Revista Electrónica de Investigación Educativa

Vol. 8, No. 1, 2006

The European University System as a Possible Model for Higher Education in Latin America

El sistema universitario europeo como modelo posible para la educación superior latinoamericana

Antonio Fraile Aranda
afraile@mpc.uva.es
Facultad de Educación y Trabajo Social
Didáctica de la Expresión Corporal
Universidad de Valladolid

Paseo Belén, 1
47011, Valladolid, España

Abstract

In recent years, the European Union has been developing the European Higher Education Area, with the objective of coordinating and homogenizing the policies that regulate the creation and organization of credits and degrees in higher education. In this communication the new proposals for the renovation of the European university are presented for the purpose of analyzing them from a Latin American perspective.

Key words: Educational reform, European Union, European Higher Education Area, equivalences between degrees.

Resumen

En los últimos años, en la Unión Europea se ha venido desarrollando el Espacio Europeo de Enseñanza Superior, con el objetivo de coordinar y homogeneizar las políticas que regulan la creación y organización de los créditos y titulaciones de los estudios superiores. En esta comunicación se presentan las nuevas propuestas de renovación en la universidad europea, con el fin de que puedan analizarse desde el escenario latinoamericano.

Palabras claves: Reforma educativa, Unión Europea, Espacio Europeo de Enseñanza Superior, homologación profesional.

Introduction

In the 1996 Organization for Economic Cooperation and Development (OECD) report on education, it was stated that the rapidly-changing economy and technology could render useless the training aimed exclusively toward the professional level, because the development of knowledge and the companies' own self-transformation were making obsolete the content transmitted in academic institutions (from primary school to university). Consequently, thought should be given to a new teaching model that would train the student and permit him* to acquire learning processes which would be useful throughout his life.

Based on this report and others from the European Union, there an obvious need to coordinate the legislative policies of its member states on issues related to citizens' economic and social welfare. During the last decade, that concern has spread to the field of education, and especially to that of higher education. Given this, the various countries involved have begun to take steps toward reforming the structure and organization of university education through the development of the European Higher Education Area (EHEA).[1]

With the Sorbonne Declaration in 1998, there appeared for the first time a willingness to promote a *Europe of knowledge*, for the purpose of enabling the quality of higher education to help citizens not only to become more competitive in the international market, but to improve their quality of life, as a recuperation of society's welfare.

This requires that in the EHEA there be developed policies intended to improve students' education and training. Thus, higher education must be addressed from a multidisciplinary scientific viewpoint, which would connect the needs of learners with constantly-changing social environments. It must also design an academic

---

* Translator's note: Before the feminist movement arose, in situations including both genders it was customary to use the masculine pronoun. Today, however, pronouns of both genders are used to avoid what is now seen as sexist language. To avoid the awkwardness of a continual repetition of such forms as "s/he", "his/her", in this paper we shall sometimes use the feminine pronoun, and sometimes the masculine.

curriculum in line with the new competencies necessary for the evolution of our society.

The increase of technological systems and the creation of new social patterns are producing new habits and customs among the people. These have an ever-increasing and direct effect on the field of education. To do this, from the university standpoint, teachers concerned about knowing how to respond to these changes should not only amend the content or introduce new subject matter, but should also design procedure principles to make possible a teaching performance more appropriate for these requirements.

Furthermore, these social changes determine that we must know how to use new teaching strategies so as to perform more effectively in the classroom and to improve our relationship with students, since the role of education is not only to transmit knowledge tailored to the exigencies of the new society, but also to generate a kind of democratic relationship that would assist students toward a higher humanistic development, as future citizens of a *global village.*

One of the changes presented to us by the policy of educational renewal in this European environment, is the introduction of the e*uropean credit* as a unit of academic achievement, which contemplates the overall volume of work students must do in their studies. Therefore, the design of curricula and teaching programs will have as a new benchmark, the student's learning, and not just her hours in class.

It also highlights the need to include the European Diploma Supplement, which helps other universities and bodies toward an easier and more transparent recognition of the training students receive. Thus, the structure of lessons and degree levels will be more homogeneous, and will have a closer alignment with the European Union countries' ways of teaching and of conferring degrees. This will also promote students' mobility and integration into the labor market.

