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قياس كفاءات تخصص التصميم الداخلي من وجهة نظر المتخصصين

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ملخص:

هدف الدراسة: تهدف هذه الدراسة إلى معرفة كفاءات التصميم الداخلي، المعلومات والمهارات المتعلقة بهذا المجال، بالإضافة إلى المهارات الشخصية المتوقعة من المصمم الداخلي المبتدئ في الكويت بناء على معايير التخصص العالمية.

منهجية الدراسة: استخدم في هذه الدراسة المنهج التحليلي الوصفي للبيانات. استخدم الباحثان استبانة أداة بحثية لجمع البيانات. تم توزيع استبانة إلكترونية وأخرى ورقية على معماريين ومصممين داخليين يعملون في السوق المحلي بدولة الكويت.

البيانات وعينة الدراسة: تم جمع مائة وسبع وثمانين (١٨٧) استبانة، أعدت خصيصاً لهذا الغرض.

نتائج الدراسة: أظهرت نتائج الدراسة أن الكفاءات المطلوب توافرها في المصمم الداخلي المبتدئ تنقسم إلى ثلاثة أقسام، هي: كفاءات مهمة جداً، وكفاءات مهمة، وكفاءات قليلة الأهمية.

الخاتمة: قدم الباحثان في نهاية الدراسة مجموعة من التوصيات والتطبيقات لأقسام التصميم الداخلي في دولة الكويت لإعداد مناهجهم وفق متطلبات السوق المحلي، ومعايير جودة تعليم التخصص الأمريكية.

المصطلحات العلمية: تعليم التصميم الداخلي، كفاءات التصميم، مهارات التصميم، المعلومات، الكويت.

51. How many projects have you accomplished?

☐Less than 5 ☐5 to 10 projects ☐11 to 15 projects

☐16 to 20 projects ☐21 to 25 projects ☐More than 25 projects

52. How many of your full-time employees are:

Interior Designers = ...

Architects = ...

Engineers = ...

Staff = ...

Thank you for your participation,,,,

The researchers: Dr. Ahmad E. Alansari & Dr. Ali S. Alnajadah

N	Interior Design Knowledge Areas	1	2	3	4	5	6	D/N
35	Universal design principles/needs.							
36	Familiarity with the impact of building location on the interior environment							
37	Color principles, theories, and systems.							
38	Sustainable design as it relates to building methods and materials.							
39	Knowledge of building codes.							
40	Principles of acoustical control/design used in the built environment.							
41	Knowledge of design principles.							
42	Knowledge of how human activities influence interior environments.							
43	Knowledge of design elements.							
44	Knowledge of products' and materials' impact on indoor air quality.							
45	Aware of elements of business practices in interior design.							
46	Social/cultural and behavioral norms within different cultures (cultural perspectives).							
47	Know the relationship of cooling and ventilation systems with interior design							

Instructions: Please read each statement carefully and then check (√) the best response.

Section Three: Demographical information

48. What is your gender:

☐Male ☐Female

49. What is your age?
☐20-30
☐More than 30 - 40
☐More than 40 - 50
☐More than 50 - 60
☐More than 60

50. What is your nationality
☐Kuwaiti ☐None-Kuwaiti

N	Interior Design Skill Areas	1	2	3	4	5	6	D/N
18	Designing power and electrical plan.							
19	Preparing and reviewing project contracts for interior design.							
20	Ability to do budgeting for furniture, finishes, and workers.							
21	Preparing proper air conditioning plans (locating the distribution of cool air and returns in central air conditioning)							
22	The ability to prepare furniture-work drawings.							
23	The ability to prepare proper animation for interior design projects.							
24	The ability to make three-dimensional models of interior design projects.							
25	Work in team environments by collaborating with other interior designers and allied professionals.							
26	Express ideas clearly and effectively in oral communication.							
27	Express ideas clearly and effectively in written communication.							
28	Communicate effectively through the different methods and presentation techniques.							
29	Effectively able to advertise and market design products and projects.							

Section Two: Interior Design Knowledge Domains

Instructions: Please read each statement carefully and then check (√) the response that best shows your opinion.

Kindly, evaluate each design knowledge area based on the importance of an entry-level interior designer to be aware of/ understand, where (**1 = less important; 6 = extremely important**). Please choose **don't know (D/N)** if you are not sure about the importance of the design domain or it does not apply to your particular business.

