



UIA AND ARCHITECTURAL EDUCATION REFLECTIONS AND RECOMMENDATIONS

Document prepared by the UIA Architectural Education Commission

*Text adopted by the XXIIth UIA General Assembly (Berlin, July 2002)**

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XXII UIA General Assembly (Berlin, Germany, July 2002) :

Resolution No. 6 :

"With two abstentions, the Assembly adopted, in principle, the document *UIA and Architectural Education - Reflections and Recommendations*, with the understanding that the text will undergo testing and refining throughout the coming triennial period. One of the points to be added to this document concerns educating students to have the technical ability to design for handicapped persons".

98th Session of the UIA Council (Curitiba, Brazil, November 2002) :

Resolution No. 2 :

"The Council decided to bring the modifications asked for by P. Hanna to Resolution No. 6 of the Assembly in Berlin, by adding :

Resolution No. 6 : ... and also in the review of the document the requirement according to which the research done for a higher degree be seen considered as essential be examined".

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I

Introduction

I.0 Preamble

The International Union of Architects, UIA, as the organisation that brings together the national professional institutes, has a direct interest in and responsibility for the quality of architectural education in the world. It should therefore have a broad framework, a clear position and a set of guidelines for best practice on architectural education. These, however, need not be over-prescriptive or restrictive and should acknowledge the local variations. These aims can be achieved by the level of activity and output of its Education and Professional Practice Commissions, by encouraging wider debate in the education community, and by increasing contacts between professional institutes and schools.

The increased complexity of the role of the architect obliges UIA and its Member Sections to take into account the existence of complex and multi-faceted changes in the World, in the process of striving for continuous improvement in architectural education.

In this sense, the application of the *UNESCO-UIA Charter for Architectural Education*, the work of the UNESCO-UIA Validation Committee for Architectural Education for the recognition of existing and new validation systems and the validation of study programmes offered at Schools of Architecture and other institutions, the *UIA Accord on Recommended International Standards of Professionalism in Architectural Practice* and its various *Guidelines*, and this document, all aim to give directives for action in architectural education to enable it to meet the socio-cultural and professional challenges and the demands of our time.¹

I.1 Introduction: the UIA and Architectural Education

The UNESCO-UIA Charter for Architectural Education [hereafter, "*The Charter*"] covers a broad range of issues specific to pedagogy, knowledge and culture. The proposed *UNESCO/UIA Validation System for Architectural Education* [hereafter, "*The Validation System*"] is being built upon these foundations. Additionally, architectural education is an ever-present theme in almost all sections of the *UIA Accord on Recommended International Standards of Professionalism in Architectural Practice* [hereafter, "*The Accord*"] and the *Recommended Guidelines for the UIA Accord on Recommended International Standards of Professionalism in Architectural Practice* [hereafter, "*the Guidelines*"], regarding professional standards. These documents define the goals, roles, responsibilities, limits, organisation and content of education at different levels from the beginnings to continuing professional development. Some also deal with issues such as fundamental requirements of an architect, professional knowledge and skills, examination, validation, accreditation, practical training and registration.

It is recognised that in order for these texts to be effective in the development of architectural education and the profession, that they must be widely disseminated, discussed and implemented. The principles in these documents can be linked to the day-to-day practice of managing schools, running study programmes, setting projects or engaging in research. Additionally, there must be some guidelines for evaluating existing programmes, and their educational outcomes. Outcomes

are particularly necessary in setting up the UIA's, as well as other, educational and professional validation / accreditation / recognition schemes.

It is most important to promote the implementation and development of these documents. The principles and expectations stated in them must be further systematised, operationalised and tested. The evidence of the outcomes should allow them to be set against the principles stated in *The Charter*, the proposed *Validation System* and *The Accord*.

This document, *UIA and Architectural Education – Reflections and Recommendations* aims to start where the above-mentioned documents stop and to complement them. It will provide:

- a. a systematic frame of reference for discussing educational practice;
 - b. a set of strategies for implementing *The Charter*;
 - c. guidelines for evaluating study programmes and their outcomes;
 - d. suggestions for good practice in education;
- and*
- e. directions for further development of architectural education and, through that, architectural practice, knowledge and culture.

I.2 Historical background

The UIA was founded in 1948 with major and permanent considerations regarding the architect's education and the architect's professional practice.

In the very first Article, the UIA Statutes, defining its objectives, states that:

"The International Union of Architects aims:

1.11. To work towards the establishment of internationally accepted and recognised standards of competence to practice, and inter-recognition of qualifications, and to encourage in each country the protection of the rights and status of the architect and the recognition of his functions in society.

1.12. To promote and encourage the development of architectural education in all its aspects, and facilitate international exchange of architects, researchers, and students".

From the very beginning of the 1970s, in partnership with UNESCO, continuous work has been carried out on the theme, "*Architectural Education*", with some strong points emerging. Investigations and studies were launched at a meeting of experts in Zurich in 1970, followed by international seminars, particularly in Lomé, in 1974, Paris and Chandigarh, in 1976, each time accompanied by an implementation of recommendations. As a result of this partnership, an experiment was carried out in the field, in Africa. The 1990s focused on the work and publication of *The Charter* adopted by the General Assembly at Barcelona in 1996. Since 1996, it has been re-examined by some Member Sections.

• ***The UNESCO-UIA Charter for Architectural Education*** defines a precise framework for the education of architects, who should be capable of contributing in a positive way to meeting the challenges facing society in the new century, and be able to work towards sustainable

development in consideration of different cultural heritages. Whilst acknowledging the importance of variety in architectural education, it would seem appropriate to establish a reference system capable of giving Schools and Universities which request it, a systematic process of validation for their respective architecture study programmes in conformity with *The Charter*.

The Charter declares in Paragraph I.2 "that architecture, the quality of buildings, the way they relate to their surroundings, the respect for the natural and built environment as well as the collective and individual cultural heritage are matters of public concern" Also, the description of the multi-disciplinary aims of education, as given in Paragraph II.2. of *The Charter*, is important for an adequate definition of the framework within which architectural training should be developed.

In order for the student to reach the necessary competency and maturity, *The Charter* stipulates that the study programme shall be 5 years of full-time studies, in a university or equivalent establishment, plus at least 2 years of practical experience in an architects office, of which 1 year may take place before graduation and 1 at the end of the study programme.

The Charter also lays down criteria for teaching, with the aim of defining the architectural project as a synthesis of knowledge and acquired skills, and requires teachers to maintain a continuous interaction between practice and teaching of architecture.

Six years after its adoption, *The Charter* is gradually being adopted by some study programmes, as a basis for the principles being taught in their programmes. Much more work by the UIA Member Sections and the UIA Education Commission is required to make *The Charter* known and accepted by the architecture study programmes being taught globally. As it is the basis for the principles adopted for the *UNESCO/UIA Validation System for Architectural Education* and conformity to *The Charter* is one of the requirements of validated study programmes and, therefore, recognised validation systems, adoption of its principles is expected to occur rapidly once the proposed *Validation System* is approved by UNESCO and the UIA General Assembly.

• A "***World Declaration on Higher Education for the Twenty-First Century: Vision and Action***" was agreed at the UNESCO World Conference on Higher Education held in Paris in October 1998. The Preamble and Articles 5 (a), 9(a) and 15(a) of this document are pertinent to architectural education and research.

The Preamble in the third paragraph states:

"Higher education has given ample proof of its viability over the centuries and of its ability to change and to induce change and progress in society. Owing to the scope and pace of change, society has become increasingly knowledge-based so that higher learning and research now act as essential components of cultural, socio-economic and environmentally sustainable development of individuals, communities and nations. Higher education itself is confronted therefore with formidable challenges and must proceed to the most radical change and renewal it has ever been required to undertake, so that our society, which is currently undergoing a profound crisis of values, can transcend mere economic considerations and incorporate deeper dimensions of morality and spirituality."

Article 5 (a) Advancing knowledge through research in science, the arts and humanities and the dissemination of its results states:

"The advancement of knowledge through research is an essential function of all systems of higher education, which should promote postgraduate studies. Innovation, interdisciplinarity and transdisciplinarity should be promoted and reinforced in programmes with long-term orientations on social and cultural aims and needs. An appropriate balance should be established between basic and target-oriented research."

Article 9 (a) Innovative educational approaches: critical thinking and creativity states:

"In a world undergoing rapid changes, there is a perceived need for a new vision and paradigm of higher education, which should be student-oriented, calling in most countries for in-depth reforms and an open access policy so as to cater for ever more diversified categories of people, and of its contents, methods, practices and means of delivery, based on new types of links and partnerships with the community and with the broadest sectors of society."

