight are members of the Academy of Sciences.

3. A PRIVILEGED LOCATION IN EUROPE

The ULP is located in the heart of the Rhine valley, which links it directly with Germany and Switzerland, and is part of a tightly woven network of universities and research centres. It belongs to the Confederation of Universities of the Upper Rhine (EUCOR), comprising the three universities located in Strasbourg, the University of Mulhouse and the Universities of Basle, Karlsruhe and Freiburg.

At the regional level, it is a member of the first European University Pole created in France, which since 1991 has associated Strasbourg’s universities with the three levels of regional and local government (the département, the region and the Strasbourg Urban Community).

The ULP is located in a city that has a European dimension, as is attested to by the presence of the Council of Europe and a number of European institutions. Moreover, Strasbourg is near to the Benelux countries and Italy and is a gateway to the countries of Eastern Europe.

Furthermore, the ULP has a significant international dimension both in the field of research and education (14 per cent of all students enrolled, including 25 per cent of postgraduate students, are foreign; 101 nationalities are represented; 25 per cent of professors hired between 1991 and 1994 were foreign; 79 agreements have been signed with foreign institutions; and there are 34 programmes under ERASMUS agreements).

4. THE ULP AND ASSESSMENT

One of the distinctive features of the ULP is the quantity of basic research carried out, which makes it one of France’s leading scientific and medical universities. As a result, the university’s teaching/research staff are primarily evaluated on the basis of the rigorous and regular assessment of their research by various national (CNRS, INSERM) and international bodies. However, this type of assessment only takes into account one of the university’s missions, neglecting its educational mission, which is equally important in a higher education institution.

It is also true that research is only assessed in a fragmentary way, either at the level of a research team or laboratory or of individual researchers as part of their career development, an approach that largely overlooks the concept of an institutional policy.

1. An institute composed of academics who have received special support from the Ministry to develop their research activity.
Over the past decade, a number of factors have led to rapid changes in universities, such as the sharp rise in student enrolments, the diversification of programmes, the demand for vocationally-oriented training and changing pedagogical practices due to the development of multimedia and new communications techniques.

At the same time, the policy of contracts between the central government and the universities, which has given them a new autonomy, and the relations established between the universities and their socio-economic environment have been decisive factors that have led the various partners, prompted by difficult economic circumstances, to set up systems of planning and assessment adapted to their specific problems. The creation of the National Evaluation Committee (Comité National d’Évaluation, CNE) at the central government level is an example of this trend.

These developments have also led to the emergence of new responsibilities within universities. To the traditional academic missions of teaching and research must now be added the responsibility of manager-administrator which is carried out by a certain number of academics involved in the management of the university. It is obvious that these new managers need planning tools to guide them in decision-making. With this in mind, the ULP has tried to use existing assessment systems while at the same time developing the new systems required to tackle problems as they arise.

What is more, other developments have increased the need for assessment, such as the university’s growing international openness and student mobility, the practice of validating acquired skills and the growth of continuing training, all of which mean that universities are in fact competing with each other.

In order to have the indispensable planning tools for decision-making and for developing institutional policy and to have information that will enable it to see where it stands in relation to its national and international competitors, the ULP has gradually developed its quality assessment policy by combining self-evaluation with external assessment procedures carried out by outside public or private bodies. The indicators collected through these assessments are also valuable for the process of negotiating the four-year contract that defines the contractual relations between the Ministry and the university and determines for the next four years the number of posts and the financial resources provided by the central government based on the policy proposed by the university. The process of preparing this contract also provides an opportunity for stock-taking, which is a necessary step for working out this policy.

5. EXTERNAL ASSESSMENT

The ULP believes that it can only obtain an overview of the way it works by looking at a broad range of evaluations. Various kinds of external assessment can contribute to this multifaceted approach, which is aimed at assessing the relevance of the choices it has made and the quality of its teaching and research:

− assessment by nationally recognised bodies such as the National Evaluation Committee, the Costs Observatory (Observatoire des Coûts), the Court of Auditors (Cour des Comptes) or the Inspection Générale des Finances for institutional, management or accounting aspects;
− assessment carried out at the request of the university to provide information on a specific aspect of its functioning;

− the statutory evaluations which govern the institution’s relations with its supervisory authorities in all fields of its activity.

5.1. National Evaluation Committee (CNE)

Assessment by the CNE is based on the principle of “peer evaluation”, which enables it to assess higher education institutions’ education policy within each discipline and unit. Practices and outcomes are analysed in discussions between evaluators and their colleagues. With the adoption in 1994 of the principle of returning to institutions already evaluated previously, the CNE has made it even more necessary for universities to carry out their own internal assessment prior to its evaluation.