N	Interior Design Knowledge Areas	1	2	3	4	5	6	D/N
30	Knowledge of ergonomic design (human factors).							
31	History of architecture, interior design, and furniture.							
32	Understanding building systems and interior construction plans.							
33	Know the relationship between colors and lighting and their effects on the internal environments of buildings.							
34	Aware of various materials and products used in the built environment.							

APPENDIX A

Section One: Interior Design Skill Areas

Instructions: Please read each statement carefully and then check (√) the response that best shows your opinion.

Kindly, evaluate each design skill area based on the importance of an entry-level interior designer to have to be productive in the area of interior design, where (**1 = less important; 6 = extremely important**). Please choose **don't know (D/N)** if you are not sure about the importance of the design domain or it does not apply to your particular business.

N	Interior Design Skill Areas	1	2	3	4	5	6	D/N
1	Produce complete programming documents.							
2	Designing an appropriate spatial layout.							
3	Selecting furniture and fixtures that are appropriate in scale for the space being designed.							
4	Appropriately selecting and applying color in design solutions.							
5	Using computer design software to produce design drawings.							
6	Producing furniture, fixture and equipment layouts (furniture plan).							
7	Producing 2-D design solutions (floor plan, elevations, and sections).							
8	Develop construction drawings and documents.							
9	Appropriately specify finishing materials and furniture.							
10	Obtaining sufficient skills and knowledge during academic studies related to the proper execution of interior design projects.							
11	Making informed selection of materials based on properties, performance criteria, and life cycle cost.							
12	Producing 3-D design solutions (perspectives).							
13	Quickly sketching design ideas for the customer.							
14	Familiarity with the skills of supervising the implementation of interior design projects for buildings during academic study.							
15	Defining and writing design goals, objectives, and problems.							
16	Generating multiple design solutions for the project.							
17	Designing lighting plans.							

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Limitations of this Study

This study is limited to ID competencies, design knowledge, and skills sought by international ID firms of entry-level interior designers, as reported in Scarton's study (2012) and reflected in the CIDA standards (CIDA, 2017) and the NCIDQ exam. This study was limited to collecting the needed data through survey questionnaires.

Future research

This study raises additional concerns and suggestions possible for future research. A longitudinal study would be particularly useful to examining potential changes over time to responses on the same items tested in this study. This would help to explain potentially changing roles in the ID profession five years from now.

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students about the design knowledge and skills in which they are involved in on a daily basis. This may help to provide students with a better and more realistic understanding of the ID context.

- Developing internship programs to train emerging interior designers in the ID market is highly important to help them gain insights into important professional ID knowledge, skills, and personal attributes. This experience is expected to reduce gaps between theoretical and practical preparations to meet ID market needs and requirements.
- Developing periodical professional ID training courses and workshops that enhance students' professionalism are seriously recommended. Such training courses may include ID knowledge and skills that are not provided in academia.
- ID educators in Kuwait should focus on enhancing future interior designers' collaboration and oral skills. Educating students on how to collaborate successfully by dedicating class time to engage in teamwork and member roles is highly important. Hence, teaching teamwork strategies and structures to students will motivate them toward adopting collaborative attitudes. In addition, ID educators should integrate oral communication skills into their course requirements by including students' presentation and speaking skills, as well as, by requiring presentations of students' projects in all ID courses. These recommendations are expected to influence ID pedagogy in ways that enhance students' future professional success.

Conclusion

As the ID industry evolves to address international design needs, the need to educate students based on market expectations and standards will continue to increase. ID educators in Kuwait, therefore, should consider revising the current curricula for the purpose of meeting employers' expectations and producing highly competitive interior designers for the ID marketplace. As these required ID knowledge and skills are now understood, it is time to establish or work closely with an ID accreditation body to develop and periodically update standards for ID programs in Kuwait.

toward collaboration (Gale et al., 2014; Webb & Miller, 2006). The researchers encourage ID educators to follow the recommendations of Webb and Miller (2006), who found that students view ID studio collaborations as highly successful when educators engage in training them in strategies for effective teamwork

Therefore, the ability to engage in teamwork and effectively communicate orally with others will create highly desired interior designers. The three other important personal skills for emerging interior designers to have are good written communication, presentation techniques, and marketing skills.