Article 15 (a). Sharing knowledge and know-how across borders and continents states:

"The principal of solidarity and true partnership amongst higher education institutions worldwide is crucial for education and training in all fields that encourage an understanding of global issues, the role of democratic governance and skilled human resources in their resolution, and the need for living together with different cultures and values. The practice of multilingualism, faculty and student exchange programmes and institutional linkage to promote intellectual and scientific co-operation should be an integral part of all higher education systems."

• In June 1999, the UIA General Assembly, held on the occasion of the Beijing Congress, confirmed the continuation of the Work Programme "*Architectural Education – Follow-up of the UNESCO-UIA Charter for Architectural Education*" to be headed by the Secretary General, to co-ordinate the work carried out by regional directors and co-directors of the UIA Education Commission. At the same time, the UIA General Assembly adopted the creation of a *UNESCO-UIA International Committee for the Validation of Conformity and Quality in Architectural Education* aiming at setting up a system of accreditation of architectural teaching institutions. A UNESCO-UIA protocol was signed on 16 May 2000.

• ***The UNESCO-UIA Validation System for Architectural Education*** consists of Principles, Protocol and Procedures and requires that the following aims are adopted by every validation system being recognised and every study programme being validated:

- Conformity of the study programme with *UNESCO-UIA Charter Architectural Education*.
- Assurance that the study programme provides a high level of quality, based on the required capabilities.
- Academic portability of the study programme's content at the international, regional, and local levels.

This *Validation System* will be put to the XXII UIA Assembly in Berlin, in July 2002 for ratification and adoption.

- **UIA Professional Practice Commission:** The UIA Professional Practice Commission, which was set up in 1994, undertook to develop a set of documents on international standards of professionalism. Many have direct relevance to architectural education.²

These are the *UIA Accord on Recommended International Standards of Professionalism in Architectural Practice* and *The Guidelines* all adopted in Beijing in 1999. With direct reference to architectural education, these Guidelines include the *Recommended Guidelines for the UIA Accord on International Standards of Professionalism in Architectural Practice Policy on - Accreditation / Validation / Recognition on Practical Experience / Training / Internship, on Demonstration of Professional Knowledge and Ability, on Registration / Licensing / Certification, and on Continuing Professional Development.*

- In October 1999, in Prague, a "Joint UIA Education/ Professional Practice Committee" was set up to collaborate on issues of mutual interest between these respective areas. The second meeting was held in Cairo in November 2000, and the third meeting was held in Costa Rica in November 2001.

Additionally, the UIA Education Commission has held numerous meetings to discuss various drafts of the present document.

I.3 The purpose and the scope of this document

This document is intended to provide concise guidelines, directions, references and a framework for discussing, organising, analysing and evaluating various aspects of architectural education. In doing this, it makes both observations and recommendations. It aims to contribute to the development of a shared paradigm of education and better communication between professional, academic and public bodies.

The scope of this publication is:

- To review the situation, six (6) years after *The Charter* was adopted, with regard to its diffusion, its application and the state of architectural education in the various UIA Member Sections in general.
- To suggest a clear framework to examine and develop architectural education study programmes.
- To make brief pedagogic recommendations on both the form and the content of the curriculum.
- To encourage a culture of reflection on the evolution of society, and ways of making architectural teaching responsive to these changes.
- To highlight the points in common between the UNESCO texts on Higher Education and *The Charter*.

II

Architectural Education: Basic Categories and Dimensions

Study programmes as well as issues to do with architectural education can best be considered, discussed and evaluated within a precise conceptual framework. This analytical approach is useful in achieving better understanding and better communication amongst those involved and interested in education.

Different theoretical and pedagogic concepts under which to examine education, may exist, but the following set of four categories could be usefully employed in setting out a coherent UIA position on architectural education:

1. *Contexts and Objectives* of architectural education
2. *Content and Curricular Structure* of architectural education
3. *Methods and Media* of architectural education
4. *Management and Structure* of architectural education.

These dimensions can briefly be defined as follows:

1. Contexts and Objectives of Architectural Education refers to the rationale, in other words, the "*where's*" and "*why's*" of education. An understanding of the historical and contemporary contexts which make an institutionalised education system necessary could facilitate more accurate assessment of current educational and professional issues. Objectives also refer to the specific aims and objectives of courses, course components or specific design projects.

2. Content and Curricular Structure of Architectural Education refers to the content, in other words, the "*what's*" of education. Both the overall content of the curriculum and the specific contents of course components, projects, etc. should be accounted for in curriculum design, and be examined in detail to evaluate outcomes.

3. Methods and Media of Architectural Education refers to the "*how's*" of education, in other words, to the modes, means, techniques and vehicles by which the stated contents (i.e. objects) and objectives of courses are achieved. These could range from the traditional studio mode of teaching, slide lectures or research papers to field trips or practice experience, and from traditional drawing to computer generated designs.

4. Management and Structure of Architectural Education refers to the management of knowledge, people, time, space and financial resources in educational contexts. It is also to do with the question of "*who*", that is, who runs the institutions, who teaches, who are admitted as students and who evaluates and validates courses.³

II.1 Contexts and Objectives of Architectural Education

II.1.0 The contexts, objectives, purposes

Architecture is one of the key professions involved in shaping the built environment and urban space. Architectural education that prepares architects for a professional life should therefore, be seen, at least in the following contexts and the specific objectives pertaining to them:

- Social, cultural, political contexts
- Professional, technological, industrial contexts
- The World: local, global, ecological contexts
- Academic contexts including science and knowledge in general.
- International contexts

There are also a number of new contexts such as the increasing internationalisation of the building industry, the building professions, and architecture itself, the dominant use of the computer and the Internet, etc.

Whatever the detailed dimensions of these contexts, architectural education should have two basic *purposes*:

- **to produce competent, creative , critically minded and ethical professional designers/builders;**
and
- **to produce good world citizens who are intellectually mature, ecologically sensitive and socially responsible.** ⁴

As there is no fundamental conflict between these two purposes, schools, programmes and courses should aim to achieve both of them through different means and vehicles - obviously varying in different geographical and social contexts.

As a corollary to the first purpose mentioned, architectural education should also aspire to improve the quality of architectural output in general and architectural practice in particular. In addition to educating well-equipped graduates, this can be done by research (i.e. constantly expanding architectural knowledge), by setting good examples, by publishing and by fostering contacts with practices.

As a corollary to the second purpose mentioned, architectural education should contribute to the social, economic and cultural development of society - both nationally and globally.

II.1.1 Social, cultural, political contexts

Space is by its very nature social, and society is spatial.⁵ Architecture therefore exists to serve society primarily by designing and planning its spatial infrastructure. Young architects should be encouraged to assume responsibilities as professionals within society.

The basic goal of education is to develop the architect as a "generalist" able to design built form often involving potential contradictions between different requirements, and giving form to society's and the individual's environmental needs. The architect, by virtue of the education received, is the privileged interlocutor of the various elements of society and the State — from local authorities and decision-makers to promoters, contractors, users and the public. Therefore, architectural students should be made critically aware of the political and financial motivations

behind the clients' brief and building regulations in order to foster an ethical framework for decision making within the built environment.

Architects can be considered as intellectual services' providers whose education enables them to synthesise controversial issues, and contradictory forces. Architects and architecture students must have a responsible professional spirit and a comprehension of environmental ethics. They should work for the benefit of society as a whole, and try to carry out strategies that contribute to the overall quality of human settlements.

Architecture should be considered as a service, accessible to the whole community. It could act as a mediator of social tensions and should be considered as a resource, one of the instruments which contribute to the balance of society.

It is essential to restore the cohesion between architectural production and the development of society in the context of cities. The management of public fabric and its change and development is of particular importance, so that planning policies should also be consistent with the cultural evolution of the population.

"Architecture, the quality of buildings, the way they relate to their surroundings, the respect for the natural and built environment as well as collective and individual cultural heritage are matters of public concern."⁶

Architects have some significant responsibility for the health, safety, welfare and cultural interests of the public and for the sustainability of the built environment. This responsibility should be clearly stated in legislation, defining the architect's professional responsibility, and should be acknowledged in public education efforts, by using the media, national press, radio and television to achieve a more serious understanding by the public.⁷ Conversely, it is important that society is made aware of the various areas of knowledge, skills and competence that the architectural profession could deliver, and for which, architectural education is expected to prepare them.