So that the basic principles emanating from European governments will take effect, the university should foster a democratic education, which would help students become more autonomous, responsible, and able to become involved in social construction. This task must be carried out by academic institutions where dialogue and deliberation processes are promoted, and where there is respect for ethical principles to facilitate democratic coexistence. Moreover, work should be done based on a curriculum developed from a critical perspective that would help students associate their academic learning with social problems (knowing how to find an application to everyday reality in the different contents) —an education where the dignified treatment of students would take precedence, and where teachers would facilitate decision-making based on equal participation.

Finally, one of the tasks some of the Spanish universities have been proposing, motivated by our closeness and brotherhood with the Latin American peoples, is to find formulas so that these advances arising on the European stage may be

developed in respect to the particularities of each a country, in these sister universities related by a common language and culture.

One of the initiatives, launched about ten years ago, was the creation of the Regional University Network Latin America (UREL Network**). We at the University of Valladolid, and particularly, our group of professors of the university's School of Education, are part of this network. Our intention is to design and implement, in collaboration with teachers from those universities, strategies for extending the advances which are being made in Europe, and specifically in Spain, with regard to the aspects we will be pointing out in this article. We trust that these suggestions may help other colleagues who are concerned about these educational advances.

I. Reformation of the Spanish university system

With the University Reform Law (LRU) of 1983, there was launched in Spain a more decentralized and diversified system. Specifically, the objectives of the Spanish university could be summarized in three main areas: the democratic organization of the university, its insertion in the social setting, and its scientific and educational modernization.

Also, based on that law, Spanish universities have undergone profound transformations related to: political and administrative decentralization; creation of new educational institutions; expansion and diversification of educational opportunities, both in official degrees and in their own degrees; increase in the number of higher-education students; empowerment and evaluation of research activity in universities; increased international mobility of university professors and students; and the development of plans for evaluation and quality improvement, in which most the universities have participated.

However, to move forward in this day and age, and to meet the new challenges posed by the agreements between European universities, new innovation policies are needed for generating and transmitting new knowledge. Contemporary society requires modifications in the traditional forms of training, production and communication of information.   The citizens' welfare, the dynamism of the economy, and the improvement in democratic participation will depend largely on how societies will assimilate these changes and embrace the social adaptations involved.

One of the challenges of the university for the coming years is how to reconcile the social dimension of public service, open to the entire society, with the quality requirements of the business sector (private sector). For that, it is necessary to adapt the university to the diversification of social demands, offering a higher

---

** For ease of reference, where the names of organizations have been translated from the Spanish, their acronyms have been retained as given in that language.   In the case of international organizations which have commonly-used acronyms in English, those acronyms have been used.

quality of teaching and research. Specifically, it has to do with solving a set of problems existing in the European context, including:

- An overly-broad catalog of degrees.
- Great heterogeneity in the design of programs relating to content, number of credits, distribution schedule, and so on.
- Lack of a clear definition of professional profiles.
- Excessive length of study cycles.
- Lack of recognition and standardization of some degrees at a European level.

For all these, it is necessary for universities to review their structures and patterns of operation. They should also address the reform of curricula and the educational practices of their teachers, as well as make use of continuous assessment processes leading to the adaptation of these programs to social demands, and to the improvement of classroom performance.

In this regard, De Miguel (1995, p. 64) has found that:

> Among the factors hindering the assessment of decision-making processes and organizational change at the university are the high number of anarchistic teachers; the lack of experience in senior management; the lack of clarity and lack of consensus concerning goals; the inadequate information systems; and the limited experience in evaluation processes as well as the difficulty of measuring results.

From a critical perspective, to resolve the issues we have mentioned, there would have to be included other key dimensions of teachers' professional activity in teaching and training, collected by Giroux (1987), such as the need to act as transformative intellectuals with regard to each day's reality. This idea is concretized by Flecha (1998), who considers considering that teaching should have social consequences related with students' lives and with society in general; i.e., with the need for our teaching activity to have an active impact on our immediate social environment, although for that, the political powers that shape the various social and professional contexts sometimes have to be questioned.

On the other hand, the decline of demographic pressure in Spain will undoubtedly provide an excellent opportunity for a better utilization of human resources and materials (with a smaller number of students per class, the teacher can give more personal attention). However, this would be partially offset by all social levels' increased demand for access to higher education, and the need to meet the exigencies of lifelong education.