Research Recommendations

The findings of this study indicate that ID competencies can be categorized into three distinctive groups: highly important, important, and less important competencies. These competencies include design skills (see Table 4, 5 & 6), knowledge (see Table 7 & 8) and personal attributes (see Table 9 & 10) that are considered essential to firms in the interior design industry. The recommendations of this study are summarized as follows:

- Highly important design knowledge and skills should be introduced into ID curricula beginning at the freshman level. In the sophomore through senior levels, in-depth information on highly important ID knowledge and skills must be increased, as the expectations of practical application are developed. Consequently, ID educators in Kuwait should focus on integrating and teaching the highly important design knowledge and skills into their courses and pedagogy. Both lecture- and studio-based sessions should be integrated into more and deeper portions in the ID curriculum content. The highly important ID knowledge and skills are seriously and urgently needed for the Kuwaiti ID market.
- ID educators should focus less on preparing students in two design skills that are less important for emerging interior designers, viz. preparing animations for interior design projects and making three-dimensional models of ID projects.
- ID professionals should be invited into classrooms to talk to the

matrix, etc. Therefore, the programming phase is the first and most important step before constructing any interior environment. Designing an appropriate special layout is the second most sought competency. In fact, it is expected that the main role of interior designers is to develop appropriate space planning and spatial adjacencies. The third design skill sought by interior designers is selecting furniture and fixtures that are appropriate in scale and the given budget for the space being designed. Many customers rely on interior designers not only to design, but also to optimize and harmonize their built environment by selecting the best design solutions to support human health, safety, and welfare.

The top most important ID knowledge areas that need to be integrated into ID education are: knowledge of ergonomic design, history of architecture, ID and furniture, understanding building systems and interior construction plans, knowing the relationship between colors and lighting and their effects on the internal environments of the buildings, awareness of various materials and products used in built environment, and universal design principles and needs.

Important knowledge areas to be taught to emerging interior designers are: familiarity with the impact of building locations, color principles, theories and systems, sustainable design as it is related to building codes, principles of acoustical control in the built environment, knowledge of design principles, knowledge of how human activities influence interior environments. Further, thse areas include knowledge of design elements, knowledge of products and materials' impact on indoor air quality, awareness of elements of ID business practices, cultural and behavioral norms within different cultures, and knowing the relationship between cooling and ventilation systems and ID.

Among the many personal skills examined, collaboration skills were found to be the top skills needed for entry-level interior designers, followed by oral communication skills. This finding is not surprising given the fact that interior designers, like other professionals, have to collaborate in their work projects with other designers and professional allies, such as architects, structural and electrical engineers, etc. In fact, other research indicates that students tend to have negative attitudes

scores less than 4. Although the three categories may seem arbitrary, they were adopted as a convenient way to determine where to concentrate limited resources to improve Kuwaiti ID education.

The highly important design skills for entry-level interior designers in Kuwait were producing complete programming documents, designing appropriate spatial layouts, selecting furniture and fixtures that are appropriate in style and scale for the designed spaces, selecting and applying color in design solutions. They also included using computer aided design soft wares to produce design drawings, producing furniture, fixture, and equipment layouts, producing two-dimensional design solutions, and developing construction drawings and documents.

The important design skills to be taught to ID students should include: appropriately specifying finishing materials and furniture, obtaining sufficient skills and knowledge during academic studies related to the proper execution of ID projects, making informed selections of materials based on their properties, specifying performance criteria, determining lifecycle costs, and producing three-dimensional design solutions. They also feature sketching design ideas for the customer, familiarity with supervising the implementation of ID projects for buildings, defining and writing design goals, objectives, and problems, generating multiple design solutions for the project, designing lighting plañs designing power and electrical plans, preparing and reviewing project contracts for ID, the ability to budget for furniture, finishes, and workers, preparing a proper air conditioning plan, and the ability to prepare furniture-working drawings. The least important skills for emerging interior designers were preparing animations for ID projects and making three-dimensional models of ID projects.

The top ID knowledge and skills sought by emerging interior designers in Kuwait are spread throughout the first three steps of the design process (see Table 1). The first highly important design skill is the programming phase, which includes producing complete programming documents, project data collection, measurements, interviewing and collecting information from clients, developing an adjacency

Table (9)
Highly important personal skills for entry-level interior designers (N = 187)

Rank	Personal skills	Mean	S.D.	*n*
1	Work in team environments by collaborating with other interior designers and allied professionals.	5.17	1.127	185
2	Express ideas clearly and effectively in oral communication.	5.09	1.074	186

(Range: 1 = *less important*; 6 = *extremely important* / S.D. = Standard deviation / *n* = number of responses for each item excluding 'missing' and 'don't know' responses)

Table (10)
Important personal skills for entry-level interior designers (N = 187)

Rank	Personal skills	Mean	S.D.	*n*
3	Express ideas clearly and effectively in written communication.	4.59	1.307	184
4	Communicate effectively through the different methods and presentation techniques.	4.41	1.395	177
5	Effectively able to advertise and market design products and projects.	4.39	1.44	182