The public must be made conscious of their own surroundings are created, how buildings make a difference in their lives and in what ways they can participate in the design and construction processes. Appropriate education should be instituted in primary and secondary schools, and for adults in mid-career, to establish a more enlightened society with a deep awareness of environmental processes and urban and architectural artefacts constituting the framework for social life.

"It is the duty of the world architectural community to make national and international decision-making bodies aware of the special nature of architecture as compared with other services. Architecture can not be regarded as a simple commodity. While it shapes the physical environment, it also creates the future cultural heritage of a particular society."⁸

Furthermore, the architect's education should enable effective intervention in the numerous fields where construction may not be the sole objective.

II.1.2 Professional contexts

In view of these complex expectations, *The Charter* formulated the specific areas of competencies for architectural education as the acquisition of the following:

- An ability to create architectural designs that satisfy both aesthetic and technical requirements.
- An adequate knowledge of the history and theories of architecture and the related arts, technologies and human sciences.
- A knowledge of the fine arts as an influence on the quality of architectural design.
- An adequate knowledge of urban design, planning and the skills involved in the planning process.
- An understanding of the relationship between people and buildings, and between buildings and their environment, and of the need to relate buildings and the spaces between them to human needs and scale.
- An understanding of the profession of architecture and the role of the architect in society in particular in preparing briefs that take account of social factors.
- An understanding of the methods of investigation and preparation of the brief for a design project.
- An understanding of the structural design, constructional and engineering problems associated with building design.
- An adequate knowledge of physical problems and technologies and of the function of buildings so as to provide them with internal conditions of comfort and protection against the climate.
- The design skills necessary to meet building users' requirements within the constraints imposed by cost factors and building regulations.
- An adequate knowledge of the industries, organisations, regulations and procedures involved in translating design concepts into buildings and integrating plans into overall planning.

The principles and standards of the UIA are aimed at the thorough education and practical training of architects so that they are able to fulfil their fundamental professional requirements. These standards recognise different national educational traditions and, therefore, allow for factors of equivalency.⁹

II.1.3 The World of technology and industry

With architecture always being responsive to the cultural context, the overall aim is the design of buildings that are robust, responsive to climatic conditions and, in the broadest definition, sustainable.

By the end of the Second Stage Professional Architectural Education, students should have a mature understanding of the controlling influence of environmental, structural and technological issues on design and building form, as well as an appreciation of cultural and social issues, visual art disciplines and their influence on design. They should be aware of various institutional and legal as well as constructional processes involved in the design of complex buildings.¹⁰ For the majority of full time students these subjects should be taught and learnt in a theoretical context, and strengthened by practical experience by integrating them in design projects.

Architectural education should also equip the student with tools to assume simultaneously the process of intellectual creation and of economic realisation corresponding to the commercial milieu within which the design project is situated. The efficiency of the architect's intervention can only be acquired when the architect is considered to be a "specialist" in this area. It is only through organised education, training and experience that the architect will be able to make the appropriate contribution to, and establish the appropriate influence upon, multi-disciplinary teams in which an increasing number of specialists of complementary disciplines are to be found.

II.1.4 Academic contexts

Architecture is an interdisciplinary field that comprises several major components: humanities, social and physical sciences, technology and the creative arts. "Since architecture is created in a field of tension between reason, emotion and intuition, architectural education should be regarded as the manifestation of the ability to conceptualise, co-ordinate and execute the idea of building rooted in human tradition."¹¹

The future of architecture also depends on an understanding and assimilation of the achievements of other disciplines and professions.¹²

Although, like other branches of professional education, it is primarily assigned the task of educating future architects, architectural education is, generally, part of the university system and must adjust to and benefit from the traditions of the university, such as doing research and seeing the professional practice within the context of society and science.

II.1.5 International Contexts of Architectural Education

As one of the oldest industrial, creative and cultural activities, and as one of the established professions, architecture has always been international and cross-cultural by its very nature. However, there is evidence to suggest that a significant section of the architectural profession and building production is becoming increasingly "multi-national" at quite another level of institutional and cultural complexity.

This trend of internationalisation is creating both new potential and new, often unprecedented, problems. Traditional professional attitudes are coming face to face with major political and economic developments and environmental factors. If architectural practice and education are to

become more international, that is, be aware of and responsive to, and participate in, the developments, formulations must go beyond traditional definitions and education must take these into account. Mutual recognition of qualifications and education across previously discreet national sovereignties is a new factor that can be fostered to allow wider movement of architects and students.¹³

UIA in general, and the educational and professional bodies in particular, are well placed to guide these developments.¹⁴

In the increasingly global world, architects should be trained to not only understand, protect and highlight architectural heritage in their countries, but to also understand the contexts, both territorial and cultural, in which they may be called upon to work.

In a wider sense, the mobility of persons also covers the sometimes large human masses that gravitate to the major urban conglomerations, especially in the developing countries, where uncontrolled development fails to meet the habitat and favourable and sustainable environment needs and rights of all people. The challenge set by this mobility requires that architects should be trained to respect, analyse and protect the different cultural backgrounds, and accept the social and cultural responsibility of responding to each local context and identity.¹⁵

II.2 Content and Curricular Structure of Architectural Education

II.2.0 The "Content" of Architectural Education

What architectural education is about can be considered with respect to the *content* of education, to the structure of the curriculum and the individual courses, to the areas of knowledge, skills and competence, and to a number of other areas covered by the curriculum or by schools in general.

The "*content*" of architectural education can be seen in at least the following senses:

1. *Content of the curriculum and the school life in general*: subject areas, timetabled course components, number of hours, credit ratings, hierarchy of subjects and their teachers, emphasis placed on them, project reviews and examinations,
2. *Content of the syllabus and the activities within or outside the school* (including design work, travelling, fieldwork, practical experience,): actual bodies of knowledge taught, specific geographical areas, cultures, building types or periods of history covered, methods used, degree of integration or separation between the taught content and studio work, the types of media used,
3. *Method as content (and, content as method)*: the modes, medium, techniques, tools and methods that constitute not just the means but the ends or substance of design and pedagogy as, for example, is (or is not) the case with drawing-dominated design teaching, use of computers or slide-show lectures.
4. *Content of the contexts* (historical, cultural, ecological, legal, social and physical) within which students and teachers operate, such as architectural and non-architectural trends, movements, media, ideologies, fashions, the profession and its definition of educational goals, the society's dominant value systems or laws.

5. *Content of students' extra-curricular involvement* within or outside the university with direct or indirect bearing on their architectural and intellectual development, such as sports, arts, politics, personal relationships, membership of societies, involvement in cross-school or international formations such as "Winter Schools", entering competitions, occasional architectural or non-architectural employment for a variety of motives.¹⁶

In general, the contents of architectural education should

- (a) aim to be as comprehensive in its coverage as possible, hence, be *generalist*;
- (b) try to *specialise* in areas where particular foci and accuracy are essential;
- (c) aim to *integrate* areas of knowledge, know-how and skills from allied professions, such as engineering, arts, economics, etc.
- (d) allow *higher* levels of knowledge or specialisation through postgraduate programmes, multi-professional courses, research or short courses;
- (e) take care not to be fixed, but respond to emerging forms of practice and to *changes* in the construction industry, in universities and in society at large.

II.2.1 Curricular Structure of Architectural Education

"*Structure of Architectural Education*" can be seen in two distinct, but closely related, senses:

1. The organisation of courses in terms of their specific content and teaching modes, i.e. "*curricular structure*";
2. The organisation of the whole study programme into variously numbered years, stages, parts, degrees, etc.

The organisation and the content of the curriculum will be examined in this section while the structure of education as a whole will be dealt with under "*Management and Structure of Architectural Education*".

As will be listed under "*Curricular Capabilities*" below, there are usually distinct subject groups in an architectural curriculum: design studio (including urban design, landscape), history, theory and humanities courses, professional practice-related courses and construction-related courses. The studio everywhere, is considered to be the "core" of the curriculum, and the relationship between the studio and other course components tends, in general, not to vary much.

The ways in which course structures, hence course contents are determined could vary depending on their relationship with other institutions or disciplines. They could range from fully university-based programmes to combined courses with allied professional disciplines (e.g. engineering), to stand alone schools under non-educational institutional control (e.g. a ministry of construction), or to privately financed and run ones.

The architectural curriculum, as distinct from the majority of other disciplines in the university system, is organised with a special, privileged, "*core*" subject, i.e. design. The relationship between various courses and their contents, order and hierarchy and the structure of the sequence of years or groups of years are specific to architectural education.