This demographic situation has been modified by the soaring upsurge in the number of immigrants (Latin American, Central European and African,) who have arrived in Europe and Spain in the last 10 years. This is making an important multicultural change in the school (students who in a few years will reach the university). Required, in turn, is the updating of instructors now teaching from a traditional Western cultural standpoint; these must learn to perform in class before a diverse student body.

It becomes necessary, therefore, to have a new concept of academic training, centered on student learning and a reevaluation of the university teacher's function; motivation must be encouraged by uniting efforts to improve academic quality.

Along these lines, Benedito, Ferrer and Ferreres (1995) propose didactic alternatives aimed at improving the conditions for better teaching performance:

- Modify the departmental organization of teams of teachers, with the object of acquiring a shared vision and a coordinated teaching methodology—especially among the teachers involved from different departments—regarding the students themselves.
- Reduce the size of groups/classes to avoid the overcrowding that exists in many classrooms, and thus facilitate the communication process between teacher and students.
- Increase media and technological and information didactic resources that would improve teaching performance.
- Organize class schedules and times, according to pedagogical criteria and not the personal criteria of the teachers.
- Improve the structure and content of the tutorial system, providing that the time does not coincide with the classes, a situation which now makes student attendance difficult.

II. Changes in the European Higher Education Area

Like the rest of the socioeconomic and cultural aspects, the role of universities in Europe has evolved. While in the sixties and seventies the goal was to achieve greater equality and a better distribution of wealth among the citizens, thus favoring a university of the masses, with the advent of the eighties and the neoliberal model, countries put aside that idea of government service, and began to give priority to the demands of the market and the industrial society. Thus, in the new millennium, new formulas of relationship between political and academic powers are being sought, in the presence of internationalization, diversification of demand, and the invasion of new technologies (Michavila and Calvo, 1998).

The EHEA is a process that began with the Sorbonne Declaration (in 1998) and was amplified with the Bologna Accord (1999). In them, the European education ministers urged the member states of the European Union to develop and implement the following actions in their countries:

1. The establishment of a common system of credits to encourage the comparison of studies and promote the mobility of students and certified persons.

2. The adoption of a system of understandable and comparable degrees to promote job opportunities and the international competitiveness of European higher-education systems. To this end, two levels are established. The first-

level degree will be relevant to enter the European labor market and the second level leading to postgraduate degrees: master's or doctorates.

3. The promotion of mobility, with particular emphasis on access to studies from other European universities.

4. The promotion of European cooperation in quality assurance from based on comparable criteria and educational methodologies.

5. The promotion of the European dimension of higher education and in particular, curriculum development, institutional cooperation, mobility and integrated programs of study, training and research.

Later, in the Prague Communiqué (2001) a few extra lines were introduced:

- Learning throughout life, as an element essential to achieving greater European competitiveness, with the goal of improving social cohesion, equal opportunities and quality of life.
- The active role of universities, institutions of higher education, and students, in the development of the convergence process.
- The promotion of the attractiveness of the European Higher Education Area through the development of systems of quality assurance and mechanisms of certification and accreditation.

Finally, and as a commitment in the Bologna accord, it was agreed that these objectives should be achieved by the end of the first decade of the third millennium. Thus, a great many of the member states and European Union partners have been, with varying degrees of success, implementing the reforms necessary for the adaptation of national systems of higher education.

It is evident that the speed of implementation of such reforms cannot be the same for all, since the budget for these changes; the quality of teacher training; the availability of technological resources available in the respective universities; and the demands and concerns of the students, among other factors, determine that some countries or universities are more willing to change than others.

Thus, in some European universities, perhaps because of the commitment to begin the Bologna agreement quickly, a number of technical changes were decided upon. These changes, somewhat forced, assumed that all curricula were obligated to adopt the new European credits. This generated only an external type of change, with very little change in the fundamental aspects of the faculty's teaching performance. Furthermore, it has also been assumed that teachers of these universities would continue their lectures—classes with large numbers of students—with the same evaluation methods (final examinations). That is, the institutions have only had their faces washed, by means of symbolic modifications such as changes in the value of credits: 10 hours per credit, changing to 30 hours per credit, with no further methodological adjustment.

In some Spanish universities with more resources and prestige, during the last two years there have been initiated processes of curricular experimentation, with the adjustment of the new credits, as well as diverse methodological actions in the classes.