The ULP was the first university to be evaluated by the CNE in 1985. It was also one of the few universities to have been evaluated for a second time, in 1994, at its own request.

Without entering into the details of these two evaluations, we can assess their impact on university policies over the past 10 years by comparing the evaluations and recommendations made in the CNE’s reports. Thus, the first evaluation, which was positive on the whole, nevertheless called attention to the following:

− inadequate “self-knowledge” on the part of the university and its different components: it recommended establishing monitoring procedures;

− the diversification and fragmentation of the library system, which was divided into 78 libraries: it recommended implementing a comprehensive library policy;

− the excellence of teaching in the postgraduate cycle and the shortcomings of the other cycles, with emphasis on the lack of performance indicators, especially as regards graduate employment;

− the ULP’s international standing in the field of basic research, compared with its scant local impact on its immediate environment.

This evaluation led the university to take the following steps:

− to implement gradually the indicators necessary for management and to reorganise various aspects of the university with a view to improving its functioning;

− to undertake a major effort to reorganise curriculum and to develop and diversify programmes, especially those leading to vocationally-oriented diplomas, and to conduct surveys on graduate employment;

− to promote initiatives with enterprises by developing ULP-Industrie, which is in charge of managing contracts with the private sector;
to create the Common Documentation Service (SCD), which co-ordinates all of the ULP’s library resources.

It was therefore natural that the second evaluation by the CNE carried out in 1994 at the request of the ULP was used an opportunity to assess the progress made and to identify new directions of development.

Governance of the ULP, library policy and efforts to introduce vocationally-oriented curriculum and to develop 1st (two first years of university studies) and 2nd (next two years of university studies) cycle programmes were examined in the light of the action taken in response to the first evaluation. Special emphasis was placed on the organisation of research, the ULP’s relations with its socio-economic environment and the linkages between training-research-technological transfers, and new recommendations were made that would be of assistance in preparing the 1997-2000 four-year contract between the university and the Ministry.

The CNE assessment provided an opportunity to undertake a particularly beneficial process of self-evaluation. Contacts with the evaluators also made it possible to assess the ULP’s standing nation-wide as regards its specific characteristics and strengths and weakness. Lastly, it was a chance to distinguish between the difficulties and poor performance for which the university is responsible and those that are due to external causes.

The conclusions of the ULP’s President in response to the 1994 report shed interesting light on the different aspects of the evaluation conducted by the CNE:

“The visit of some of our evaluators was, I sincerely believe, too brief; more in-depth exchanges of views would no doubt have been desirable to clear up certain appraisals and inaccuracies and would have made it possible to avoid some misunderstandings. But this is only a minor problem, for many of the Committee’s questions, conclusions and recommendations now enable us better to set the course for future action.”

One of the more prominent recommendations made was the development of a monitoring system for the planning of the ULP, which all concerned recognise as being a highly complex task.

Thus, through assessment by evaluators thoroughly familiar with the university system, the CNE provides universities with information that allows them to make comparison and prompts them to launch initiatives that are some times difficult to undertake without objective encouragement from outside bodies, as well as providing them with an opportunity to benefit from their own self-evaluation.

Through regular evaluations, the CNE provides a dynamic vision of institutional policy and issues recommendations rather than analysing outcomes at a specific moment in time based on a “quality assessment” approach as this is sometimes currently understood.

5.2. The Costs Observatory for Higher Education (l’Observatoire des Coûts de l’Enseignement Supérieur)

The Costs Observatory for Higher Education is a national body that audits higher education costs on a per student basis; it reviews an institution’s practices in all areas of initial education and training from an economic standpoint. Its goal is to determine in conjunction with the university the full cost
of a year of education and training and to identify the parameters that affect these costs, such as the number of students, the nature and organisation of curriculum, the variety of options available, the quality of teaching facilities, the size of staff and its distribution in different categories (teachers, administrators, technical staff).

The Costs Observatory’s study of the ULP, which reported a consolidated budget of FF 357 million, of which 72 per cent is devoted to the remuneration of teaching staff, showed that operating costs and pedagogical investments account for less than 10 per cent of this budget. It determined that the average cost per student is FF 23 600, with major differences across programmes, ranging from approximately FF 5 000 in the 1st two years of human sciences to FF 100 000 in the 5th year of dentistry.

Unlike the recent evaluation by the CNE, the analysis of the Costs Observatory gives a snapshot of the current state of the management of its programmes. The survey findings show the budgetary consequences of policy choices regarding the organisation of education and training supply and provide figures that can be used as a basis for changing pedagogical practices and developing an overall strategy. These findings can also be used as tools for defining criteria for the distribution of resources within the institution and provide the university with arguments it can use in its negotiations with various partners to obtain additional operating resources.