The studio itself can be organised in a number of ways that could add to the richness of educational experience and enhance learning outcomes. Throughout the architecture schools, there are established organisational modes which might change from time to time. For example, the studio/ atelier system can be articulated as "*Units*", "*Project Groups*", "*Work Bases*",

"Blocks", "Subject Groups", "Vertical Studios", etc. These could intersperse with the nationally established years or "Parts" sequences.

In the following two sub-sections, the curricular course structure and content will be examined in some detail.

II.2.2 Curricular Capabilities

Architecture students by the end of their study programmes need to acquire the following capabilities of *Design*, *Knowledge* and *Skill* to fulfil the architect's role as a generalist capable of co-ordinating interdisciplinary objectives. Students must develop the ability to integrate the range of capabilities listed under "*Knowledge*" below. It is this ability that distinguishes architects from other providers of built environment services. Integrative skills develop in complexity over an architecture course.¹⁷

A. Design

- Ability to engage imagination, think creatively, innovate and provide design leadership.
- Ability to gather information, define problems, apply analyses and critical judgment and formulate strategies for action.
- Ability to think three-dimensionally in the exploration of design.
- Ability to reconcile divergent factors, integrate knowledge and apply skills in the creation of a design solution.

B. Knowledge

B1. Cultural and Artistic Studies

- Ability to act with knowledge of historical and cultural precedents in local and world architecture.
- Ability to act with knowledge of the fine arts as an influence on the quality of architectural design.
- Understanding of heritage issues in the built environment
- Awareness of the links between architecture and other creative disciplines.

B2. Social Studies

- Ability to act with knowledge of society, clients and users.
- Ability to develop a project brief through definition of the needs of society, users and clients, and to research and define contextual and functional requirements for different types of built environments.
- Understanding of the social context in which built environments are procured, of ergonomic and space requirements and issues of equity and access.
- Awareness of the relevant codes, regulations and standards for planning, design, construction, health, safety and use of built environments.
- Awareness of philosophy, politics, and ethics as related to architecture.

B3. Environmental Studies

- Ability to act with knowledge of natural systems and built environments.
- Understanding of conservation and waste management issues.
- Understanding of the life-cycle of materials, issues of ecological sustainability, environmental impact, design for reduced use of energy, as well as passive systems and their management.

- Awareness of the history and practice of landscape architecture, urban design, as well as territorial and national planning and their relationship to local and global demography and resources.
- Awareness of the management of natural systems taking into account natural disaster risks.

B4. *Technical Studies*

- Technical knowledge of structure, materials, and construction.
- Ability to act with innovative, technical competence in the use of building techniques and the understanding of their evolution.
- Understanding of the processes of technical design and the integration of structure, construction technologies and services systems into a functionally effective whole.
- Understanding of services systems as well as systems for transport, communication, maintenance and safety.
- Awareness of the role of technical documentation and specifications in design realisation, and of the processes of construction cost planning and control.

B5. *Design Studies*

- Knowledge of design theory and methods.
- Understanding of design procedures and processes.
- Knowledge of design precedents and architectural criticism.

B6. *Professional Studies*

- Ability to act with knowledge of professional, business, financial and legal contexts.
- Ability to understand different forms of procurement of architectural services.
- Awareness of the workings of the construction and development industries, financial dynamics, real estate investment, and facilities management.
- Awareness of the potential roles of architects in conventional and new areas of activity and in an international context.
- Understanding of business principles and their application to the development of built environments, project management and the functioning of a professional consultancy.
- Understanding of professional ethics and codes of conduct as they apply to the practice of architecture and of the architect's legal responsibilities where registration, practice and building contracts are concerned.

C. Skill

- Ability to act and to communicate ideas through collaboration, speaking, numeracy, writing, drawing, modelling and evaluation.
- Ability to utilise manual and electronic graphic and model making capabilities to explore, develop, define and communicate a design proposal.
- Understanding of systems of evaluation that use manual and/or electronic means, for performance assessments of built environments.

II.2.3 The Structure of the Educational Sequence

A. Basic First Stage Architectural Education

Basic First Stage Architectural Education should establish the core principles and basic architectural knowledge, to develop awareness of, and aptitude to, design, coordinate and carry out projects.

The first two or three years in the architect's education require rigorous and very careful programming. Architecture should be the main element of this university level education, but should also be supported by an awareness of wider design and artistic skills through the provision of a wide range of electives.

Given that architecture is an interdisciplinary field covering several major areas - social sciences, physical sciences, technologies and creative arts - students, from their first years, must be given not only the notion of the interdisciplinarity of each problem but also the capacity to respond with appropriate solutions.

At the successful completion of the First Stage, a non-professional first degree/diploma or first cycle certificate can be awarded. This, however, should not entitle the holder to become registered, licensed or certified as an architect.

The first stage of architectural education should not offer early specialisations as it can compromise the expected outcome of that education. Specialisation should not be introduced until the student has achieved a basic first stage architectural education.

B. Second Stage Architectural Education

Following the successful completion of the First Stage, a Second Stage of education should be undertaken to make up the five years recommended by UIA. This can take place after a supervised year of professional practice, or straight after the First Stage.

The Second Stage Professional Architectural Education should continue the core principles, the curricula and the calendar year rhythm set in the Basic First Stage Architectural Education, and it should promote the need for the continuation of excellent staffing resources, coupled with a flexible approach to the structure and content of the study programme, examined through unit outcomes. It is important that the best architects and the most gifted teachers in each institution be assigned to teach these students. It would also appear appropriate that more electives be available to students who have reached this level of education.

Architecture should still, therefore, be the main element of this university level education.

This Second Stage Professional degree, diploma or second cycle certificate can mark the successful conclusion of this architectural education and may be used, with the required practical experience, for the holder to become registered, licensed or certified as an architect, depending on the requirements of the registration, licensing or certifying system.

The UIA should facilitate greater understanding of standards, hence, greater possibilities of exchanges between study programmes, programme modules, staff and students in different countries. Greater use of experience and expertise possessed by practising architects must be utilised. Conversely, academics must be encouraged to contribute to the practice of architecture in different ways (e.g. mid-career education, research-based design).

C. Third Stage Architectural Education

Considering the need to develop further into areas of professional and/or academic knowledge and competence in areas pertinent to design, building, urban planning, and the fact that it is

unrealistic to expect the First and even the Second Stage of Architectural Education to provide mastery of all those areas, it is necessary to have Master's level courses. Such courses can both teach specialised knowledge and skills, *and* help develop architectural knowledge through research. A Master's level course can variously be professional, academic, taught, research-based, or appropriate combinations of these.

D. Doctorates in Architecture

Doctoral education, hence Doctoral Degree¹⁸, is universally recognised to be the highest form of education within the university system. Although a relatively more recent addition to architecture, Doctoral research can have valuable contribution to both architectural knowledge and architectural profession, but, also and directly, to the education itself.

If architectural knowledge is to develop in quality and increase in quantity, Doctoral level research must be extended. As a research training itself, it can equip the holders to guide research in schools and to promote more informed design teaching in the studio.

II.2.5 Research / Innovation in Architecture and Architectural Education

The briefest definition of research is that it is systematic inquiry, the result of which is new knowledge.¹⁹ If architecture is seen as a practice whose responsibility goes far beyond the exercise of architectural skills or the application of the necessary knowledge to a particular project, and if the profession wants to deal with the outer world adequately, then, the constant improvement of knowledge must be on top of the professional, hence, educational, agenda.

The list of "*Fundamental Requirements of an Architect*" adopted by UIA, includes a vast range of skills and knowledge which the narrowly defined professional scope can hardly do justice to in their entirety. Architecture, at least in part, depends on other disciplines and professions to provide it with the knowledge necessary for designing, planning, building and managing the built (and, partly, the natural) environment.

Professional practice generally relies on a combination of skills and experience specific to architecture, and, in the process, tends to *use*, rather than *produce* knowledge. To deal with complex urban, technological, economic and cultural aspects of their work, to deserve the place it has in society, and to fulfil its own self-image, architecture must develop and enrich its own knowledge base, make its discourse more consistent, and the evaluation of itself and its products more systematic.

As to its education, it is a truism that it must go beyond "*training*". To do that, architectural education must contribute to the development of architectural knowledge and culture as a part of its mission. The educational set-up is in fact the ideal place to do just that, for it would have the in-house opportunity of airing and testing research findings and getting feedback from students as well as from other disciplines within the university.

Whereas until the 1970's much of the research done in architecture was historical and monographic, the subsequent decades have seen a growing interest in the interdisciplinary aspects of the buildings, their use, cities, etc. This has led to a greater interest in other areas of knowledge pertinent to architectural practice.