In the case of the University of Valladolid, during the last academic year (2004-5), there was created a commission (to which I belong, representing the School of Education) in charge of managing the introduction of the new academic changes according to the Bologna-Declaration criteria.

Among the aspects being given priority so that the European universities can begin to put the agreements of the Bologna accord into effect, are the following: the European system of credits, the criteria for establishing first and second-level university degrees, the European supplement to the degree, and finally, academic accreditation systems for the quality of teaching. In order to show what constitutes each one, we will present them briefly.

2.1. The European Credit Transfer System

The European Credits Transfer System (ECTS) was created and developed, along with student mobility programs, to facilitate a system of equivalencies and recognition of studies done in other countries. This will allow the work a student does in any university in any one of the member states, to be recognized as to level, quality and relevance.

The European credit applies to an academic activity that integrates theoretical and practical teaching as well as other academic activities, and refers to the volume of work the student must perform to achieve the educational goals. In a word, this new measure must be focused on student learning—not the teacher's performance.

The ECTS system establishes 60 credits as the total workload for a full-time student during one academic year. Considering an academic activity of approximately 40 weeks per year and a workload of around 40 hours per week, the European credit provides a work volume of 25 to 30 hours (from 1,500 to 1,800 student work hours per year).

Schedules for each of the materials that make up the official degree curriculum must comply with the unit of measure which contemplates:

- Theory classes and practice. Preparation and conduct of examinations.
- Hours of study required by students.
- Assignments students must complete in order to achieve these subjects' educational objectives.

Moreover, the recognition of the teachers' performance should include not only class hours, but also the hours used for organizing, guiding and supervising students' work.

2.2. University degrees

Another aspect to be developed based on the Bologna accord is the need to harmonize university teaching: a first level for the conferment of a degree with professional qualification in the European labor market; and a second, for postgraduate level, with passing the first level as a prerequisite; this will make it possible to obtain the title of Master or Doctor.

2.2.1. The first level: the degree

The first level will yield the official title of Bachelor, Engineer or Architect. To obtain it, 240 European credits will be required.

This degree must be designed according to professional profiles from a national and European perspective, and with goals that must make explicit mention of the generic, transversal and specific competencies (the knowledge, skills, and abilities it is designed to achieve).

After the national government's Ministry of Education approves the general guidelines for each degree, universities will develop curricula, and obtain a preliminary favorable report from the pertinent Autonomous Community (regional governments). The universities will send these to the University Coordination Council for approval. Once the curriculum has been approved, again the national Ministry will approve such degrees so that the Autonomous Community may authorize their implementation. Finally, at the proper time, the university shall proceed to issue the degrees.

2.2.2. The second level: postgraduate degrees

The second level of university education, for which passing the first level is a prerequisite, will lead to obtaining the degree of Master or Doctor.

a) The Master's Degree. The educational objectives of the Master's Degree should be directed toward greater intellectual depth, enabling disciplinary and interdisciplinary academic development, scientific specialization, and orientation toward research or advanced professional training.

Obtaining a Master's Degree will require having completed from 60 (minimum) to 120 (maximum) European credits, based on previously-accredited research-oriented, scientific, or professional training for each of these postgraduate studies.

Furthermore, to obtain a Master's Degree the candidate must, in addition to having accumulated the required credits, pass an examination and/or present a joint or final work which will be defended before an academic synod.

b) The degree of Doctor. This training stage will consist in writing and defending a doctoral thesis, which must contain original research results.

To do this, students may apply for enrollment in a doctoral program in a university department or research institute, which is responsible for establishing the requirements for admission and prior training required.

The doctoral committee in charge in each university must approve and coordinate the doctoral studies. Before the thesis is authorized or not authorized for its defense, it will submitted for evaluation by two external reviewers (doctors of recognized prestige in the pertinent specialty or field, and unrelated to the university in which the defense will be made). In order for the defense to be valid, these reviewers will have issued a favorable report.

Currently, each Spanish university presents on its website the requirements and regulations that explain this type of academic procedure, so as to promote their dissemination among students.

2.3. The European Supplement to the degree

The primary objective of the European Supplement to the degree is to make the university degrees in Europe understandable and comparable, through academic and professional information relevant to society, the university and employers.