(Range: 1 = *less important*; 6 = *extremely important* / S.D. = Standard deviation / *n* = number of responses for each item excluding 'missing' and 'don't know' responses)

Discussion

The authors measured the importance of each competency expected of an entry-level interior designer based on the mean scores. The findings were categorized into three groups: highly important competency, important competency, and less important competency. To fulfill the purpose of this study, the survey items were categorized to illustrate the importance of teaching competencies to emerging interior designers in Kuwait. Highly important competencies received mean scores between 5-6, important competencies received mean scores between 4-4.99, and the less important competencies received mean

Cont| Table (8)
Important ID knowledge area (N=187)

Rank	Interior Design Knowledge Areas	Mean	S.D.	*n*
10	Knowledge of building codes.	4.88	1.297	179
11	Principles of acoustical control/design used in the built environment.	4.85	1.349	181
12	Knowledge of design principles.	4.84	1.445	179
13	Knowledge of how human activities influence interior environments.	4.8	1.273	183
14	Knowledge of design elements.	4.79	1.405	179
15	Knowledge of products' and materials' impact on indoor air quality.	4.79	1.198	184
16	Aware of elements of business practices in interior design.	4.76	1.222	180
17	Social/cultural and behavioral norms within different cultures (cultural perspectives).	4.75	1.266	179
18	Know the relationship of cooling and ventilation systems with interior design	4.71	1.325	182

(Range: 1 = *less important* ; 6 = *extremely important* / S.D. = Standard deviation / *n* = number of responses for each item excluding 'missing' and 'don't know' responses)

Personal Skill Areas

RQ2. What personal skills are considered important for entry-level interior design employees to possess?

Along with ID competencies, design knowledge, and design skills, several personal skills were found to be valuable for entry-level ID professionals. This study found two personal skills with mean values above 5 to be highly important for entry-level interior designers (see table 9). In addition, three other personal skills were considered important s because they received mean values above 4.39 (see Table 10).

Design Knowledge Areas

The findings of the study showed that six interior design knowledge areas are highly important for emerging interior designers. These knowledge areas received mean values of 5 or higher (see table 7). However, twelve ID knowledge areas had mean values below 5 (see table 8), which are found to be less important for entry-level designers.

Table (7)
Highly important ID knowledge areas (N= 187)

Rank	Interior Design Knowledge Areas	Mean	S.D.	*n*
1	Knowledge of ergonomic design (human factors).	5.2	1.052	174
2	History of architecture, interior design, and furniture.	5.19	0.94	180
3	Understanding building systems and interior construction plans.	5.17	1.143	183
4	Know the relationship between colors and lighting and their effects on the internal environments of buildings.	5.08	1.118	181
5	Aware of various materials and products used in the built environment.	5.07	1.203	182
6	Universal design principles/needs.	5.06	1.193	179

(Range: 1 = *less important* ; 6 = *extremely important* / S.D. = Standard deviation / *n* = number of responses for each item excluding 'missing' and 'don't know' responses)

Table (8)
Important ID knowledge area (N= 187)

Rank	Interior Design Knowledge Areas	Mean	S.D.	*n*
7	Familiarity with the impact of building location on the interior environment	4.98	1.375	183
8	Color principles, theories, and systems.	4.96	1.275	183
9	Sustainable design as it relates to building methods and materials.	4.88	1.186	184

Cont| Table (5)
Important Interior design skill areas (N= 187)

Rank	Interior Design Skill Areas	Mean	S.D.	*n*
13	Quickly sketching design ideas for the customer.	4.92	1.241	186
14	Familiarity with the skills of supervising the implementation of interior design projects for buildings during academic study.	4.9	1.343	184
15	Defining and writing design goals, objectives, and problems.	4.89	1.191	186
16	Generating multiple design solutions for the project.	4.86	1.141	184
17	Designing lighting plans.	4.82	1.452	185
18	Designing power and electrical plan.	4.79	1.407	185
19	Preparing and reviewing project contracts for interior design.	4.74	1.288	181
20	Ability to do budgeting for furniture, finishes, and workers.	4.72	1.346	181
21	Preparing proper air conditioning plans (locating the distribution of cool air and returns in central air conditioning)	4.62	1.492	182
22	The ability to prepare furniture-work drawings.	4.44	1.359	176

(Range: 1 = *less important* ; 6 = *extremely important* / S.D. = Standard deviation / *n* = number of responses for each item excluding 'missing' and 'don't know' responses)

Table (6)
Less important Interior design skill areas (N= 187).

