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Architectural Curricula and the Challenges of the Profession

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Abstract. The paper argues that more should be done in preparing architectural students in the areas of professional practice and business. It discusses the issue through the examination of several architectural schools in Saudi Arabia, Jordan, and Lebanon. The discussion involves an evaluation of the colleges' educational missions, their curricula, the nature of construction and professional courses, the design studios and their relation with professional practice, and finally the professional training programs. The reading of these points through the available information about the studied schools sheds some informative light on the issue at hand. It appears that the missions of the schools are appropriate since all schools are striving for a well rounded education for their students. Curricula are also adequate since they are, in principle, a reflection of the missions. However, improvement is possible through three clear directions: improving the content of professional courses, emphasizing the professional side in the faculty's background, and structuring and lengthening the professional training program.

Introduction

The job of an architect goes beyond the preparation of excitingly rendered drawings. Architecture in its full scope, as a profession, requires knowledge and skills in numerous areas, some of which are design, construction, materials, culture, arts, communication, management, business, and technology. Although a newly graduated architect will not be able to handle all the responsibilities of the profession, he or she should show basic understanding of the different issues involved. This basic understanding can then be nurtured, through training, and evolve as professional skills. In other words, it is the

responsibility of the university to at least expose the student to al! possible issues that he or she may face professionally before going to the professional practice setting.

It might be difficult to agree on a detailed list of all areas to be taught in architectural schools. Nevertheless, there are basic and general skills which may not require a lot of convincing to agree upon as necessary to any architect. These skills can be summarized as follows:

1. Ability to design.
2. Ability to communicate (verbally and graphically).
3. Ability to prepare construction documents.
4. Ability to manage projects.
5. Ability to run a business.

One can also argue that the first job for a graduating architect can be very demanding if he or she is to meet these challenges. The question is whether architectural schools in the Arab countries provide their graduates with sufficient knowledge to face such challenging demands. Universities in Saudi Arabia are used as a case study in this paper along with some references to other universities in the Arab world.

It is acknowledged that architectural schools have other items in their educational agendas beside the provision of technical information; such items may involve, for instance, enhancing the student's general education and level of culture. However, at the same time, these schools should render a minimum level of proficiency that enables the new graduate to survive in practice. A recent pilot study indicated that graduates are not equipped with sufficient knowledge or expertise to handle the requirements of their first job.' A more detailed inquiry regarding the degree of readiness with which a newly graduated architect comes to office' is needed. However, this issue can be discussed from another angle: To what degree architectural curricula emphasize the practical side of the profession. The first two points mentioned above in relation to the needed skills will not be discussed here since design and graphics are in general heavily emphasized in any curriculum.[2] The last three points are more in touch with real life situations; or in

'Fifteen questionnaires were distributed among the faculty of Architecture and Planning at King Faisal University and interviews were conducted with nine professionals practicing in Damascus, Dammam, and Khobar. The purpose of both the questionnaires and interviews was to see how academicians and professionals view the readiness of newly graduating students for their first job, and in what areas they should improve. Results showed that main challenges facing the new architect are computers, construction materials, and ability to run a business as the top three items. Seven faculty members do not think that new graduates can run a business, three think he can, while five did not respond [I].

*Graphics is not always emphasized to a satisfactory level [I].

other words, they bring the design capabilities of an architect to the platform of actual professional practice. Therefore, the following discussion of architectural curricula will concentrate on these three aspects.

In order to evaluate the quality and quantity of information actually gained during the study years of a young architect, the following points will be discussed:

1. Missions of architectural schools with reference to professional practice.
2. Architectural curriculum and the nature of schooling.
3. Nature of construction and professional courses.[3]
4. Design studios and their relationship with professional practice.
5. Role of professional training programs.

Discussing these points will expose a number of problems related to professional preparation in architectural schools.

Missions of Architectural Schools with References to Professional Practice

Each of the five colleges of architecture in Saudi Arabia has a set of objectives which reflect the mission of that particular college. Although the missions are in general similar, there are a few distinctive issues in each one of them [2]. The Department of Islamic Architecture in Um Al-Qura University concentrates its efforts on studying the relevancy and applicability of Islamic teaching to the built environment [3]. Because of this direction, the architectural department at Um Al-Qura University seems to be more directed towards the theoretical side of the field than its application.[4] The School of Environmental Design at King Abdulaziz University aims to provide students with knowledge that allows them to carry the responsibility of the profession immediately after graduation. One way to do so, according to the School's mission, is to engage students in real life projects, along with the theoretical study of all factors influencing the built environment [4, p. 187]. Thus, the intention of the department seems well set on preparing students as professionals.