It has to do with establishing a unified and personalized information model for the degree holder, as regards the courses taken. This will refer to the context in which the studies have been done, as well as the competencies and professional skills acquired. Therefore, it is intended to be an easily understandable and open document to which student learning can be added throughout life, and which will accredit the knowledge acquired in different European institutions of higher education.

2.4. Academic accreditation and quality

So that Europe may represent a landmark in the field of university education for students of all countries, the degrees these persons hold need to possess a guarantee of quality.

In Spain, under the Universities Act, which seeks to improve the quality of the university system in Spain, there was created the National Agency for Quality Assessment and Accreditation (ANECA), which will be responsible for the evaluation, certification and accreditation of the different degrees the university will offer.

Ensuring the mobility and the recognition of studies not only requires a climate of trust and transparency, but also demands a correlation between the basic elements of training in the various systems of higher education. These systems of quality assurance will be essential for achieving higher levels of excellence, which will enable the comparison and recognition of qualifications and degrees all over Europe.

Just as in Europe, in Latin America the majority of universities are increasingly acceding to the creation of national systems of evaluation and accreditation. This represents an important advance for enabling the mobility and interchange of students and teachers.

For example, the University of Valladolid now has over a thousand foreign students, participating either in its undergraduate or its postgraduate-degree programs. Among these students, a significant number come from Latin American countries, favored by this university's language and tradition, since it was founded in the thirteenth century, and since that time has had a great scientific and research trajectory.

III. Proposals for change in the Latin American university

The second half of the nineties saw the birth of the Latin American Regional University Network (UREL Network), founded with the primary objective of contributing to the educational, cultural and academic integration of these universities.

Today, the UREL Network not only includes more than 80 universities throughout Latin America; more than a dozen European universities also participate in our activities. The University of Valladolid, through the group URELVA (UREL Network of Valladolid), is responsible for dynamizing the project on the European scene, with the collaboration of other universities in Germany, France, Italy, Greece, Portugal, and Spain itself.

According to Prof. Galarza (2004), current president of the UREL Network, the impact of the international economy has also reached Latin American universities, and has produced numerous changes related to:

a) a new form of organizing university structures;

b) the presence of information and communication technologies in the teaching-learning processes, with a strong stimulus toward self-direction and the generation of non presencial forms of education;

c) an increase in international university education, in national spaces;

d) an increase in offers for education beyond the postgraduate level;

e) the proliferation and heterogeneity of universities, as well as academic programs;

f) the need for continuing education;

g) an increase in the number of students in universities, especially those of the female gender;

h) the escalation in the mobility of teachers, alumni and students between universities and countries;

i) the gradual incorporation of the culture of quality assessment into higher education;

j) the decline in state funding of universities; and

k) an increase in public and private funds for projects.

Since the VII UREL Network Seminar held in Orizaba (Mexico) in 2004,[2] several projects have been developed, and many commitments acquired, so that some universities belonging to the network can incorporate into their educational system different experiences begun in Europe, and related to the EHEA. To this end, there was proposed the creation of the Latin American Space for Higher Learning (ELAES).

The construction of the ELAES must be implemented from a spirit more expansive than that of the university itself. It has to do with fostering an educational plan, with everything that entails. Especially today, when education is not unrelated to political changes, this proposal must include the consideration of the socioeconomic and political coordinates of the countries involved in the project.

Therefore, the ELAES must respond to the sociocultural needs/problems of Latin America and the Caribbean, and must never react as a copy of the EHEA, although this may indeed represent a point of reference. Therefore, all the academic structures must be conditioned by the idiosyncrasies of each of the Latin American countries, and by the desire to achieve human development; that is, not only economic, but also social, just, supportive and sustainable.

In this case, Delors's four pillars of education (1996) can be taken as a reference, when in its report UNESCO proposes the need for learning to learn, learning to do, learning to live together, and ultimately, learning to be. All these principles should represent the basic foundation of the configuration of this space, as well as the engine of change and cooperation in the Universities of Latin America and the Caribbean.

Although the construction of the ELAES will be a long process requiring political and financial commitment from many institutions, the objectives of this project are to:

• Establish a framework for comparing degrees from different countries.
• Formulate some unit of academic measurement to score the duration of studies.
• Adapt similar curricula to be accepted by all countries.
• Reinforce the plan for student and teacher mobility.