Rank	Interior Design Skill Areas	Mean	S.D.	n
23	The ability to prepare proper animation for interior design projects.	3.62	1.626	183
24	The ability to make three-dimensional models of interior design projects.	3.34	1.712	183

(Range: 1 = *less important* ; 6 = *extremely important* / S.D. = Standard deviation / *n* = number of responses for each item excluding 'missing' and 'don't know' responses)

Table (4)
Highly important ID skill areas (N=187)

Rank	Interior Design Skill Areas	Mean	S.D.	*n*
1	Produce complete programming documents.	5.35	1.03	186
2	Designing an appropriate spatial layout.	5.33	1.241	183
3	Selecting furniture and fixtures that are appropriate in scale for the space being designed.	5.24	1.196	187
4	Appropriately selecting and applying color in design solutions.	5.19	1.14	186
5	Using computer design software to produce design drawings.	5.15	1.293	185
6	Producing furniture, fixture and equipment layouts (furniture plan).	5.07	1.286	186
7	Producing 2-D design solutions (floor plan, elevations, and sections).	5.07	1.228	184
8	Develop construction drawings and documents.	5.01	1.3	185

(Range: 1 = *less important* ; 6 = *extremely important* / S.D. = Standard deviation / *n* = number of responses for each item excluding 'missing' and 'don't know' responses)

Table (5)
Important Interior design skill areas (N=187)

Rank	Interior Design Skill Areas	Mean	S.D.	*n*
9	Appropriately specify finishing materials and furniture.	4.97	1.27	185
10	Obtaining sufficient skills and knowledge during academic studies related to the proper execution of interior design projects.	4.97	1.206	185
11	Making informed selection of materials based on properties, performance criteria, and life cycle cost.	4.96	1.302	186
12	Producing 3-D design solutions (perspectives).	4.92	1.262	185

Table (2)
Participants' age groups

Age group in years	Frequency	Percent
20 - 30	77	41%
31-40	74	40%
0-50	27	14%
51-60	5	3%
61 and more	3	2%

Table (3)
Projects accomplished by participants

Projects accomplished	Percent
Less than 5 projects	27%
5 -10 projects	22%
11 - 15 projects	14%
16 - 20 projects	7%
21 - 25 projects	6%
More than 25 projects	24%

Design Skill Areas

RQ1. What is the importance of international interior design competencies to interior design professionals in Kuwait?

Regarding the ranking in the top position for skill areas expected of entry-level interior designers, eight design skills received mean scores 5-6 (see Table 4), which made them highly important for emerging interior designers. Also, fourteen ID skill areas received mean values (4-4.99), which are considered significant (see Table 5). However, a low level of importance was found in only two skill areas which received mean values below 4 (see Table 6).

knowledge and skill domain. A ''Don't know'' response was considered off the scale and treated the same as a skipped question.

Validity and Reliability

A pilot test was conducted through face-to-face structured interviews with five interior designers to validate the research instrument. The pilot test ensured that the instrument statements were clear and understandable, and checked whether the indicators covered all the relevant aspects of a certain concept or not. The pilot study also enabled the researchers to ask practitioners to add more knowledge and skill areas as needed to the survey. After conducting the pilot study, the researchers refined the research instrument. Also, the Cronbach's alpha reliability coefficient tool was used to determine the reliability value of the instrument. The survey obtained a value of.94 on 47 standardized items. This ndicates that the instrument used has a very good reliability value, according to guidelines provided by DeVellis (1991).

Findings

Demographic information

One hundred and eighty-seven ($N = 187$) respondents participated in this study. Of participants, 55% ($n = 104$) were males, while 45% ($n = 84$) were females. Participants covered a vast range of age groups. As shown in Table (2), the largest age group represented was between 20 and 30 years old (41%), followed by the age group between 31 and 40 (40%). Most of the participants were non-Kuwaitis (63%), while 37% of them were Kuwaitis. Participants were accomplished in a wide range of work projects. As shown in Table (3), most had completed fewer than 5 projects (27%), followed by those completing more than 25 projects (25%). The survey asked how many employees worked at each company to determine the size of the design/architecture firm. The highest employment group number was more than 16 employees (31%), followed by 6-10 employees (30%), 1-5 employees (24%), and 11-15 employees (13%), with 3% missing responses.

and architectural design practitioners in Kuwait, publishes a semi-annual guide containing a list of all registered architecture firms operating in the country. The targeted population was retrieved from this *Guide to Kuwait Engineering Offices and Consultant Houses*, 6th Edition (Union of Kuwait Engineering, 2012) and from personal connections.