6. EXTERNAL ASSESSMENTS INITIATED BY THE ULP

In the recent past, when difficulties of all kinds have arisen in the operating of a unit, a laboratory or a centralised service, the university has made use of various types of external assessment to provide its administrators with the information they need for decision-making.

Accounting firms have been asked to carry out audits for problems of financial management or organisation (an audit of this kind was conducted for the Vocationally-oriented Institute for Sciences and Technology), scientists recognised nationally and even internationally have been called upon for issues directly related to education or research (electronics, psychology) and inspectors from national bodies such as the Inspection Générale de l’Administration or the Cour des Comptes have been asked to give specific opinions on various sectors of the university in which changes seemed necessary.

As an example, we can mention the case of an education/training and research unit in which uncontrolled development had rapidly led to serious difficulties in terms of the quality of curriculum and misgivings on the part of the university’s scientific community, to which were added major problems of organisation and management. Following a scientific assessment the university had requested at the time of the CNE’s visit in 1994, and after an external audit conducted by an accounting firm asked to examine problems of financial management, the university was able, based on these conclusions, to ensure that resources were used more judiciously by seeing that the unit in question set curriculum priorities and reduced education and training supply accordingly and that it implemented a policy of recruitment and pedagogical facilities that would ensure that the curriculum chosen would be of high quality. This policy made it possible to agree upon and achieve the objective set over a three-year period.

By a similar process, the conclusions of an assessment carried out by the Inspection Générale de l’Administration de l’Éducation Nationale led the university to consider closing down a school that was undergoing a serious crisis that was detrimental to education and research. Ultimately, this unit
was merged into a larger structure that now combines three formerly independent programmes for training engineers in a single school.

In most cases these different appraisals have produced positive results over a period of time that has varied depending on the complexity of the problems to be solved. They have resulted in institutional restructuring of the university (creation of new units, reorganising existing structures), development of new programmes and improvement of existing ones through recruitment and investment policies and have underscored the growing role of the university’s management team and its need for planning tools.

7. INTERNAL EVALUATIONS

Although research activity is traditionally evaluated on a more or less ongoing basis through the assessment to which its scientific output is subject (publications, research contracts, prizes, medals and distinctions, etc.), the evaluation of activities linked to the university’s other missions has long been neglected.

The access to the university of a large and highly diverse public with very different expectations of what they stand to gain from a university education has created new requirements for teachers. At present, it remains difficult to assess how effectively teachers have responded to this demand within the French university system, even though significant progress has been made in making non-research activities more crucial to the career development of teacher-researchers. Consequently, assessments and stock-taking of the education provided in universities and monitoring of student progress through the system have increasingly become a priority: for the supervisory authorities, because such assessments justify policy choices, plans for the future and the use of the resources granted; as elements of individual or collective evaluations (student surveys); for institutions, where assessment is aimed at improving the quality of teaching and providing criteria for teachers’ career development; for student information and guidance (completion rates, student progress through the system, graduate employment, etc.); and as an indicator of a university’s performance with respect to the mobility of its students and graduates.

It was in this perspective that the ULP undertook to develop its assessment tools in keeping with a growing world-wide trend.

7.1. Student surveys

In 1990, the university began to develop questionnaires to be distributed to students so that they could evaluate courses. After thought had been given to how these questionnaires would be used, an initial experiment was imposed on teachers in three units that had “volunteered”. The difficulties encountered at that time (1991) led most of the teachers involved to conclude that this procedure was a not relevant one, since they more readily saw the pitfalls and the dangers than the positive aspects.

Nevertheless, the ULP decided to continue this process, drawing on the experience gained in the initial survey. Following discussions, the questionnaires were revised and processing procedures simplified so that the surveys would be a flexible tool that would provide results rapidly. These surveys are currently presented as a tool for evaluation and dialogue with students, which teachers are free to use or not at their own discretion (questionnaires are anonymous, neither individual units nor the university knowing students’ names).
Some one hundred teachers have been using these questionnaires for the past two years and, despite the interest of these surveys, it has not been deemed appropriate to go beyond this voluntary procedure for obtaining feedback from students and improving teaching.

The difficulties involved in imposing this type of evaluation on teachers, and above all in convincing them to accept it as a relevant and objective factor for their career development in the current national context, has led the ULP to propose an evaluation that covers the course work leading to a diploma more comprehensively. The questionnaires designed for this purpose aim at obtaining quantitative information on how students perceive the education and training they receive and on the setting in which it takes place. This approach tends to encourage pedagogical dialogue among teachers and to provide information on which those responsible for training can base the steps taken to improve the quality of teaching and the conditions in which students learn.

