MIMED Forum IV:
Flexibility in Architectural Education

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Edited by

Beyhan Bolak Hisarligil, Sevgi Lokce
and Oktay Turan

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Edited by Beyhan Bolak Hisarligil, Sevgi Lokce and Oktay Turan

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SEVGI LOKCE

Architectural Education

MimED has held joint forums in Istanbul (ITU, Faculty of Arch.), Gazi Magusa (EMU, Faculty of Arch., KKTC), and Kayseri (ERU, Faculty of Arch.) since 1997.

MimED is an association primarily aimed at improving the quality of architectural education, promoting communication between national and international organizations, and conducting conferences, forums, and cooperation studies on architectural education.

Today, architecture is still struggling with its scientific foundation in academia and, with questions such as “What is architecture?”, “What is architectural education?”, “How can education meet the quality standards in universities?”, we need to ask, has it been seen as teaching for a long time?

Nowadays, our practice of architectural education could be considered inadequate when compared to conferences, forums on theory, history, building physics, structural design, computers in architecture, and especially the design of the built environment/space.

The constantly changing, developing and diversifying labour organizations, fields of study, tools and methods of technology in design, construction and communication have given rise to a rapid change within the practice and profession of architecture. The appreciation and perception of architecture and its modes of thinking are also affected by the enforcement of this paradigm offering rapid change.

The priorities in education should be redefined and new pedagogies should be introduced due to the continuously changing framework of new values and ideas and enhancing formations, skills and tools.

All the improvements in the field of architectural production correspond with international values which make this field of production happen. In a rapidly changing world, architecture is strongly affected by the non-static requisites of unpredictable and life-changing parameters. The rapid change in the system of dominant opinions and values has a crucial impact on the teaching of architecture.

In this process of change, the interaction of multi-disciplinary, trans-disciplinary and inter-disciplinary fields with architectural education is open to educational and pedagogical experiments. The fields of knowledge and teaching methods in the 'Studio' tend, in a fashion, to embrace cultural notions and ideological affiliations rather than rigid formations. The potential in digital media such as CAD makes a difference not only in representation but also in design.

The new approaches to design in architectural education make it essential to make radical changes in architectural curricula.

The impact of such a change manifests itself as a new paradigm which necessitates a flexible structure to form new values and principles.

The introduction of new values and qualifications in addition to the established values in architectural education promotes creative values, principles, ethical objectives and flexibility.

In this context, the architectural profession and architectural education are quite unique; no other profession is so critical of itself.

Forum IV on Architectural Education with the theme "Flexibility in Architectural Education" should be considered as an activity in which the architectural education platform is cross-examined, new ideas and experiences are shared, and the potentials of "regeneration" are discovered.

I first want to extend my thanks to keynote speakers, presenters, moderators and all participants in the forum, for offering their thoughts and participating in lively discussions during the forum. Input from this distinguished group is always at the heart of Forum's success.

My thanks to the forum staff; Burcu CEYLAN, Sencer ERKMAN, Gonca BUYUKMIHCI, Sema SERIM, Beyhan BOLAK HISARLIGIL, Fusun KOCATURK, Ozlem PARLAK BICER, Burak ASILISKENDER, Yesim ALEMDAR and Hale KOZLU, Seven YUCEL, Oktay TURAN, Duygu OVACIK, Ozlem SUMENGEN, Ozlem ATAK and Ahmet Erdem TOZOGLU.

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On behalf of my faculty, I would also like to express my special thanks to Prof. Dr. Gulsun Saglamer, Chair of MimED, for her role and work on all forums and architectural education agenda in Turkey.

PREFACE

GULSUN SAGLAMER
(HON. FAIA, CHAIR OF MIMED)

Rethinking Architectural Education to Cope with Changes in an Increasingly Uncertain World

It is a great pleasure for me to welcome you to the fourth Forum on Architectural Education organized by MIMED (the Association for Architectural Education) and hosted by the Department of Architecture of Erciyes University. It is also a great honour for me to be amongst distinguished colleagues from all over the world as well as from Turkey. The Fourth International Forum on Architectural Education featuring the theme **"**Flexibility**"** is organized with the aim of bringing together scholars and practitioners from all over the world to discuss the current nature of architectural education.