Research instrument

The research instrument contained three sections to address design competencies - design knowledge and skills (47 items), and demographic information (5 items) related to the specialty of the design firm, the type of services provided, the length of experience, and the size of the firm. The development of the research survey was guided by Scarton's (2012) study, CIDA standards (CIDA, 2017), the NCIDQ exam, and a few questions created by the researchers (Appendix A). After this research instrument was developed, the survey was tested for validity through a pilot study.

Data collection

A questionnaire (both soft and hard copy) was administered and distributed to ID and architecture firms in Kuwait. The researchers and research assistants themselves collected the completed surveys, which secured a high response rate.

Two versions of the survey were developed: one paper-based and one online. The paper-based survey was self-administered to the architecture and design firms, while the online survey was distributed to interior designers who were not members of the Society of Kuwaiti Engineers through phone messages that invited and directed them to the online survey.

Data analysis

Quantitative data analysis was employed in this study. The quantitative method is used to seek answers to closed-ended questions. The Statistical Program for Social Sciences (SPSS) version number (23) was used to code and analyze the data. The researchers analyzed the data by finding the mean scores and standard deviations for each

profit organization in the US, which aims to provide accreditation for ID programs in North America and Canada. CIDA sets design standards for ID programs seeking accreditation by investigating the ID competencies sought by design employers of entry-level interior designers in the market. These criteria are based on specific knowledge and skills that entry-level designers should demonstrate in their design work (CIDA, 2017).

Since Kuwait does not have an accreditation ID council that could establish standards for academia, it is important to investigate the knowledge and skills needed from entry-level interior designers in Kuwait's national and international markets. Thus, the following research questions were developed.

Research Questions (RQs)

RQ1. What design skills and knowledge are considered important for entry-level interior design employees to possess?

RQ2. What personal skills are considered important for entry-level interior design employees to possess?

Methodology

A descriptive research approach was adopted for this study. The literature review shows that a quantitative approach has been successfully employed in similar studies (Scarton, 2012). The research instrument used in this study is a questionnaire. A six-point Likert scale (1 = *not at all important*; 6 = *extremely important*) was employed in the survey. Using a six-point Likert scale broadened the spectrum enough to provide telling and accurate responses, and eliminated a middle ground, or neutral, response. A "Not applicable" choice and "others" were added in case the item was not relevant to the respondent.

Participants

The targeted population in this study were principals and key individuals from design and architecture firms operating in Kuwait. A purposive sampling technique was used in this study: only interior designers, architects, and firm owners were targeted. The Society of Kuwaiti Engineers, the only professional organization of engineering

the Avenues shopping mall, the Four Seasons hotel, and the Wafra Seef. Foster and Partners construction company has designed the passengers' Terminal 2 at Kuwait International Airport, and the Headquarters of the National Bank of Kuwait, while Perkins & Will has designed the schools of both Arts and Education at Sabah Al-Salem University. Alhamra tower, which is the tallest building in Kuwait and the tallest carved concrete skyscraper in the world, was designed by architectural firms Skidmore, Owings, Merrill and Ramshir, and Callison. In other words, the construction industry in Kuwait is turning to the knowledge and skills of international design and architecture firms.

As a result, the need for internationally qualified Kuwait ID undergraduates is increasing. This need can be satisfied by incorporating the internationally needed competencies, knowledge, and skills in the ID programs being taught in Kuwait's educational institutions. Thus, it is important to have the ID programs in Kuwait accredited by qualified international ID organizations.

The National Council for Interior Design Qualification

The National Council for Interior Design Qualification (NCIDQ) is a non-profit organization located in the US, which seeks to enhance the health, safety, and welfare of the public by developing standards of competence for interior designers. The NCIDQ exam consists of three parts: the Interior Design Fundamentals Exam (IDFX), the Interior Design Professional Exam (IDPX), and the Practicum Exam (PM). After successfully passing these three sections, candidates will earn the NCIDQ certification and become eligible to practice as certified interior designers in the US market. Upon graduation, ID students who studied at CIDA accredited programs can take the IDFX section. However, candidates will not be eligible to take the IDPX and PM sections of the exam until after earning 1,760 hours of post-education work experience (NCIDQ, 2018).