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[3] Professional courses are those which emphasize issues related to running an architectural office such as professional practice and project management. Construction courses are those which deal with construction materials, detailing, structures, and specifications. Table 1 shows a break-down of professional and construction courses under five categories. The first four categories cover courses related to construction while the fifth category deals with the professional side.

[4] Because of this reason and since it is relatively a new one, the Department at Um Al-Qura University will not be included in the coming discussion, with the full realization that it does not lack a professional component in its curriculum.

The Department of Architecture at King Saud University has a similar mission: to graduate architects' who are capable of teaching in architectural schools, and who can manage design projects and supervise construction operations [5, pp. 14-33]. Thus, the Department stresses the importance of both the academic and professional sides of the field. The question is whether it is possible to provide the student with all of what he or she needs in both areas during the undergraduate years. It might be more realistic to admit that at the Bachelor's level, students can acquire basic knowledge related to the profession, while advanced preparation for teaching and practice can be achieved at the Master's level or after a certain number of professional experiences. The architectural department at King Fahd University of Petroleum and Minerals directs its attention to the development of skills which allow the graduate to program, plan, design, and supervise the construction of buildings. The Department also focuses its attention on the use of recent technologies in design and construction [6, pp. 11 l-l 12 and p. 117]. Hence, the practical side of the profession is mentioned in the mission but not heavily emphasized.

The College of Architecture and Planning at King Faisal University states in its bulletin that its first goal is to prepare trained professionals in the field of architecture. The bulletin states eight points to help achieve this particular goal, two of which are related to the issue at hand: To provide the student with an understanding of building technology and an understanding of professional practice and project management [7, p.67]. Again, providing knowledge related to the actual practice of architecture is on the agenda of the College, and perhaps is more considered than in other universities. Interestingly, though, is the bulletin's statement that what is provided is an understanding; thus, schooling will not equip students with a strong ability to deal with professional life. Such a statement seems to be closer to reality for it is not possible to go beyond the basics at school.

It is clear from the discussion of the five universities' missions that the issue of professional practice and construction knowledge are well recognized. However, it should be noted that, in general, they do not appear as priorities in these missions. They are either mentioned in an indirect way or appear at the end of the mission statement as minor issues. In the cases when these two issues are independently stated in the missions, they are presented as items to be discussed at a basic or introductory level only. Thus, universities' missions present the two issues at hand in a limited, and admittedly, realistic way.

Such a confined emphasis on professional practice and construction knowledge can be attributed to many reasons. One of these reasons is related to the idea that university education should provide a student with a basic level of knowledge sufficient for him or her to put his or her feet on the right professional path. Such a knowledge should be

general and should cover a variety of areas. For this very reason, it is not possible to go in depth in any particular subject be it technical or theoretical. In fact, if one considers the history side of the curriculum, for instance, one can feel that this side is not fully covered by any school either. However, any graduate would be familiar with basic, and very possibly, sufficient knowledge related to the history and theory of architecture. Another reason for the lack of strong emphasis on the professional side is the schools' concentration on the theoretical aspects of the field such as the case in Urn-Al-Qura University. A third reason could be related to the impression that, as Al-Soliman asserts, teaching professional practice is not the duty of academia [2].

Architectural Curricula and the Nature of Schooling

The mission of any architectural department is typically reflected in its curriculum. Thus, professional practice and construction knowledge can be recognized in any course list. However, the question is to what degree they are considered. Curricula of departments of architecture in six universities are examined in terms of the number of courses in the two areas of concern and their percentage out of the total courses of the program. These universities are King Saud University in Riyadh (KSU), King Abdulaziz University in Jeddah (KAU), King Fahd University of Petroleum and Minerals in Dhahran (KFUPM), King Faisal University in Dammam (KFU), The Jordanian University in Amman (JUA), and The American University of Beirut (AUB). Courses related to the two areas of concern are grouped under five headings: Basic construction courses, details and materials, building technology, contract documents, and professional practice (Table 1). As it is the case in any categorization, it is possible that certain courses may fit in different groups; however, such a variation in opinion related to grouping does not affect the following discussion.