MIMED has so far organized three forums. The first one was held in Istanbul at Istanbul Technical University with the main theme of "Quality Assurance-Accreditation". The second one was held in Northern Cyprus, in Magusa at the Eastern Mediterranean University with the theme of "Architectural Education for the Third Millennium", The third one was held in Istanbul again at Istanbul Technical University with the main theme of "Globalization". Each forum has been a success in terms of creating a platform for interaction between educators, students and practitioners. We hope that the new theme in the Fourth Forum "Flexibility" will create an even better environment for participants to share their experiences and opinions on architectural education.

As we all know, architecture, which is a wonderful combination of art, science & technology, and which shapes the physical environment with its social and cultural components, is faced with drastic transformations in our age. Under the forces of globalization, there is an urgent need to rethink architectural education and to try to create adaptable and flexible systems to achieve continuous improvement in our educational processes. The students that we are trying to educate should have opportunities to develop their skills, to extend their knowledge base and to be involved in

the thinking-learning-acting process to improve their performance to enable them to compete and contribute to the lives of the people whom they serve. As Monterio and Sharma stated, “They should be critical thinkers, problem solvers, analytical investigators and creative imaginative scholars if they are to be assured of future success” (Monterio and Sharma 2010). Therefore we need to have “living curricula” instead of a “collection of courses” which will provide us with a suitable space where we can make the necessary alterations according to emerging needs without any bureaucratic barriers. Without question, that change requires “a new mind-set” in architectural education. I believe that the “educators” are at the crossroads of our academic life as we are in the position to educate “digital generations” where we observe big gaps between young high-speed learners and ourselves.

After setting the scene, I would like to take a broader view of design education in terms of design choice as a continuum between “point design” and “adaptable design”. “Point-Designs” with a Well-Defined Function for a Pre-Described Environment have traditionally been used mainly in engineering design. “Adaptable-Designs” that can serve “Unforeseen Functions” in an “Uncertain Environment” have been widely used in architectural design. As uncertainty increases, the need to shift from Point Designs to Adaptable Designs arises in all design fields (Saglamer and Karakullukcu 2004).

According to Hasting, “Point Designs” are traditionally associated with *RELIABILITY*, whereas “Adaptable Designs” are associated with *VERSATILITY*, *FLEXIBILITY / EVOLVABILITY*, *INTEROPERABILITY*

- **Reliability** is a measure of the “Probability that the system will do the job it was asked to do”
- **Versatility** is a measure of the “Ability of the system, as built/designed, to do jobs not originally included in the requirements definition”
- **Flexibility** is a measure of the “Ability of the system to be modified to do jobs not originally included”
- **Evolvability** is a measure of the “Ability of the system to serve as the basis of new systems to meet new needs and/or attain new capability levels”
- **Interoperability** is a measure of the “Ability of the system to play well with others both with systems it was originally designed to work with and with future systems.”

"Interoperability" is an attribute essential for society's adaptability. ***Society needs to become adaptable***: Just as individuals need to attain attributes of "adaptability", societies composed of those individuals also need to be adaptable when uncertainty is on the rise. ***Institutes of higher education in design education have a key responsibility:*** Since rapid developments in technology constitute a major component of uncertainty, institutes of higher education in all design-related fields have a key role in their societies to develop mechanisms for adaptability. ***Individual's interoperability is key for society's adaptability:*** For a society to attain "adaptability", its constituents need to be able to communicate and interact effectively and to shape each other through that interaction. Therefore, interoperability is key for social change.

The human capital trained at design schools can be shaped with the focus on the graduate's ability to solve well-established design problems in her/his discipline and depends on their competence in **reliability.** On the other hand, the graduate's ability to serve unforeseen roles in a continuously changing world depends on versatility, flexibility/evolvability and interoperability. **Versatility:** S/he can solve problems, do jobs not originally intended solely based on his/her university training. **Flexibility/Evolvability:** S/he can add skills and modular training on her/his university formation easily to do jobs not originally intended or foreseen. **Interoperability:** S/he can interact effectively with other professionals both with those originally intended and unintended and with future counterparts.