From a methodological standpoint, the result of the evaluation of each diploma will be made available to the managers of units and of the university as a whole. The regular monitoring of each programme should make it possible to assess progress at all levels and to adjust university policy accordingly.

7.1.1. Monitoring internal cohorts

Completion rates are one of the key statistics considered by students who wish to enrol in a university programme. However, it should be said that a rapid evaluation that consists simply of comparing each year the number of diplomas granted with the number of students enrolled gives only very rough indications, which do not take into account the diversity of students’ backgrounds or absence rates, which vary significantly across streams, and says nothing of the time required to obtain diplomas.

It was for this purpose that the ULP procured software enabling it to monitor cohorts, and its initial use for the DEUG in sciences has provided a great deal of interesting information. Use of this software is currently being extended, with the ultimate goal of monitoring entering students from the 1st two years through the post-graduate cycle in all different fields of study.

This software made it possible to evaluate over a period of seven years the completion rate, the time taken to obtain a diploma, drop-out rates and the number of students crossing over to different programmes in the DEUG in sciences. A detailed analysis of the results also makes it possible to assess the impact of new organisational or pedagogical measures on completion rates.

7.2. Graduate employment: follow-up of ULP graduates

The follow-up of graduates of the university and of graduate employment is designed to supplement the information provided by the study of students’ internal progress through the university. However, the approach used in the surveys conducted by the ULP only provides statistical results, even though response rates are high and are representative of the populations concerned.

Thus, since 1991, various surveys have been conducted on graduates in various fields (economic sciences, life and earth sciences, physical sciences, psychology, educational sciences) or at certain educational levels (1st two years of sciences).

These surveys are analysed in detail and a synthesis of the results is presented to the university councils and is widely disseminated in order to provide information to students and to various
guidance and counselling bodies. The results of these surveys provide interesting information that is useful in determining education and training supply. For example, the development of DESS diplomas in psychology currently under way was prompted by the results of the recent survey conducted in this field.

7.3. Evaluation and a monitoring system

The ULP has set a goal of creating a monitoring system that will enable it to monitor regularly developments in its activities and management. As regards education programmes, earlier studies are being supplemented with data currently being collected on staffing ratios by discipline and by diploma, on the distribution of additional pay by category of staff, etc. These data are valuable tools used in teacher recruitment policy and by commissions responsible for reviewing the job applications submitted to the ULP by each unit. They also make it possible to assess the percentage of courses taught by outside staff and the extent to which training is becoming more vocationally oriented.

Similarly, the policy of validating acquired skills is assessed by evaluating the number, origin and academic performance of students admitted on the basis of their experience rather than their academic qualifications.


Since 1991, higher education institutions have been asked to prepare a four-year development plan which is the basis for a contract between each university and the ministerial supervisory authorities regarding everything related to the operation of the university -- teaching, research, student life and international relations.

The preparation and negotiation of this contract is a crucial time for defining university policy towards which all the university’s other evaluation processes converge. This type of contract also complements various national development plans such as “University 2000”, which concerns the construction of premises, “Strasbourg, European City” and “State-Region” planning contracts.

The preparation phase of the four-year contract, during which a document is prepared that presents developments within the university over the past four years, its current situation and its objectives for the coming four years, is in itself a time for carrying out an intensive internal evaluation on which negotiations will be based. In turn, the Ministry’s response represents an external evaluation of the institutional plan.

During this period, both the organisation and the pedagogical objectives of the various programmes offered are re-examined, as well as the results achieved in terms of completion rates and graduate employment for vocationally-oriented diplomas, including for doctorates. Similarly, there is an assessment of the organisation of research teams and the recognition that their scientific work has achieved, which constitutes a kind of accreditation by the Ministry and/or the CNRS or INSERM and which will affect the amount of resources allocated.

There are also discussions of staff resources (teachers, technical and administrative staff), financial resources and the need for premises; the results of the negotiation are in fact the tangible outcome of the comprehensive evaluation of the university.
Concretely, the stock-taking carried out by the ULP while preparing the 1997-2000 contract showed that there had been major developments because of a rapid increase in student enrolments, the university’s participation in land use planning policy that led to the creation of new campuses within the Urban Community of Strasbourg and the surrounding region and to the implementation of numerous bilateral partnerships (University Hospitals of Strasbourg, International Space University) or partnerships within co-operative bodies combining a number of institutions (the Confederation of Universities of the Upper Rhine, the European University Pole of Strasbourg).