Table 1. Course listing of the five groups in the studied universities

Courses	KFUPM	KAAU	KSU	KFU	JUA	AUB
Basic construction courses						
* Structure systems	X		X			
* Structural analysis			X			
* Structure and form				X		
* Concept of structure I		X		X		
* Concept of structure II		X		X		
* Concept of structure III		X				
* Applied construction I					X	X
* Applied construction II					X	
* Elements of structure						X
* Concrete structure I			X			
* Concrete structure II			X			
Details and materials						
* Arch. construction I	X		X	X	X	X

Table 1. (Contd.)

Courses	KFUPM	KAAU	KSU	KFU	JUA	AUB
* Arch. construction II	x		X	X	X	X
* Arch. construction III	X		X	X	X	X
* Arch. construction IV					X	
* Arch. 'al detailing		X				
* Construction materials	X	X				
Building technology						
* Mechanical systems	X		X		X	
* Lighting and acoustics	X		X		X	
* Electrical systems			X			
* Plumbing			X			
* Building technology		X				
Contract documents						
* Contract documents			x	x		X
* Advanced prof. Design						X
* Contracts and spaces	X				X	
Professional practice						
* Professional practice	X	X	X	X	X	
* Project mnagement		X	X	X		
* Building economy	X					
* Building codes					X	
Total	10	7	15	9	11	7

Table 2 presents a compilation of the six universities' courses in the areas of concern. The table shows that, in general, King Saud University has the highest number of courses in the two areas (15 courses), while King Abdulaziz University and the American University of Beirut have the least number of courses (7 courses each). These numbers are more expressive if seen in relation to the whole curriculum (Table 3). KSU has 25% of its courses dedicated to professional practice and construction; on the other extreme, only about 12% of the total courses at KAU are related to the same subjects. If all other subjects to be taught in an architectural curriculum are to be considered, a quarter 'of the total number of courses designated to construction and professional practice seems to be sufficient. On the other hand, a percentage which is not more than 12% (which is only one eighth) of the total number of courses does not seem to be appropriate in terms of its sufficiency. It is remarkable&at four out of the six examined universities have less than 17% of their courses related to the two subjects discussed here; a percentage which may also seem as questionable. Considering credit hours, construction and professional courses have in the best case less than&?% of the total credit in the curriculum (KSU); and the percentage drops to as low as 11.6% (KAU). The reason that credit hours of professional and construction courses are less in percentage, if compared with the simple count of courses, is mostly due to the fact that these courses are considered lecture courses with only three credits for each, and not as studios with five or even six hours as is the case in design studios. It goes without

saying that having less credit hours means less contact hours per week; and thus, less materials can be presented or discussed during the course of the year.

Table 2. Number of courses in each group in the studied universities

Courses	KFUPM	KAAU	KSU	KFU	JUA	AUB
Basic construction courses	1	3	4	3	2	2
Details and materials	4	1	4	3	2	3
Building technology	2	1	4	.	2	.
Contract documents	1		1	1	1	2
Professional practice	2	2	2	2	2	.
Total	10	7	15	9	11	7

Table 3. Ratio of construction and professional courses to the overall number of courses in the studied curicula

Courses	KFUPM	KAAU	KSU	KFU	JUA	AUB
Total number of courses	59	59	60	54	54	49
Prof. and construct. courses	10	7	15	9	11	7
% of Prof. and cons. courses	16.7	11.8	25	16.6	20.3	14.2
Total number of credits	178	180	175	170	180	191
Prof. and construct. credits	30	21	38	27	33	29
% of Prof. and cons. credits	16.8	11.6	21.7	15.88	18.3	15.18

Considering the break down of the courses, it appears that emphasis is mostly put into the study of materials and detailing. This is defmitely to the credit of any program. Except for King Abdulaziz University, all other universities offer three or four courses in this category. Basic construction and professional practice have less, but still substantial number of courses; there are in general two to three courses in each one of the two categories. Basic construction courses are important; however, they have limited validity in terms of direct application or benefit in the professional life. On the other hand, every course of professional practice is welcome. Building technology and contract documents are less in number, although they are the two categories, along with professional practice, which are most beneficiary to the newly graduated architect. The lack of a sufficient number of courses in these critical categories has a negative effect on the overall level of preparation and training a student obtains in the classroom.

Thus, in addition to the fact that the number of courses in the area of construction and professional practice is, in general, not sufficient, these courses are not fully geared towards the practice. Courses can be more adequate, and hence more fruitful, if they are re-configured in such a way that courses with direct implication on the professional life have the largest and more dominant segment of the total professional and construction group of courses. Changes in the number of professional and construction courses,

whether in the overall or specific categories, cannot be done unless the concerned department is committed to a strong professional orientation. In such a case, certain modification in the curriculum will be in order so as to bring about a strong professional program. It seems, however, that departments of architecture at their present status, at least those which are studied here, are more general in nature. Such programs should be diverse and cannot afford to concentrate on one particular area.