The framework described above may help us better understand the importance of flexibility in architectural education, design, and practice as well as our social responsibilities towards our societies. I believe that being able to discuss the problems in a wider context will develop our ability to cope with uncertainties. Therefore rethinking architectural education is a "must". We have to restructure our curricula in a way that will provide a "living curricula" addressing the listed competencies together with issues that I have tried to summarize above.

This forum has been realized by the contributions of organizers, keynote speakers, speakers, chairs, sponsors and participants. I would like to thank everyone who made it possible for this forum to be held in Kayseri. My special thanks to Prof. Dr. Sevgi Lokce, Dean of Faculty of Architecture, at Erciyes University and her team for their excellent work and tireless efforts to make the Forum successful. I would also like to thank our sponsors *Is Gayri Menkul Ortakligi* for their continued support; Without their help it would not have been possible to organize this forum

and other related MIMED activities such as the Student Competition held in 2009.

I wish all our guests a fruitful experience and a pleasant stay in Kayseri.

My special thanks to Dr. Beyhan Bolak Hisarligil for her tireless efforts to ensure the success of the Forum and for the publication of this book.

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SECTION I:

FLEXIBILITY IN ARCHITECTURAL EDUCATION: GENERAL REMARKS

CHAPTER ONE

FLEXIBILITY IN ARCHITECTURAL EDUCATION: AN INTRODUCTION

BEYHAN BOLAK HISARLIGIL, SEVGI LOKCE AND OKTAY TURAN

The notion of flexibility in architectural education is the subject of fresh and vital debate. This debate is based on whether flexibility is achieved by the inner dynamics of architecture, or the external dynamics that have a broader impact on it. However this debate seems null and void since the dynamics of both sides seem to necessitate flexibility in architectural education at almost the same level. Hence the attitude that the prerequisite for creating flexibility according to the inner dynamics of architecture depends on the protection of architectural education from the coercive effects of external dynamics is no longer a relevant issue.

Furthermore, architectural education as a role model in such a debate becomes more important not only in a monotyping global context but also in the local social context as well. Herein lies a fundamental dichotomy arising from the fact that because of globalization – if the Bologna Process can be seen as a reflection of it – curricula may face the risk of becoming uniform. However, what actually causes the notion of flexibility to arise in architectural education is the debate itself. Any effort to overcome this dichotomy in such a debate seems vital. For instance, omitting certain topics from the context of this dichotomy first and the creation of a flexible context aftermath would be a viable option in such a process. However, then the question arises whether such a dichotomy, which turns architectural education from an autonomous discipline into a quasi-autonomous one, makes architectural education into a rather political issue. Moreover, it should also be kept in mind that such a transformation may have inevitable or even unpredictable results. It is also possible to conclude that such a transformation may put architectural education into a more conservative position.

As long as the issue of flexibility in architectural education based on curricula and globalization is discussed, the role of architectural education in social structure will be questioned. In terms of globalization, there is a debate on how local preferences respond to the notion of globalization. If the autonomous nature of architectural education resists globalization, the question of the manner in which this resistance occurs and what impact it will have on architectural education seems of the utmost importance.

***

This book begins with a chapter by Kim Dovey in Section I. He draws a general framework for the notion of flexibility in architectural education and discusses the issue in three different ways: the flexibility required of architectural education in a rapidly changing world; the flexibility required of effective school environments; and the need for architects to understand flexibility of form and process in the practice of architecture and urbanism.

From global and local perspectives, Section II focuses on Flexibility in Architectural Curricula. This section begins with Herman Neuckermans giving a fresh insight on the general idea of the European perspective on architectural education and its policy modes based on the Bologna Process, and Conall Ó Catháin discusses architects' behaviour in his retrospective chapter with an emphasis on Basil Bernstein's sociological insights. In a chapter on the Ugandan experience, Mark Olweny talks about the adaptation of a new architectural curriculum and its challenges.

In the next chapter, Ugur Tanyeli asks the question "Why can't (even) Architectural Education be flexible in Turkey?" and discusses the Turkish experience with an emphasis on the challenges of flexibility in architectural education in the actual context of Turkey. Following this chapter, Ferhan Yurekli asks a rather challenging question with an emphasis on the possibility of non-curriculum architectural education and gives insights on possible experimentation.