The UNESCO "World Declaration on Higher Education for the Twenty-First Century: Vision and Action" in Article 5 (a) encourages advancing knowledge and disseminating its results using research.²⁰

Research may be *fundamental, applied, strategic, action, participant, practice-based*. Fundamental research aims at providing a more adequate knowledge of the world, of beings, of societies. It assembles the facts, develops explanatory theories, validates or invalidates these theories with the help of reproducible experiments. The aim of applied research, on the other hand, is to develop human activities in the light of progress made in fundamental research. It depends on a branch of activity from which it draws its initial potential and its function. It renders objects and practices possible through innovation and thought. It is subject to circumstances and its results can only be validated through use. Very frequently, applied research implies transfer of technological processes that would enable architects to test new systems, methods, materials and technologies in construction.

Apart from research applied to projects in workshops and architects' offices, architectural research is usually located in universities mainly because of the absence of any direct application in practice or any industrial outlet for its findings. It cannot also easily set up an autonomous department in major research centres because of its transversal character in comparison with classical disciplines. It often has difficulty in attracting funds from the industry or the profession or from science and technology-based research funding bodies. It therefore calls for more recognition and public backing.

In cultural, technical and emotional fields, architectural research has characteristics common to such fields. The accumulation of knowledge is connected to associated sciences which nourish it, or it is applied to the understanding of the mechanism of its own practices; but, its applications find their outlets in the improvement of the process of the project itself or in innovative techniques and the development of the framework it helps to produce.

It is important that fundamental research, applied research, innovation and the transfer of various technologies are projected onto education and that these lead both to the development and the diversification of the content of teaching. This motivation implies the intervention of other disciplines in the art of building including that of practicing architects.

Research should contribute to the definition of the university level education as recommended in *The Charter*. By the very nature of architectural representation, the results of research must not be limited to texts alone and when possible, these results should be put into multiple media, including drawings.

Attention should also be paid to the fact that the various fields of research, such as technology and aesthetics, should be united to create an interdisciplinary field of work in tune with sciences and the arts. Today, ecology and sustainable development have become another point of departure for research.

The "university level" required by *The Charter* supposes that part of the activity be devoted to education "for and by research", the only means of raising the standard of education and of developing professional habits and production techniques. Such an educational programme might logically result in Master's or Doctorates in architecture.

II.3 Methods and Media of Architectural Education

Educational aims and objectives, professional expectations, and curricular contents and capabilities are only achievable when operationalised in pedagogic means. Each educational and/or professional objective may variously require special courses, course components, design projects, exercises, research, and specific teaching methods and medium.

Each project and/or course is also a vehicle to achieve three types of goals:

1. Immediate learning outcomes to be built upon in other courses and in subsequent years in the institution;
2. Long-term education / training of architects;
3. Wider "purposes" of education of architects as responsible citizens.

Whilst no single project or a single course can fulfil all these expectations, through sensitive educational methods and pedagogic techniques future architects can build up a range of professional abilities and sensibilities as well as necessary life skills.

The question of "methods" should not however be confined to those of studio / design teaching only. Whilst the very open-endedness of the design process is a stimulant of creativity and a rich source of innovation, it could also be a limiting factor as far as coping with, and responding to, the social, technical, and environmental objectives (some of which were mentioned in Section II.1, "Contexts and Objectives") Many of those objectives require systematic thinking, research and application as well as creative skills. The task of architectural education must therefore be to combine the methods from various disciplines and arts with which to invoke creativity, but, also, to promote on those fronts the methods unique to architecture and design.

Architectural education embodies a unique combination of traditional, lecture-based subject teaching and design-centred, studio-based teaching modes. Additionally, architecture courses in most countries is one of the longest offered. On the background of these characteristics, the "*integration*" of the diverse subjects and modes of teaching is the key pedagogic issue that impinges on the effectiveness of education.

To achieve the "objectives" of architectural education as stated through the teaching of the "content", both traditional and innovative new modes and techniques should be used. Architectural education with its long history from apprenticeship to building, engineering, art and university education already possesses some unique teaching modes and methods (e.g. studio). In order to meet the demands of changing social and urban needs, lifestyles, technologies and specificities of the university education, and to utilise emerging design tools (e.g. computers), and teaching modes (e.g. distance learning), innovation and experimentation in teaching methods must be encouraged.

Some use can be made of the methods and mediums of related professions (e.g. urban planning, industrial design), other arts (e.g. graphic design, painting, sculpture) or other disciplines (e.g. management, social sciences, computer science).

In terms of dominant principles, models and pedagogic methods there are several popular descriptions, such as "*project-based learning*", "*problem-based learning*", "*learning by doing*", "*studio-based teaching*", etc. There are also various modes of structuring the programmes and the years

II.4 Management and Structure of Architectural Education

II.4.0 Educational Management: concepts

Architectural education (in fact, education in any field) is an organised form of learning and teaching. As such, it is *managed*.

Management of education is to do with the management of the *curriculum* and resources, hence, *knowledge, people, funds, time* and *space*. Its context and connections include the profession and society, their institutions and, of course, other practices, disciplines and schools.

All aspects of pedagogy are linked. The *objectives, objects, methods* and *management* of education constantly determine and influence each other in a variety of ways. Among these, management of education is the key aspect in setting up practical relationships amongst all the other aspects and elements.

A systematic discussion on the management of architectural education should therefore involve at least the following levels:

1. Systems, methods, models, philosophies and styles of management,
2. Links with the objectives, aims and methods of architectural education,
3. Different contexts, real problems, responses from within schools,
4. Significant traditions and current trends, successful (or unsuccessful) experiments, innovations.

II.4.1 Management of Knowledge: the Structure(s) of Architectural Education

The *structure of education* (as distinct from that of the courses or the curriculum examined above) is to do with the following:

- The number of years;
- The place of the School of Architecture in the institution/ university/ faculty structure;
- The number of years in each stage (e.g. the First Stage, Second Stage, etc.);
- The administrative structure of and the relationship between undergraduate/ postgraduate courses, and the hierarchy of staff teaching them, in addition to the relative positions of research, teaching and practice;
- The relationship between and the hierarchy of courses and projects (e.g. "Foundation Course", "Basic Design", "Studios", "Technology", etc.);
- The involvement of professional bodies in setting the structure of the architecture study programme, its validation and accreditation, the recognition of degrees awarded, etc.

II.4.2 Management of People

Who teaches, *who* is admitted as a student, *who* runs schools and *who* has the power to guide, evaluate or validate these is crucial. These may vary in different social, political or legal contexts. Whilst a global uniformity in these areas may be counter-productive, the UIA could facilitate greater understanding of standards, hence, greater possibility of exchanges between courses, course modules, staff and students in different countries.

Greater use of experience and expertise possessed by practicing architects must be utilised. Conversely, academics must be encouraged to contribute to the practice of architecture in different ways (e.g. mid-career education, research-based design).

Greater participation of all those involved in education and less emphasis on hierarchy in educational structure would be conducive to creative developments in schools. Sharing of responsibilities in schools as well as between schools and the profession and between allied building professions would create greater identification with the aims as well as the outcomes of education. It would also set an example to other sections of the society.

II.4.3 Qualification of Teachers

The qualification of teachers is an essential condition of the quality of the education process specific to an architectural school, and one should consider it from many points of view: the professional, the pedagogical, the overall cultural view, the managerial experience of practice, etc.

In order for teachers of architecture to guide students in achieving their capabilities as architects, it is necessary for teachers of architecture to have close contact with professional practice. It is therefore desirable for the majority of teachers to be either practicing architecture or to have substantial practice experience.

It is advisable that a teacher who practices architecture should be encouraged to do so, provided that this activity does not impede the academic performance of that person. The presence of recognised personalities, masters in the field of architecture, is likely to be a creative catalyst, defining the specificity and attractiveness of the school. Certainly, this is rated as a positive feature of the school as long as the school, in its evolution, does not subordinate itself to the unconditional worship of that personality.

Being a "good architect" does not necessarily ensure that the person is a good teacher. The teacher has to possess an ability to work outside as well as within professional concepts, to be able to synthesise and communicate educational issues; to be creative in setting projects, to discover and develop the student's talent, and to possess pedagogical tactfulness to foster the student's own thinking. Moreover, the teacher has to find a way to sustain a didactic career by a working method that should be both motivated and articulated by coherent objectives and be able to adapt personal habits and knowledge, as well as working methods, to the changes occurring within society, from a local, regional, and international perspective.