Not only all architectural schools are general in nature, but also they are theoretical. In other words, information presented is of theoretical nature and cannot be readily applied in real life situations. Reasons for this phenomenon may be many; one of which is the very idea that architectural departments try to be diversified. Another reason is that faculty members in many universities have little chance to practice professionally. Such a forced divorce from real life limits the practical experience of the faculty and pushes the educational programs towards theoretical avenues. Another reason is the nature of the faculty themselves. When a faculty is hired immediately after his graduation, or he is foreign to the locality, he will not have appropriate knowledge about the way the profession is practiced. Thus, his teaching will be based only on textbooks without any kind of enrichment from a personal experience; accordingly, teaching becomes very theoretical.

Nature of Construction and Professional Courses

It has been shown in the previous section that there is a relatively low number of courses in the two areas of concern: construction and professional practice. The other point which should be considered in relation to the courses is their content. Four concerns can be raised here in connection with this issue. First, these courses are, in general, basic in nature. In other words, when one course is offered in the area of materials, detailing, professional practice, or construction documents, it will be possible to only cover the basics of such a topic. Even two courses may not be sufficient for any given topic; a three course sequence seems more appropriate so as to have an introductory course for the basics, an intermediate course to cover more complex problems, and an advanced one which can serve as a studio course for the application of theoretical information in real life situations. Not every area needs to have its own third course; it might be a workable solution to have one studio course for both details and materials, and one for construction documents, project management, and cost estimate and specifications. Such combined studios can be offered following two theoretical courses in each one of the individual areas.

The second concern is that these courses are theoretical; they are entirely dependent on textbooks and do not deal with real life situations. Students are introduced to construction materials through pictures and words. In best cases they may visit

manufactures of these materials but they do not actually feel the material and learn how, when, or where to use it. Details are also studied in the same manner; they are selected from a textbook without a full understanding of how they were designed. A student, thus, can draw the detail (to be more realistic, trace it from a detail book) but cannot explain what it is and how to adapt it to his or her own design. A more practical approach for teaching these courses can be productive. Students may build a small structure during one of the construction courses, they could visit construction sites and participate in the work for a period of time, or they may visit professional offices to learn from the designers how they select materials and put them together. Ideas can always be generated to overcome this problem as long as schools realize that what is offered is only theoretical and other approaches to teaching construction should be explored.

The third concern related to construction and professional courses is that they are traditional in the sense that they address the subjects the same way they were addressed over forty years ago. A material course, for instance, presents wood, brick, concrete along with other materials in their basic, old, and traditional shape. It is rare that wood, or any other material for that matter, is discussed in its many different modem uses as a construction or decorative material. Moreover, basic and traditional materials are usually taught first and given the longest period of time in any construction course because they are seen as the base for all other materials.[5] The problem, though, is that a very short time is usually left for other more complex and contemporary materials. More connection with the practice by means of office and site visits is one way to address this problem.

The fourth concern is that professional and construction courses are mostly taught by faculty who lack professional practice because they are academicians and they are not given the chance to practice. This problem is the most important of all because of its effect on the earlier concerns. If instructors of professional and construction courses were practicing architects, they could have brought to the classroom their own knowledge and practical experience in detailing, construction, selection of materials, as

[5] Course description of a typical material course would read as follows: "Construction I: A comprehensive understanding of the nature and behavior of building materials: proper production and/or preparation, use and handling of each material with special reference to its basic physical and chemical properties, structural and constructional limits as well as availability, durability, and economic considerations." [8]. Another description for a material course from King Saud University states: "Architectural Construction I (Materials and Construction): Introduction to materials, their properties and uses: Concrete, Brickwork, Masonry, Timber, Metals, Plastics, and Plaster...etc. Different methods of construction, process of execution for a building, damp-proofing and carpentry" [5, p.214].

well as all other practical issues. They could definitely discuss the state-of-the-art in materials, methods of construction, and management.