Gulsun Saglamer and Fatma Erkok, in their chapter on Doctoral Education at Istanbul Technical University (ITU), discuss the issue from a broader perspective emphasizing a globalized world view and its impacts on doctoral education. In the chapter focusing on architectural education in a globalized world, Rengin Unver, Cigdem Polatoglu, and S. Mujdem Vural discuss the issue and its various aspects on experiences at Yildiz Technical University (YTU).

In Section III, which focuses on flexibility in architecture design studios, Iris Aravot talks about the phenomenological (and hermeneutical) essence of architectural design in the studio. She discusses the framework

of the studio, emotionally laden due to “inherent tension” in the quadruple relationship of teacher, student, space of experience, and horizon of expectation. For her, the endeavour undertaken in the studio has a broad affinity with typical phases in phenomenological research on the one hand, and, on the other, it is still extensively dominated by architectural phenomenological approaches.

Acalya Allmer introduces an interdisciplinary approach to architectural design education which aims to interpret and represent existing forms and concepts in another language at a different scale, mainly related with fashion design. While designing a three-dimensional model in order to represent the key buildings of the twentieth-century, the challenge for the students is that models ought to be wearable, meaning that they have to serve like costume models in this design studio.

Sigrun Prahl talks about her studio experience known as “Minimal Existence”, an exercise that can act as an icebreaker and initiate or continue a process of becoming a creative design individual. “Minimal Existence” makes design students think about the minimum required to live or to exist within a manageable scale which crosses borders between architecture and landscape design, product design and technology; even biology and sociology, and it walks the line between the vernacular and high tech.

Among the chapters on first year architectural design education, Aslihan Senel, Sevgi Turkkan, and Burcin Kurtuncu discuss their architecture design studio practices through the narrative of a performance, which describes the whole process via a set of “acts” and “evaluations”. While seeing the design studio as a gathering place for various practices, which include (re)producing, (re)presenting, and evaluating, they believe that focusing on these practices takes the burden off the end product and puts the emphasis on the thinking process behind production. Sait Ali Koknar, Ozlem Berber, and Funda Uz Sonmez discuss possible ways to nurture open minded, self-confident, flexible architecture students through a seemingly inflexible constraint-based studio model using their experiences of a first year architectural design studio. Contrary to the traditional educational approach “for beginners” (a small-scale topic, a territory with easily read problems and data, a step by step design process where questions -and thus answers at large- are identified by the educator, and presentations based on well-known architectural drawing or modelling methods), Akin Sevinc’s studio experience seeks a different “peculiar to beginners” approach for designers working on their first architectural project: an alternative, experimental educational and playful process based on each student’s imagination, where the design content (topic, territory,

questions, inquiry and answers), design scale, and depth are constantly questioned, studied, defined, changed and turned upside down, and different ways of presentation are sought.

Within the context of flexibility related to the digital studio, Danelle Briscoe discusses a new credo, “form follows flexibility”, and imparts the technology of parametric modelling (or flexible constraints) with rapid-prototyping to advance design thinking in the discipline of architecture. For her, architects are again being called to question how they envisage form in design, and are thus questioning the place of studio methodologies in academia. Thus, students are prompted to think critically about ‘form following flexibility’ where form is consequential to architectural studio pedagogy and, as flexibility can also mean the absolute range of responsiveness, a BIM approach can be achieved with a momentary effort alongside a willingness to compromise on the part of the student.

Following the French expression “Reculer pour mieux sauter” that can be translated as “taking one step backwards in order to make a better leap forwards”, Kurt Gouwy attempts to extract some basic principles which can help to formulate a design methodology aimed at extracting knowledge from existing buildings (precedents), not in order to mimic them, but instead to trigger unexpected and authentic solutions based on two different design cases.

Aydan Balamir introduces a housing design studio where planimetric surveys through the superposition of case studies with the student’s own design work, helps toward self-training and criticism, by means of comparing different design situations and strategies in the age of Google earth.