8.1. The changing internal organisation of the university

The internal organisation of the university has changed considerably, in particular based on the recommendations of the CNE: in 1991, the former Education/Training and Research Unit of Materials Sciences was split into the Education/Training and Research Unit of Physical Sciences and the Faculty of Chemistry; the Vocational Institute of Sciences and Technologies was created in response to demand for the development of vocationally-oriented training and the opening up of the university to different socio-economic groups; in 1995, the European School of Chemistry, Polymers and Materials was created by reorganising the three existing streams based on the results of the assessment of one of these streams by the Inspection Générale de l’Administration et de l’Éducation Nationale; in 1996, the School and Observatory for Geophysics and the Education/Training and Research Unit for Life and Earth Sciences became the School and Observatory for Earth Sciences and the Faculty of Life Sciences based on a recommendation by the CNE dating from 1986; and some 100 laboratories were reorganised into 18 research federations.

These institutional changes carried out based on data provided by various evaluations reflect the ULP’s determination to adapt the organisation of the university to educational needs based on the changes that have taken place in academic fields and, primarily as regards research, to reorganise the various units in the light of interdisciplinary developments.

As regards education programmes, the response to demand for vocational programmes was also reflected by a significant increase in the staff of the Louis Pasteur IUT (University Institute of Technology), the opening of two new departments and the creation of two vocationally-oriented university institutes (IUP) and a number of new post-graduate diplomas of specialised higher studies (DESS).

8.2. Developing a library policy

Based on the comments made by the CNE in 1986, the Common Documentation Service was set up in 1992, which was based on a genuine university library plan, as was emphasised in the self-evaluation report of 1993 and the second CNE evaluation. The policy implemented in this field led to a significant increase in the surface area of libraries, the computerisation and network interconnection of library resources, which are one of the major resources that determine the quality of the conditions in which students, teachers and researchers learn and work.

8.3. Employment and staff policy

The various evaluations have also made it possible for the university to better understand the paramount importance of its human resources, as well as the need for forward management and
long-term policies in this regard. In particular, it has led to the creation of an employment committee responsible for reviewing the relevance of the job applications of teacher-researchers in the light of the various indicators developed inside the university and education/training and research policies.

At the same time, a coherent policy of internal staff promotion, however modest it may be, appears to be essential and requires not only defining criteria but also procedures that make it possible to assess to what extent staff members meet these criteria. Under the current staff management system, however, this policy has shown its limitations and can generate unwanted effects since, because of insufficient autonomy in this area, it is sometimes difficult to reward recognised achievement and to penalise obvious dysfunctions.

9. CONCLUSION

These examples of the interaction between evaluation and institutional policy, which are by no means exhaustive, can enable us to draw certain conclusions. The ULP holds the view that only a combination of a variety of independent evaluations and many indicators can provide the information that a management team needs to guide its choices and identify the directions in which the university should develop. These evaluations have little real meaning unless they provide a dynamic vision of the university and are accompanied by a vision of the future.

At the same time, the very number of surveys and evaluation procedures can discredit a process that was initially considered to be positive unless certain pitfalls are avoided:

- allowing too much time to elapse between the time when data are collected and the results are analysed, which means that they are outdated and no longer relevant;
- failure to provide feedback to those evaluated;
- failure to produce tangible results, which means that there must be internal means of taking action that is consistent with evaluation results.

Returning to the example of the evaluation of courses by students, it is clear that as long as the criteria used to determine the career progression of teacher-researchers are primarily based on their research activities, there will continue to be scepticism about any evaluation of this kind, unless all concerned perceive that these evaluations, whatever their conclusions, have an impact on teachers’ performance. Despite recent regulatory provisions that give a certain autonomy to universities in terms of internal promotion, there will only be a strong relation between evaluation and the quality of teaching if there is a coherent policy on the part of the Ministry and within institutions that gives recognition to high quality teaching.

Be this as it may, the ULP approaches the various kinds of evaluation as an aspect of planning aimed at ensuring the overall quality of its teaching and research. The concept of quality can of course be understood in different ways, but in all cases standards of reference and elements of comparison must be defined. Once this has been done, it is possible to question the relevance of the standards chosen, their continuing validity given the rapid changes taking place in universities and their environment, the scale to which they are applied and the criteria used to define them -- by whom and with what purpose in mind?
Can a “label of quality”, which is easily defined for a manufactured product, be established for a process as lengthy and varied as the education of students, whose goals, future careers, knowledge and skills acquired vary tremendously from one individual to the next? In attempting to define quality indicators and standards, must one not always bear in mind the diversity of students, the multiplicity of the university’s missions and the value of each university’s individual characteristics?