So as to advance on this type of proposals, it will be the mission of those in charge of the UREL Network to present these aspirations to the governments of each of the Latin-America and Caribbean countries, as well as to contact other university networks with whom to debate and reach agreements on the principles stated above.

It is also proposed that they respond to national and international announcements and invitations, through which to get help for carrying out these projects, which are currently covered under such programs as ALFA, ALBAN, LINGUA, etc. For example, work already has already started on the state of legislation for higher education in Latin America, as well as on various agreements between European and Latin-American universities for offering Master's Degree programs within the framework of *Erasmus Mundus*[3] and on thematic networks (Rodríguez Fraile, Arribas, Del Prado, and Revuelta, 2004).

We know that this path of convergence between Europe and Latin America is long and full of socioeconomic and political obstacles But we also know that the enthusiasm and commitment of many of us working together can ease the journey, and therefore, make possible our unified advancement in a common educational and humanistic development, far from the mercantilist approaches of the neoliberal societies.

Conclusions

Based on the Bologna Accord, we, the faculty of universities in Europe, see an increasing need to promote quality-assurance systems, as well as to reach agreements in the system of recognition of degrees and periods of study. As well, we need to adopt a system of two main cycles (undergraduate and postgraduate) that would allow the individual's capabilities to be made compatible with the needs of the academic and professional market.

For the purpose of promoting closer relations between academic institutions, and to establish a European area of higher education, the policies of academic, student and administration mobility should be supported.

As a counterpart to the neoliberal educational models based on the exclusive promotion of professional skills, training must be addressed from a humanistic perspective, committed to social problems, which would bring us closer to a more just and supportive society, where its interests and those of the university would be closer.

Educational changes require that, among other things, it should be considered that:

- The curriculum be perceived holistically;
- The teacher act as facilitator or mediator in the student's construction of knowledge;

- The teacher know how to use his/her experience, rebuilding and reorganizing the student's knowledge;
- The students' previous experiences are important in the development of meaning based on the curriculum;
- Personal freedom is a core value;
- Diversity and pluralism are ends, and means to achieve those ends.

Once the teacher begins a shift towards a more democratic educational process, it is difficult to go back, because united with that work is a commitment for improvement that will overcome the daily routine. Together with this, there is also the commitment to get involved in a more complex and diverse type of teaching. This educational philosophy compels us, as a group of educators, to struggle to be faithful to our pedagogical principles, derived from an education that addresses the various social issues on a more democratic basis in the classroom.

References

Benedito, V., Ferrer, V., & Ferreres, V. S. (1995). *La formación universitaria a debate*. Barcelona: Publicaciones de la Universidad de Barcelona.

Delors, J. (1996). *La educación encierra un tesoro: Informe a la UNESCO de la Comisión Internacional sobre la Educación para el siglo XXI*. Madrid: Santillana.

De Miguel, M. (1995). Autorregulación y toma de decisiones en las instituciones universitarias. *Revista de Educación, 306*, 63-80.

Flecha, R. (1998). *Compartiendo palabras*. Barcelona: Paidós.

Giroux, H. A. (1987). La formación del profesorado y la ideología del control social. *Revista de Educación, 284*, 53-76.

Galarza, G. (2004). *Hacia la construcción del espacio latinoamericano de la educación superior*. Riobamba, Ecuador: Universidad Estatal de Bolívar.

Michavila, F. & Calvo, B. (1998). *La universidad española hoy. Propuestas para una política universitaria*. Madrid: Síntesis.

Rodríguez, M., Fraile, A., Arribas, H., Del Prado, R., & Revuelta, C. (2004). Sugerencias para un proyecto de trabajo relativo a la construcción del Espacio Latinoamericano de Educación Superior. In G. Galarza, *Hacia la construcción del espacio latinoamericano de la educación superior* (pp. 39-68). Riobamba, Ecuador: Universidad Estatal de Bolívar.

Translator: Lessie Evona York-Weatherman

UABC Mexicali

[1] In order to review materials on the European Reform, we recommend the use of the website of the University of Valladolid, in the section devoted to European Convergence (http://www.uva.es/convergencia/index.php?mostrar=3034).

[2] Some of these ideas were presented at that congress.

[3] *Erasmus Mundus* is a program for cooperation and mobility in the field of higher education; its purpose is to enhance the quality of European higher education.