Design Studios and Their Relationship with Professional Practice

It is assumed that all pieces of knowledge gained in different classes would be utilized in the studio in order to produce logical and workable solutions to design problems. However, reality is not as such; it is a constant complain by studio instructors that students fail to use information obtained from other classes when it comes to their design projects. Many have written about this problem and means of solving it [9]; it is worth mentioning here, though, that this problem is true also when it comes to applying technical information. Students typically spend most of their time in the development of the design idea and its architectural presentation, leaving no time for any technical studies of their designs. Therefore, the chance to practically study issues related to detailing, management, and budgeting is lost. Students cannot be solely blamed for typical lack of technical aspects in the design studio; syllabi of studios should allow sufficient room for practical aspects of the design.

A reorganization of the design studio should include the size and components of the project to be designed. Carefully sized projects allow students to get involved in their details; and thus produce sensitive construction drawings in addition to the typical architectural presentation. Inviting jurors from the profession could also support the practical and construction aspects of students' designs. Discussions in such a case will definitely explore the practicality of the presented projects and the possibilities of its actual construction.

Role of Professional Training Programs

An issue specifically important here is professional training which is mandatory in almost every school. Students are normally asked to spend approximately eight weeks in a professional office in order to gain first hand experience in the field. The idea of professional training is undoubtedly very sound since it grants students an exposure to the professional world. However, there are certain limitations which make such an exposure not as satisfactory as desired. First, the period of such a training is only two months in most cases. Such a period is not sufficient to teach or even expose the trainee to enough materials or areas in the profession. Such a statement can be qualified by the second problem related to training programs; namely, the kind of duties assigned to trainees. They are usually asked to cut sheets, draw border lines, letter, and in good cases trace some basic drawings. Such jobs are unquestionably important so that a new architect will learn the basic ins and outs of the process related to producing professional

drawings. However, there are other more important issues which should be experienced by any trainee. such as programming, designing, detailing, public relations, and construction supervision.

In order to be exposed to all these areas, or at least some of them, it seems to be essential to have at least two, instead of only one, training periods. The first period is to be after the second year and designated for basic practices and elementary training, while the second one could be after the fourth year and focuses on advanced professional practices. A student can come back after his or her first training period with stronger graphic abilities along with a basic understanding of the professional life. After the second training period a student would come back with a clearer idea about his or her areas of interest, a better sense of the profession, and some confidence in his or her abilities.

Adopting such a scheme can solve the third problem which has to do with the fact that training as it is now does not seem to have clear objectives or a program. Therefore, offices use students sometimes as clerks while students go to the office with no idea about the kinds of activities they will perform. Architectural schools should consider professional training as a regular course; its syllabus should be written in a very detailed manner. Moreover, a faculty member should be assigned to supervise the work of the students and evaluate their performance. Thus, the duration of the training program, the activities that trainees should perform, the structure of the training program, and its methods of evaluation are the issues which should be re-examined in order to make the training program more efficient and productive, especially regarding a better exposure to professional life. It must be kept in mind that enhancing the training program is definitely a good way to balance the academic and practical sides of architectural education.

Conclusion

This paper discussed the weight of professional practice in architectural curricula. Attention was given to the curriculum's emphasis on the technical and business sides of the program. The discussion covered five points of critical relation to the subject at hand. The first point was the mission of architectural schools with reference to professional practice. It was found that all universities examined had considered in one way or another the practical side of the profession. However, none of them made this issue as the main concern in its agenda. The fact that architectural schools are typically general in nature dictates that no single issue can be over emphasized.

The second point in the discussion was the architectural curriculum and the nature of schooling. The examination of curricula in six Arab universities revealed a clear presence of professional courses in their architectural programs. Nevertheless, this presence fluctuated considerably. Such a wide span in interest can be understood, though, and in fact should be encouraged so that schools can begin to develop their own areas of interest; and thus a healthy variety could emerge. However, a minimum number of professional courses should be maintained, and an acceptable level of proficiency and awareness should be acquired through these courses.

This last point leads to the third issue discussed in the paper which was concerned with the nature of construction and professional courses. It was found that these courses are basic in content and few in number; moreover, they are relatively theoretical, traditional, and very academic. Solving these problems is very possible but requires a serious commitment from the college. A complete re-organization of content and sequence of construction and professional courses will allow for less theoretical subjects and more practical ones. Such a change will increase the efficiency of the same number of offered courses. The lack of practical experience of instructors was also a concern. It was suggested that one way to overcome this problem is basically by allowing faculty to practice, or, as recommended by Bushnaq [10], better yet to force them to practice by making professional practice a condition for promotion.