Council for Interior Design Accreditation

The Council for Interior Design Accreditation (CIDA) is a non-

Cont| Table (1)
The interior design process and the needed design competencies

Stages	Project process	Requirement
5th	Design execution	Supervise constructions, coordinate work and deliveries, supervise installations, list error and defects, supervise correction, supervise move- in.
6th	Post-occupancy evaluation	Make adjustment and changes; make sure design is executed as planned.

Interior Design Programs in Kuwait

Interior design education in Kuwait is provided mainly by two institutions: the ID Departments at CBE in the Public Authority of Applied Education and Training (PAAET), and the Interior Architecture Department (IAD) at Kuwait University. The IAD aims to educate design students with a full spectrum of interior environments by incorporating ID with psychological, cultural, social, technical, environmental, and physical aspects. The IAD also intends to provide students with cutting-edge knowledge and skills in design-building systems, human factors, sustainability, theory, history, criticism, and visualization (Kuwait University, 2014).

On the other hand, the ID Department at CBE, established in the 1980s, was and still the only ID program in Kuwait that offers a bachelor's degree in education majoring in ID and minoring in Art Education (AE) to both male and female design students. The department was developed with the aim of training design educators for middle and high schools (College of Basic Education Manual [CBE], 2009/2010). After graduation, most of the interior designers are employed by the Ministry of Education, and a few may want to practice ID elsewhere.

International companies in Kuwait

Due to the scarcity of large architecture firms that can handle international companies in Kuwait, the booming of Kuwait's mega projects has significantly influenced international architecture and design firms. Among them, Gensler Design Firm, which is working on

Marsick, 1992). As Watson, Guerin, and Ginthner (2003) claimed, educators in the field of ID are responsible for exchanging information with design practitioners in order to best prepare ID students to meet the sought knowledge and skills requirements of the market. Higgins (2007) argued that ID programs should identify students' weaknesses in their design knowledge and skill levels in order to meet their employers' expectations. Thus, this study will highlight the currently sought ID knowledge and skill levels, as described by ID practitioners, in order to assist ID departments in Kuwait to integrate and revise their curricula.

Interior design project process

Designing a built environment consists of several stages through which interior designers seek to complete project requirements (see Table 1). These stages require specific design knowledge and skills of the interior designers hired to carry out the designated projects (Bettaieb & Alawad, 2016; Nussbaumer, 2009).

Table (1)
The interior design process and the needed design competencies

Stages	Project process	Requirement
1st	Programming	Data collection, client interview, project measurement and scope, design goals, objectives and problems, blocking diagrams and adjacency matrix. Project Budgeting and Scheduling, Human factors, environmental responsibility, social and cultural influences.
2nd	Concept development	Develop preliminary floor plans, spatial layout-sketching design ideas, multiple design solutions.
3rd	Design development	Design floor plans, furniture layout, elevations, sections, perspectives, selecting furniture and equipment, selecting colors and finishes, budgeting for furniture, fixture and workers, presenting project to client.
4th	Construction documents	Construction drawings (structure, lighting, electricity, furniture, etc.), detailed drawings, written specifications.

measure senior-level ID students' performance during their internships at one of the Southeastern universities in the US (Gale, Martin, Martin & Duffey, 2014). That study utilized open-ended questions administered through a survey questionnaire collected over a consecutive nine-year span (from 2006 to 2014). The findings showed that soft skills, such as positive attitude, hard work ethics, interpersonal skills, and professionalism were highly valued by practitioners, and they influenced their hiring decisions. Adequate knowledge of ID computer software was the skill perceived as the most important in the hard skill category, which includes rendering, drafting, and 3D modeling, mainly through using Auto CAD and Revit (Gale et al., 2014).

Working in a globalized world requires preparing students to be globally equal graduates. A study conducted by Alansari, Patti, Parkinson, Gaines, and Alnajadah (2016) aimed to examine Kuwaiti ID students' knowledge and skills from a global design firm perspective. Their study found that Kuwaiti students showed deficiencies in their design knowledge and skills. Since the ID department at CBE is oriented toward preparing ID educators, it is important to note that several essential ID knowledge and skill areas are missing from its current curricula.

Sustainable design is one of the integral subfields in global ID education, which is integrated in higher ID education in many countries. A study conducted among the entire population of ID students in the CBE in Kuwait revealed that students have limited knowledge of the aspects of sustainable design (Alansari, Wagner, & Amor, 2015). However, the participants showed willingness and eagerness to learn sustainability principles. Therefore, exploring the design knowledge and skills expected in the market will help educators to revise the ID curricula to meet students' needs.