Beside the basic formation in the domain of a didactic activity, it is desirable that the teacher should have a specific specialisation along with at least a preliminary pedagogical formation or expertise.

Research in the field of architecture, variously through practice, scholarship and deep analyses of related works, is one of the key ways of ensuring the personal development and status of qualification of the teacher. Research done for a higher degree, such as Masters or Doctorate, though not the sufficient condition for being a good teacher, must nevertheless be seen as essential.

The schools of architecture should run a mechanism of teachers' selection and promotion, one that involves a stimulating and competitive system of evaluation. This should also apply to the part-time teaching staff. At the same time, it is the school's responsibility to create proper research conditions,

opportunities for continuous education programmes for the teaching staff, including national and international cooperation in programmes of exchange.

II.4.4 Students: Minimum Entry Requirements

Students entering educational institutions to study for a professional qualification in architecture should ideally have had a broad secondary school education that encompasses a mixture of arts and science based subjects, ideally studied to the age of eighteen to an advanced level. Up to the age of sixteen, subjects should be drawn from academic fields of study and include mathematics, physics and a language. Other arts and humanities subjects such as art, history or history of art and an understanding of social and cultural issues, hence, sociology, history or social geography are also recommended.

Schools of architecture should have an explicit policy for applicants to study programmes on their entrance requirements. As part of their admission procedures, some institutions may prefer an entrance examination, and some may conduct interviews as is traditional in some national schools. Students may also be required to provide sketches, photographs and models in a variety of media to demonstrate their visual aptitude and suitability for a career in architecture.

Mature students, or those without traditional qualifications, can be admitted to architecture schools. They might have experience in the industry or in another trade, hence, may have some skills, but must also be ready to cope with university level study. They may be asked to provide a portfolio of drawn and written work to show visual ability. Some schools of architecture run foundation courses that are an excellent preparation for an architecture course especially for candidates such as these.

Students with a degree/ diploma/ first cycle certificate in a subject outside the field of architecture may be required to start at the first semester of the course/ study programme. A degree, /diploma or first cycle certificate in a related field may entitle a student to be exempt from some parts of the study programme, depending on the institution's admission requirements and the student's prior educational record and achievement.

Full time, or part time university-based study programmes are the preferred route to achieve professional training and these should be undertaken with a period of practical training during the programme. They should offer students a variety of routes to achieve a professional training, which can help them combine personal and professional responsibilities with their training needs. The multiplicity of these routes is respected by the UIA, and encouraged, as it brings a richness and diversity of people to the profession of architecture.

II.4.5 Management of Time: Organisation of the academic year

There are several models of organising and managing the time aspect of architectural education. This is based, variously, on the number of years, how these years are divided up or how and by whom various attainment levels of knowledge or competence are assessed and certified.

In general, there are two dominant systems in the World each with its own historical background: 2 Semesters or 3 Terms. There are also some variations, often based on climactic differences, between the commencement and the end of the academic years in different countries. Some form

of standardisation of the academic year allowing some local flexibility, would greatly enhance the comparability of Courses and the chances of international exchanges between Schools.

As to the activities in the year, the curricular activities may be spread autonomously, grouped in modules, scheduled regularly on a weekly basis or merged within a given time, varying from week to week. In each case there are more stages within one semester, each involving the definition of an objective and the on-going evaluation, especially in the case of the "project". It is assumed that Studio time will equate to at least half the curriculum time.²¹

Efforts should be made to coordinate arrival points, to allow transfers between years or at the end of the Basic First Stage Architectural Education. It is better for students to stay within the university system to complete the Second Stage Professional Architectural Education.

To facilitate easy transfer for students between institutions, it is suggested that institutions should establish "achievement" levels, preferably at the end of a set number of semesters (e.g. 2, 4, 6, 8, and 10) but preferably at the end of the Basic First Stage Architectural Education, normally 6 semesters, and at the end of the Second Stage Professional Architectural Education, normally a further 4 semesters.

II.4.6 Management of Educational Space

The buildings in which future architects are educated are often as important as the lessons they get in those spaces. 5 years of working in a space may discreetly effect the make-up of their spatial awareness.

Secondly, the management of educational spaces in architecture schools is more than a facilities management issue. The relationship between studios, lecture rooms and other spaces, the quality of public spaces or those of exhibition areas, the existence or otherwise of an in-house library, the relationship between the staff offices and the studios, are all pertinent educational factors.

II.4.7 Management of Funds

As a public service, architectural education requires sufficient funding for its effective operation and continuous development. It should not be restricted by fluctuations in funding or external considerations such as student numbers. There can be different modes of funding education in different contexts (e.g. public, private, self-financing,)

The specific nature of architectural / design education with its unique requirements (e.g. space, time, staff/student ratio) must be emphasised in presenting the case to funding authorities.

Whatever the mode of funding, the aim must be (a) to achieve the highest possible quality; and (b) to allow as wide an access to education as possible.

II.4.8 General issues concerning Management and Structure of Architectural Education

A. Validation

Validation is principally an "output" based assessment process. *Accreditation*, on the other hand, is principally an "input" based process.

The UNESCO-UIA Validation System, when in place, will aim to assess study programmes with a view to promoting excellence The issues under consideration include:

1. *Study Programmes*

Validation criteria, including regional specificities, an agreed standard and procedures have been established so that the UNESCO-UIA Regional Validation Committees can assess study programmes available in schools of architecture in their region against an established UNESCO-UIA standard that will allow validation of these study programmes, both within their own region, and globally.

For study programmes that wish to be validated by the UNESCO-UIA Validation System, the Committee has set up a protocol for investigating and assessing the study programme, by visiting the institution and comparing the objectives of this study programme with previously validated study programmes.

2. *Systems*

Validation procedures are expensive to deliver and it is appropriate that local systems of validation, rather than individual study programmes, are recognised by UNESCO and UIA. Accordingly, a process, the agreed standard and criteria, have been established so that the UNESCO-UIA Validation System for Architectural Education can recognise bodies that will receive recognition as validation service providers, both within their own country, and externally including any new validation system requiring recognition.

Validation Systems that wish to be recognised can apply for UNESCO-UIA Validation, and upon request and payment of the fee, they will be investigated and assessed. The Committee has also developed a protocol, in the same manner, for new validation systems that wish to be recognised.

3. Implementation

Acknowledged standards for the validation of study programmes / courses in architectural education exist in many countries around the world, and these have been considered in the development of this global Validation System.

Implementation procedures for the UNESCO-UIA Validation System for Architectural Education have been developed from existing expertise in member countries and other architectural associations

B. International issues: Portability of Educational Qualifications

The UIA is committed to the principle of portability of educational qualifications in architecture and educational experience. This means that architectural education study programmes in all member countries of the UIA should be provided to a standard and scope that enables local, regional and international recognition of qualifications at each key stage, whilst acknowledging local variations.

Some countries tend towards a minimum of 5 years full time study where the equivalent content, as a basis for registration, is delivered through the academic institution without the need for office-based practical experience. There is therefore some disparity in the structure of education between the requirements of the national systems for UIA Member Sections.

The key issue in reviewing portability of qualification relates to what, if any, part of a course must be "domain specific". The recommended standards should ensure that this key issue is used in reviewing the portability of qualifications.

Portability of qualifications between schools in the countries of the Member Sections of the UIA is desirable as it enables free movement between schools of architecture at a global level for students, teaching staff, and research staff. Each institution has the right to review and approve the transfer credits.

The principle of portability of educational qualifications should be adopted by all countries of the UIA Member Sections. Satisfactory completion to standards should be expected at the conclusion of at least the basic First Stage Architectural Education qualification (at least 6 semesters), and an additional 4 semesters for the Second Stage Professional Architectural Education. This will allow substantial movement of students during training and for teaching.

III

Other Issues Related to Architectural Education

III.0 Specialisation

Architect's *specialisation* should be considered as subsequent to the architect's formation as a *generalist*. This is a means to make the architect's response attain the highest standards in areas such as conservation of heritage buildings and their environs, social housing, urban design, healthy buildings and cities, project and construction management, town and territory planning, management of resources, landscape architecture, etc., by expanding the opportunities for the architect's professional participation, given the competitive conditions that they encounter with other professions.

Specialisation presupposes a prior open formation that prepares students for wider, interdisciplinary goals. In-depth study or optional courses in the final years of study, as well as the possibility of having access to a post-graduate course, organised by the school of architecture or by other academic institutions, are some of the means by which specialisations can be offered. On completion of specialist courses, an additional certificate or diploma can be granted besides the architectural degree.