What makes the professional side suffer more is the fourth point discussed in the paper which argued that design studios do not provide a good atmosphere to learn about how to practice professionally. It is relatively rare that design projects include a clear professional and technical component in them. It was suggested that smaller projects can provide a better chance for a more detailed studies. It was also recommended that a number of jurors should be invited from the profession in order to bring their perspective and experience to the studio.

Finally, although professional training programs provide a particularly promising alternative for acquiring practical knowledge and exposure, they are in most cases under or misused. It was suggested that professional practice programs should be for two terms instead of one and should be well structured and monitored so that students can have a longer and more meaningful practical experience.

The issue of professional practice, in relation to both the technical and business sides, has become more critical for a good number of years. Several seminars and conferences held in as early as 1984 in many American architectural schools pointed out the importance of the business and practical sides of the profession. As a result of this new awareness, many schools started “adding or beefing-up courses on business and practice” [11]. As a part of its continuing education program, Harvard University

launched a special program in 1985 to serve designers in areas they considered beneficial to them. It was found that practical courses such as those "directly relating to increasing general management skills" are the most wanted [12].

Architectural schools in the Arab world are facing the same kind of challenge regarding the education of their students. It is not a simple or easy challenge, one should admit. There is so much to cover during the few years of formal education. "The architect of today is expected to be an artist, demonstrate the expertise of a scientist and operate as a businessman. This is a formidable assignment to accomplish in a few short years" [13].

Thus, the five points discussed earlier ought to be viewed realistically. It is not possible to change the mission of any college, and it is not even desirable to do so. An architect cannot learn only pure design and business. He or she must be well rounded, educated, cultured, as well as skilled. Although architectural schools are faced with the dilemma of what and how much to teach, it seems that room for change should always be considered in order to emphasize the practical side of the profession. Changes and improvements can be expected in three areas: Content of courses, qualifications of instructors, and duration and program of professional training.

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مناهج التعليم المعماري وتحديات المهنة

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(قدم للنشر في ١٤١٦/٨/١٨هـ، وقبل للنشر في ١٤١٨/١/١٥هـ)

ملخص البحث. تدعو المقالة لضرورة التعديل والتطوير في مناهج التدريس في كليات العمارة من أجل تقوية الخريجيين من النواحي العملية والإدارية. تم إظهار هذه الضرورة من خلال مناقشة جامعات عدة في السعودية والأردن ولبنان. وقد نوقشت الجامعات هذه من خلال استعراض الأهداف العامة للكلية ثم المنهج الدراسي النابع من هذه الأهداف. ومن أجل استيعاب الصعوبات التي تعيق تطوير المناهج العملية والإدارية تم مناقشة المواد المدرسة ذات العلاقة بالنواحي الإنشائية والتنفيذية والإدارية. بعد ذلك سلط الضوء على علاقة ودور مادة التصميم في إغناء تجربة الطلاب من النواحي العملية، وأخيرا تم استعراض أهمية استغلال التدريب المهني كأداة تعليمية حقيقية لصالح الطالب.

ونظرية وتدرس من قبل أساتذة قد تنقصهم الخبرة العملية. وقد لوحظ عدم وجود ارتباط أو تكامل بين مادة التصميم والمواد العملية. وأخيرا ظهر أن التدريب المهني غير مجد بوضعه الحالي لكونه غير تابع لمنهج محدد ولأنه قصير المدة. وانطلاقا من هذه النتائج فقد اقترحت المقالة أن يتم التركيز على ثلاث نقاط أولها إعادة تقييم المواد العملية لحذف غير المفيد أو غير المرتبط بالتطبيق العملي، ومن ثم تقديم مواد جديدة وثيقة الارتباط بممارسة المهنة. وثانيهما أن يعطى أساتذة الجامعة الفرصة في ممارسة المهنة كي يستطيعوا إثراء تدريسهم بخبراتهم العملية. وثالث هذه النقاط أن ينظم التدريب المهني وفقا لمنهج مناسب وأن تضاعف مدته.

وبعد مناقشة النقاط السابقة كان من الممكن الوصول إلى نتائج وتوصيات خلاصتها أن الأهداف العامة للكليات والمناهج الدراسية تتناسب مع متطلبات منهاج عام للتعليم المعماري. فالمواضيع العملية قد

أخذت حيّزاً معقولاً في سياق الأهداف وغطّت نسبة جيدة من عدد المواد والساعات. أما المواد العمليـــة بحدّ ذاتها فقد انتقدت من حيث محتوياتها إذ أنها بسيطة وتقليدية.