As digital modelling is considered as an isolated state in the generic design process, Arzu Gonenc Sorguc, Mine Ozkar, Basak Ucar, and Semra Arslan Selcuk discuss the instrumentality of the digital medium in design processes as experienced via the hands-on construction of physical models developed from digital models. In the studio, the task given to the students involves fabricating a physical model with utmost precision applying their geometric and computational knowledge.

Sema Alacam, Gulen Cagdas, Esra Gurbuz, Urs Hirschberg, and Ahu Sokmenoglu introduce algorithmic/parametric architectural design experiments into architectural design studios with reference to an international workshop titled “Adaptive Urban Furniture” which experimented with novel methods of design by using scripting and rapid prototyping and by making use of a collaborative design platform.

In addition, the chapters by Juhani Pallasmaa and Kojin Karatani appear as a postscript and an afterword by Sema Serim discusses the

notion of scientific meetings as a medium to understand each other through dialogue and analyses, giving as an example the fourth Forum on Architectural Education organized by MimED (the Association for Architectural Education) featuring the theme “Flexibility”; this meeting gathered scholars and practitioners from all over the world in order to open a discussion on the flexible nature of architectural education.

CHAPTER TWO

FLEXIBILITY – RESILIENCE - INFORMALITY

KIM DOVEY

Flexibility is a capacity to bend without breaking; in architecture and architectural education it can mean many things. When a wall folds to integrate two spaces we regard the form as flexible. If a design studio can be easily adapted for many different tasks we regard its function as flexible. When we offer students elective choices and specialization in multiple dimensions of theory and practice we might call our architecture programs flexible. When our graduates are able to think laterally and critically, when they are able to change their approach and their minds repeatedly and creatively we might call this flexible thinking. When architectural education privileges singular modes of thought and practice we might call it inflexible. In this chapter issues of flexibility will be explored in three ways: the flexibility required of architectural education in a rapidly changing world; the flexibility required of effective school environments; and the need for architects to understand the flexibilities of form and process in the practice of architecture and urbanism.

Transforming Architectural Education

I want to describe a series of transformations that I suggest we are seeing in architectural education. The first involves the breakdown of the traditional five-year architectural program. This has long been a series of two undergraduate degrees in many universities but it is now changing in two further ways. First is the conversion of the second degree into a masters degree, a conversion that is linked to the globalization of architectural education and to parity between the 3+2 Bologna model in Europe and the US graduate school model. With the elevation of architecture to a masters degree comes the obligation for mastery, critical thinking and research.

This conversion includes the creation of new pathways from non-architecture undergraduate degrees into three-year professional masters degrees. This infusion of those who have studied everything from sculpture and anthropology to economics and science invigorates architecture with new modes of cross-disciplinary thinking. So how can such students mount a learning curve that takes five years for everyone else? There are several answers to this. First is that such students have made the choice of architecture at a more mature age and are highly motivated. Second, they often bring well-developed skills in spatial thinking from their undergraduate degree or work experience and may well be selected based upon them. Third, the model of five years of dedicated architectural education emerged from an apprenticeship model in the early years of the profession, slowly learning the tools of trade while steeped in the local particularities of practice. Many aspects of practice have transformed radically and many parts of this model are simply obsolete. The five year model of architectural education was largely based on a need for reproduction of existing practices; the imperative is to produce graduates who will change those practices.

At the level of the architecture program, we are moving from the ideal of a generic architect who is well prepared for general practice to the production of a range of different kinds of architect. On the one hand we see architecture schools that specialize in particular approaches to architecture; whether these approaches are formal, social or environmental, they can easily become ideologies that produce inflexible graduates with an incapacity to think in different ways. On the other hand we see specializations emerge within architecture schools whereby every student graduates with particular skills and knowledge in particular areas of their choice. Such specializations can include digital architecture, green architecture, history, social issues and production/practice issues. The ideal of specialization requires a relatively large architectural school with perhaps 25-30 staff; this in turn needs to be balanced against the sense of student alienation created in large schools.