Gap between Education and Practice

One of the fundamental roles of academia is to provide the market with competent graduates who are well prepared to fulfil their required tasks. However, schools do not always provide students with the knowledge and skills sought and needed by employers (Baskett &

Hasell, 1985; Hernecheck, Rettig, & Sherman, 1983; Myers, 1982; Scarton, 2012). Meanwhile, advancements in technology continue to rule the built environment industry, influencing how buildings are constructed, how designs are developed, how businesses are run, and how people interact with built environments. Thus, a precise and accurate understanding is needed of the competencies required for interior designers to provide the market with adequately prepared professionals who can serve vital roles in the profession.

A study conducted by Scarton (2012) guides the conceptual framework of this research. Scarton aimed to bridge the gap between ID education and entry-level employees based on the professional knowledge and skills sought by design professionals in the US, employing an online survey to collect data from the top 200 ID firms. She concluded that CIDA standards are considered important guidelines for professional interior designers who are entering the workforce, and identified the top areas of knowledge and skills that global design firms seek from entry-level interior designers.

Earlier research was conducted by Baker and Sondhi (1989), utilizing The Foundation for Interior Design Education Research (FIDER, later known as CIDA) guidelines and the National Council for Interior Design Qualification (NCIDQ) exam areas for the evaluation of students' knowledge and skills. Their study showed that the top design firms sought such competencies as problem solving, communication skills, design concepts, spatial composition, space planning, conceptualizing, design processing, and programming. Similarly, Hernecheck et al. (1983) adopted FIDER's guidelines to understand the competencies expected of entry-level interior designers. The researchers found that space planning, furniture arrangement, and color theory skills were the three top most important areas of competencies, followed by the technical competencies of line drawing, freehand sketching, and technical drawing. Also, the findings of their study indicated several related areas that need to be addressed in the design curricula, including the history of architecture and perspective drawing.

The most recent study conducted on work experience related to ID surveyed practitioners who supervised design interns in order to

to examine the ID competencies expected by design employers from entry-level interior designers (Baker & Sondhi, 1989; Douthitt & Hasell, 1985; Hernecheck, Rettig, & Sherman, 1983; Scarton, 2012). This research helps most of the ID programs in the US to prepare their students for highly competitive positions in the market. Unlike those in the US, the currently sought design competencies in Kuwait have not been investigated, yet.

Purpose

The purpose of this cross-sectional study is to accomplish the following: (1) investigate the current ID competencies required for the entry-level interior designers; (2) identify the ID knowledge and skills that should be obtained by entry-level interior designers;(3) specify the personal skills expected of entry-level interior designers in Kuwait; and (4) provide ID educators in Kuwait with practical recommendations and guidelines to equip emerging interior designers with a set of competencies, knowledge, and skills needed by ID employers.

Significance

A gap exists in the literature regarding the ID knowledge and skill levels expected among entry-level interior designers in the local market of Kuwait. This study is anticipated to: (1) have a significant impact on helping ID programs in Kuwait to adequately prepare ID undergraduates for the profession; (2) help ID faculty members in Kuwait to better understand the design competencies, skills, and knowledge sought by entry-level interior designers, and to prepare them based on the importance of these areas; and (3) assist ID departments in Kuwait to ease and speed up the accreditation process for the ID programs in Kuwait.

Review of Literature

Interior Design competencies

The characteristics, attributes, knowledge, and skills expected from entry-level interior designers in the US have been well documented in several studies (Baker & Sondhi, 1989; Douthitt &

ARTICLES

Examining Interior Design Competencies in Kuwait from Professional Perspectives

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Abstract:

Study Purpose: The purpose of this study is to investigate the current interior design competencies, design knowledge and skills; as well as, personal skills expected from entry-level interior designers in Kuwait based on the international standards.

Study Methodology: A quantitative research approach was used in this study employing a survey questionnaire by both researchers. Online and a paper-based surveys were distributed to professional interior designers and architects in Kuwait.

Study Data & Sample: A total of one hundred and eighty-seven (187) responses were collected.

Findings: The findings of this study revealed that design competencies, required in the entry-level interior designer, were categorized into three main groups: highly important, important, and less important competencies.

Conclusion: The outcome of the study is a list of recommendations and applications to be considered by the departments of interior design in Kuwait when preparing their design curricula to meet local market needs and the American quality teaching standards.

Keywords: Interior Design Education, Interior Designer, Design Competencies, Design Skills and Knowledge, Kuwait.

Introduction

As an applied discipline, the interior design (ID) profession has been evolving over time due to the advancement of technology, and its body of knowledge. Research has been conducted in the United States

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