The present trend of an academic education system, emphasised at the UNESCO World Conference on Higher Education (Paris, 1998) is for a differentiated, multi-convergent specialisation placed within a cultural framework, one that should be sustained by a basic professional formation.

III.1 Interaction between Practice and Teaching

The Charter in Paragraph III.5 states

"Continuous interaction between (the) Practice and teaching of architecture must be encouraged and protected."

As architectural education prepares students for a professional career, opportunities should be available for the teaching establishments and the local architectural bodies to interact, and to ensure that teachers, practitioners, graduates, students and other players who shape the built environment, are given the opportunity to meet, discuss, connect and establish long-term partnerships for the exchange of information, ideas and experiences.

III.2 Training, Knowledge, Licensing

The issues to do with professional training, professional knowledge, granting of a Licence to Practice and the role of registration bodies are dealt with in other UIA documents as follows:

1. Professional Training:

- Recommended Guidelines for the UIA Accord on International Standards of Professionalism in Architectural Practice Policy on Practical Experience / Training / Internship.*
2. Demonstration of Professional Knowledge and Ability:
Recommended Guidelines for the UIA Accord on International Standards of Professionalism in Architectural Practice Policy on Demonstration of Professional Knowledge and Ability.
 3. Licence to Practice Architecture:
Recommended Guidelines for the UIA Accord on International Standards of Professionalism in Architectural Practice Policy on Registration / Licensing / Certification
 4. Role of Registration Bodies in Member Sections:
Recommended Guidelines for the UIA Accord on International Standards of Professionalism in Architectural Practice Policy on Registration / Licensing / Certification

III.3 Continuing Professional Development

The architect's education is a lifelong process. It does not cease once the degree or diploma is received, after 5 or 6 years of study. Although experience is accumulated by practice, it is only to be expected that architects must keep up with new developments in the arts and the sciences of architecture throughout their careers. It can also be considered as part of their risk management.

Continuing professional development can be offered by professional institutes, by schools or by independent providers. The contents, number of hours and the standards are best set by professional institutes in association with the schools in the light of *The Charter, The Accord* and *The Guidelines* as well as this document. Continuing professional development could also be subject to appropriate forms of validation to safeguard standards.

Historically determined connections between the professional institutes and the education of architects are important in understanding the differences between various educational systems in the world. Whilst aiming to increase understanding and exchange between UIA Member Sections in different countries, and whilst aiming to have a set of internationally recognised standards of professionalism in architectural practice and education, the cultural and other differences must be respected. In fact, these differences might be invaluable resources for mutual enrichment.²²

III.4 Pre-University Education

Education is the process by which society prepares its young people to be capable citizens. Most people live in built environments. Education should therefore empower children with knowledge of the process that determines the form and nature of the built environment, so that they can confidently and usefully participate, directly and indirectly, in that process throughout their lives. Because of the exemplary references they represent for the public and, even more particularly for children, the creation of educational and cultural facilities, of public spaces and housing should be given particular attention by architects.

Pre-university education with an architectural content is not only important for potential future architects, but is also beneficial for society as a whole in highlighting the contribution of architecture in creating humanitarian and aesthetic values throughout the ages.

The following ideas and themes, in particular, those on the relationship between art and architecture, will enhance children's understanding of the built environment, and teachers and governments should be encouraged to consider them when setting their primary and secondary schools syllabi for their courses with direct relevance to the built environment:

Policy Objectives for teachers and governments:

- Opening the mind, the heart and the eye to a sensitivity to people, places, spaces and forms.
- Encouraging an understanding of, and a respect for, the heritage of the place and people associated with the place.
- Enhancing communication between decision-makers, politicians, local authorities, architects and planners.
- Positively influencing government and independent education bodies in the issues of built environment education.

General Benefits:

- Training the mind with an ordered and planned ability to learn, explore, reason and communicate.
- Developing knowledge and skills of creativity, invention and design.
- Encouraging open-minded, enquiring attitudes and providing opportunities for engagement in a wide spectrum of the curricula, particularly in literacy, numeracy, the visual and plastic arts, architectural history, literature, poetry, music, humanities and the sciences, and to the interrelated activities of creativity and scholarship, supported by communication and information technology.

Focused Themes:

- Encouraging respect for and an increased awareness of the environment and the protection of lifestyles including an awareness of the natural balances for sustainable development and the saving of energy and developing an understanding of the effects on humans of aspects of built and natural environments.
- Encouraging a sense of responsibility for the form of the built environment and the role of the individual for maintaining a clean, healthy and safe environment.
- Engaging children and school communities in their built environment and developing an understanding of the ways in which the built form of their local communities is developed, including aspects of housing and the importance of the use of public domain and lifestyle education.
- Raising an awareness of the role of the individual in the decision-making process of the form of the built environment.
- Encouraging the relationship between the built environment and social justice issues such as the rights and responsibilities of participating in a democracy; respect for the law and for legitimate and just authority; respect for different choices, viewpoints and ways of living; and commitment to ethical behaviour and to equitable participation in decision-making.

Methods and Tools:

The introduction of architecture as a product and as a discipline, could be channelled through lessons, exhibitions, computer games, fairy tales, etc.

Children are never too young to learn and their awareness in the delight of the built environment and their part in it, will instil a confidence and pride of place which they can carry forward for the whole of their lives, whether as an architect, a client, a builder, a user or just as an informed

citizen who cares about their lifestyle and the way this can be enhanced by an informed mind, considering sustainability and built environment issues.

The UIA Work Programme "Architecture and Children", set up at the UIA General Assembly in Beijing in June 1999, aims to advance architecture through the provision of resources and programmes to enable primary and secondary teachers and students to understand architectural design and the process by which the built environment is shaped.

III.5 Other areas in which architect's skills and practice could be of use

"There is not just one description of an architect, but many across the areas of design, management and technology (e.g. a typical architectural practitioner in a small/medium practice, an architectural critic or writer, a project manager on a major building, etc)." ²³

"It is possible to describe the characteristics of "an architect" in most of the diverse guises we find today as a person who exercise(s) creative thinking to solve complex ill-defined problems relating to issues of the built environment and human habitation. It is possible for the domain of architects to be stretched to reclaim territories that architects used to occupy i.e. human settlements, urban design and landscape architecture, building, interior and industrial design. Architectural thinking will permeate all." ²⁴

In view of the specificity of the education given to students of architecture, other fields of actions and other openings could become available to architects for the greater advantage of Society. Effectively, their education and learning in disciplinary fields that interest Society as a whole (technical, arts and human services), their ability to take into consideration the environmental consequences of their actions, their ethics and their capacity to pose social, economic and cultural questions allow them to propose coherent policy choices or at any rate to present the challenges and define the consequences of the decisions taken that are of interest to the whole of society.

The capacity to create a virtual architectural project — which may be incomprehensible to others, to imagine and project ideas in the future, to innovate, to anticipate and to put into question one's own creations, constitutes an incomparable wealth for the architectural student, which should be available to numerous disciplines, institutions and professionals.

Over and above the immediate involvement one can imagine for the architect, in the construction world, in architectural promotion and in all the activities annexed to the construction of buildings, space planning, urban planning, urban design or territorial planning, other means of application of the architects knowledge, such as in teaching, history, management, archaeology, art, but also administration, promotion, cultural activities, can be found.

An architect is taught to think laterally, to think outside "the square". This often results in innovative solutions not used before. These are talents that should be available more widely to offer better solutions to the built environment and to enhance the culture of society as a whole.

Architects have the ability to inspire others with their creations. We must find the means to enable them to contribute much more through their understanding of the requirements for a humane society by providing quality to the built environment, And all of that without mentioning the civic activities, a field where the architect could also be of greater use, be it politics, at State, local community, territorial level, associations etc.

IV

UIA and the Future of Architectural Education

Conclusions and Recommendations

Further development of the architectural profession cannot be envisaged without further development of education. However, architectural education must try to balance (a) the need to be responsive and be able to change when necessary, and (b) the importance of having a principled position in matters of knowledge, society, culture, ecology and especially ethics. It is therefore imperative for education to cooperate with the profession in keeping recommended standards as briefly stated in UIA documents. Furthermore, as these documents are not "cast in stone", they too should be closely scrutinised, used in education and, when necessary, should be modified by the UIA upon appropriate suggestions from the schools, as well as the professional institutes and thoughtful individuals.

To ensure that architectural education is kept current with evolutionary developments in the practice of architecture, constant contact of the teaching institutions with the world of practice is essential. UIA, in its educational work should aspire to be informed of the current practice models and be closely aware of architects' work in widely varying cultural and environmental contexts, through its Member Sections.