Specialization in architectural education is linked in turn to the growth of research and the gearing of that research to teaching programs. We see a requirement for all full-time staff to be research active and to be teaching the cutting edge ideas within their field of research. There is a growing recognition of design research as a legitimate form of knowledge production; not research about design, but research by design. This does not mean we can simply re-badge design and call it research, but that the production of design ideas that genuinely move the field forward are recognized for this impact on the body of knowledge.

At the level of the teaching interface we are seeing a pedagogical transformation from teacher-centred to student-centred learning. This is part of a change taking place across all levels of education as we understand that learning outcomes in terms of creative and critical thinking are more important than a simple consumption of knowledge and acquisition of skill. We move from the passive learning of facts to interactive and debate-centred learning; from individual to collaborative learning. Students are working in groups with those above and below them in the learning cycle and with those from related disciplines. Synergies are created as graduate students become the paid tutors of undergraduates where they learn more quickly and mature more rapidly than as students.

We are seeing a change in the kinds of graduate attributes we seek as the goals of teaching and learning: from servicing the professions to changing them; from national citizenship to global citizenship; from the learning of particular knowledge and skills to the creation of lifelong learners. We are seeing a transformation from local to global practices — while the particularities of architecture remain local, firms are increasingly multinational and graduates often practice in a series of different locations.

Transforming Learning Environments

We are also learning much more about the design of new learning environments that can support new and flexible modes of teaching and learning. Most important in this regard is the recognition of the importance of informal learning practices that occur in the interstices between formal classes. In addition to the provision of studios, lecture theatres and seminars rooms, we find a focus on creating learning opportunities in interstitial spaces such as learning commons, cafes, lounges, alcoves and outdoor learning — places for flexible learning. We also find a blurring of boundaries between the spaces and times of formal and informal learning, reflecting the idea that learning happens everywhere and learning never stops. We move from computer labs to computers everywhere with wireless IT and face-to-face communication co-located. The early days of placing computers on display (with windows from the public spaces) are gone as computers have become more like pencils — we may still choose to teach drawing and computer techniques but the fetish is over. Ironically flexible learning environments are often the latest fetish, complete with display windows and photo spreads in the marketing brochures.

The flexibilities of architectural education are nowhere more embodied spatially than in the design studio — the core learning space of architectural education. Yet the design studio is an anomaly in the university, where it

doesn't fit the normalized spaces for the production and consumption of knowledge such as study, laboratory, lecture, seminar. The art schools, from where the studio largely derives, have rarely been part of the universities and are generally separated from the 'fine arts' departments that conduct critiques of them. The former is practice and the latter is knowledge. Architecture never endured this split, it is incorporated into the top universities because of the primacy of the role of the profession of architecture in public life – the perceived need to protect the public from poor practice. The design studio, at its best, is one of the most fluid and flexible of learning environments and there is much that architecture schools might teach the rest of the university in this regard.

A good school is not a gated community, rather it is like a good city writ small — intense, interactive, permeable, diverse; importing the lessons of urban design at the architectural scale. It is an ecology of ideas where the debates between different ideas become a key to the learning outcomes. A good school will meld together formal and informal learning within an open sense of place that welcomes difference and change, yet is resilient in sustaining the flow of ideas. Resilience in this sense is not rigidity but rather the dynamic capacity to adapt to change in a manner that resists continual transformation. A good school has a buzz about it that things are happening and something is at stake.

Flexible Architecture

I suggest that what is at stake in architectural education is the design of a better future. One of the more curious aspects of the field of architecture is that there is no consensus of definition of the field. I define architecture rather simply as the shaping of buildings and places; and good architecture as the creation of a better built environment. 'Shaping' because architects must not abandon the responsibility for form, and a focus on transforming futures because this is where architecture finds its legitimacy and its potency. If there is no future at stake, then this is not architecture. There is a clear boundary between graphic design and architecture in a way that is absent between architecture and the other built environment professions. Architecture is the engagement in designing and building a better future. To the degree that the graphic image becomes the end rather than the means to architecture, then it ceases to be architecture. This does not delegitimise 'paper' or 'digital' architecture, nor radical experimentation within these media which are often the way in which the field progresses. The most conservative trait within the field of architecture is the tendency for the means (the virtual image) to displace the end (a transformed