The present document, *UIA and Architectural Education - Reflections and Recommendations* with its brief, but comprehensive, coverage of educational matters and their relationship with architectural practice and society, aims to contribute to this process. It offers a basic framework through which educational discussions, evaluation and course and programme development can be carried out along some shared parameters. It is hoped that all architects, teachers of architecture and the students themselves will take a closer interest in education, and pass this interest to those public and private bodies that are variously connected to the building process.

As none of these documents have any direct say over the ways in which education is structured or run, they are meant to be *advisory* documents. However, through a wider dissemination and discussion of this document, and, specifically, through the proposed *UNESCO - UIA Validation System* that has been developed, a greater appreciation of universal professional and educational objectives can be promoted.

The UIA, as the organisation that brings together all national institutes and all architects in the World, is best placed to provide viable frameworks within which the conditions for more universal, equitable and livable built environments for all can be articulated through architectural education and research, and can be produced through design and building practices.

This document, "*UIA and Architectural Education – Reflections and Recommendations*" should be made available to all UIA Member Sections, to inform them of its contents and the following recommendations for architectural education. Member Sections should be encouraged to disseminate it, to promote discussion of these objectives and their use in their country.

RECOMMENDATION NO. 1. ENCOURAGE all Member Sections to disseminate the UNESCO-UIA Charter for Architectural Education to

their national education authorities, and recommended that they adopt these principles and competencies as the basis of all architectural education study programmes within their jurisdiction. (*Refer Clause I.2 Introduction - The Charter*)

RECOMMENDATION NO. 2.

INFORM all UIA Member Sections of the proposed UNESCO-UIA Validation System for Architectural Education, which requires that the following aims are adopted by every study programme accredited by a validation system requesting UNESCO-UIA recognition and every study programme requiring UNESCO-UIA validation:

1. Conformity of the study programme with the UNESCO-UIA Charter for Architectural Education.
2. Assurance that the study programme provides a high level of quality, based on the required capabilities.
3. Academic portability of the study programme's content at the international, regional and local levels (*Refer Clause I.2, Introduction - Validation Systems*)

RECOMMENDATION NO.3.

REMIND all UIA Member Sections that the two basic purposes of Architectural Education are:

- To produce competent, creative, critically minded and ethical professional designers/builders *and*
- To produce good world citizens who are intellectually mature, ecologically sensitive and socially responsible. (*Refer Clause II.1.0, The contexts, objectives, purposes*)

RECOMMENDATION NO.4.

SUGGEST to all UIA Member Sections, that they approach their governments to encourage them to make society conscious of how their surroundings are created, how buildings make a difference in their lives and in what ways they can participate in the design and construction processes, by instituting in primary and secondary schools and for adults in mid-career, appropriate education to establish a more enlightened society with a deep awareness of environmental processes and urban and architectural artefacts constituting the framework for social life. (*Refer Clause II.1.1, Social, cultural, political contexts*)

RECOMMENDATION NO.5.

Request all UIA Member Sections to discuss with their tertiary education authorities, having jurisdiction over architectural education, the "UIA Guidelines For Evaluating Architectural Education Study Programmes And Their Outcomes". (*Refer to Appendix A*).

Notes and References

1. See *Bibliography* for the various UIA Documents referred to in this publication and in the Notes below.
2. UIA Education Policy as stated in the *UNESCO-UIA Charter for Architectural Education* and *The UIA Accord*, is that "education for architects (apart from practical experience / training / internship) be of no less than 5 years duration, delivered on a full-time basis in an accredited / validated / recognised architectural program in an accredited / validated / recognised institution, while allowing variety in their pedagogic approach and in their responses to local contexts, and flexibility for equivalency."
- 3, 4. cf. Teymur, N., "Learning Housing Designing", in Bulos, M. and Teymur, N. (eds): *Housing: Design Research Education*, Aldershot, Avebury, 1993, pp.3-27.
5. On the spatial formation of society and the social construction of urban and architectural space, see, Hillier, B. and Hanson, J., *Social Logic of Space*, Cambridge, Cambridge Univ. Press, 1984.
6. cf. *The Charter*, Sec. I/1.
7. The "Fundamental Requirements of an Architect" as stated in the EU Architects" Directive, in *The Charter* and *The Accord* [see the section "Professional contexts" below] are particularly explicit about the social obligations of the architectural profession, hence its education. For a brief interpretation, see, Markus, T., "A Social Charter for Architecture?", *Architecture Today*, No.10, 1990.
8. cf. *The Accord*, para.8.
9. cf. *The Accord*.
10. On buildings as complex technologies spatial construction as well as mechanism for social control, see, Markus, T., *Buildings and Power*, London, Routledge, 1993.
11. cf. *The Charter*.
12. See, UIA Beijing Charter, 1999, Sec. 2.2: "A common theme, a common future".
13. On the internationalisation of architectural practice and the building industry, and its implications for education, see *Architectural Education – Issues in educational practice and policy*, Teymur, N., London, Question Press, 1992, Chapter 5: "Glocalism": a new paradigm for architectural practice and education in an international and European context, pp.39-48.
14. A new *Accord Policy Guidelines on "Practice in a Host Country"* has been developed by Professional Practice commission to be presented in Berlin assembly for adoption.
15. *op.cit.*
16. cf. *op.cit.*, Reference 13, pp.18-22.
17. cf. *The Charter*, Sec. II: "Educational Objectives of Architectural Education".
18. On doctorates in architecture, see, Foque, R. (ed): *Doctorates in Design and Architecture*, Delft, EAAE / TUD, 1996.
19. For a brief outline of types of research, see, Archer, B., *On the Methods of Research*, Ankara, METU FoA Press, 1999, pp.1-18.
20. cf. UNESCO "World Declaration on Higher Education for the Twenty-First Century : Vision and Action"., Article.5(a)
21. cf. *The Charter*, Chapter III.7.
22. cf. *The Charter Guideline "Continuing Professional Development"*.
23. 24. Mullholland, M., "The Leader as Architect — the Architect as Leader", paper delivered at InterArch '97, Sofia.

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Recommended Guidelines for the UIA Accord on Recommended International Standards of Professionalism in Architectural Practice - Policy on Demonstration of Professional Knowledge and Ability, (adopted by the XXI UIA Assembly, Beijing, June 28, 1999).

Recommended Guidelines for the UIA Accord on Recommended International Standards of Professionalism in Architectural Practice - Policy on Practical Experience / Training / Internship, (adopted by the XXI UIA Assembly, Beijing, June 28, 1999).

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Appendix A

UIA Guidelines For Evaluating Architectural Education Study Programmes And Their Outcomes

- GUIDELINE NO. 1.** **“THAT the Basic First Stage Architectural Education should establish the core principles and basic architectural knowledge to develop awareness of, and aptitude to, design, co-ordinate and carry out projects”** (*Refer to Clause II.2.3.A, First Stage Architectural Education*)
- GUIDELINE NO. 2.** **“THAT the Second Stage Professional Architectural Education should continue the core principles, the curricula and the calendar year rhythm set in the Basic First Stage Architectural Education, and it should promote the need for the continuation of excellent staffing resources, coupled with a flexible approach to the structure and content of the study programme, examined through unit outcomes, including a mature understanding of the controlling influence of environmental, structural and technological issues on design and building form, as well as an appreciation of cultural and social issues, visual art disciplines, their influence on design, and be aware of various institutional and legal as well as constructional processes involved in the design of complex buildings”** (*Refer to Clauses I.2.3.B, Second Stage Architectural Education and II.1.3, The World of technology and industry*)
- GUIDELINE NO. 3.** **“THAT the basic content of study programmes should be encouraged to conform with the UNESCO-UIA Charter for Architectural Education”** (*Refer to Section IV, UIA and the Future of Architectural Education, Recommendation No. 2.*)
- GUIDELINE NO. 4.** **“THAT the outcomes of the study programmes assure that architectural students, by the end of their studies, acquire the capabilities of Design, Knowledge and Skill, as noted in Clause II.2.2 to fulfil the architect’s role as a generalist capable of co-ordinating interdisciplinary objectives”** (*Refer Clause II.2.2, Curricular Capabilities*)
- GUIDELINE NO. 5.** **“THAT, as UIA is committed to the principle of portability of educational qualifications in architecture and educational experience, architectural education study programmes in all Member countries of the UIA should be provided to a standard and scope that enables local, regional and international recognition of qualifications at each key stage, whilst acknowledging local variations”** (*Refer Clause II.4.8.B, International issues: Portability of Educational Qualifications*)
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