

The Influence of Education Duration and Course Continuity on the Emotional Intelligence and Creativity of Graduates; An Exploration of Architectural Education Systems

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ABSTRACT

The impact of the connection between education duration and course presentation method on the learning rate of graduates has always been a debatable issue within an integrated holism or as separate and parallel components. One concrete experience can be seen in the transformation process of the architecture education system since 1999 by changing the degree from a contiguous master's to a bachelor's degree. In the new system, course dispersion and lack of coordination of professors have led to inconsistency in the architecture education process reducing the individual skills and creativity of graduates. The mentioned problems have led to more inefficient architects rather than graduates or previous courses. The main question of this study is which one of the architecture education systems has had more influence on the emotional intelligence and creativity of graduates. This mixed research aims to examine the effect of two long-term (contiguous master's degrees) and short-term (bachelor's degrees) on the emotional intelligence and creativity of architecture graduates. The quantitative data were collected through an emotional intelligence questionnaire by Travis Bradberry and Greaves and Creativity questionnaire by Abedi. For this purpose, 30 graduates of architecture contiguous master's degree (MSc) and 30 graduates of bachelor's degree (BA) from the Azad University of Tabriz filled out these questionnaires. The results indicate that teaching architecture courses within long-term contiguous MSs improves the individual and social skills, and emotional intelligence (EQ) of the graduates. When these skills are improved, the mind of the architect can create new ideas. Therefore, long-term architecture education in the mixed method is a dynamic and targeted education since it improves the EQ and creativity of architects.

Keywords: Dynamic and Targeted Architecture Education, Contiguous Master Education System, Shorter B.A. Course of Architecture Education, Emotional Intelligence, Creativity.

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1. INTRODUCTION

The significant objective of architecture education is to foster productive graduates that can use teachings to solve issues and challenges in the real world. To do this., the education methods must be formulated in a way that improves the educational interest and motivation of students, enhances their emotional intelligence when dealing with problems, and increase their creativity of them. The prerequisite courses of architectural design were taught in combined courses 1, 2, and 3 until 1998, while these design prerequisites were separated when the contiguous architecture MSc changed to a BA degree in 1999. These courses included Applied Geometry, Geometry of Perspective, Understanding and Explanation of Environment, Construction Materials Workshop, Architectural Expression 1 & 2, and Introduction to Architectural Design 1 & 2. Since design prerequisites are taught in independent studios by different professors, an inconsistency exists in teaching curriculums and courses by architecture professors. This issue leaves negative effects on the design process of students during architectural design courses decreasing their skills and preventing graduates from having sufficient productivity for creative design. In this case, the graduate cannot use their skills in the best way. Hence, the extant study aims to answer a question about the influence of two long-term (contiguous MSc) and short-term (BA) architecture education systems on the EQ and creativity of architecture graduates by comparing the effects of these two systems.

2. THEORETICAL FOUNDATIONS AND BACKGROUND

Emotional Intelligence has been shaped based on the theories provided by Gardner, Bar-on, Salovey, Mayer, and Goleman (Rahmani 2013). Emotional intelligence mainly appears in communications. These communications cover both intrapersonal and interpersonal aspects, and emotional intelligence is the result of two core personal and social skills. Self-awareness and self-management have personal roots, while social awareness and relationship management depend on the relationship with others (Karimi, Hasoumi, and Leis Safar 2012). Moafi and Teymourzadeh (2012) define self-awareness as the ability to recognize and understand emotions when they appear and to detect their effect on a situation or specific individuals (Moafi and Teymourzadeh 2012). Iranzadeh et al. (2013) have defined self-management as an ability to control or manage emotions and feelings suitably, detect the cause of such emotions, and detect the ways to control and manage anger, fears, emotions, and so forth (Iranzadeh, Khadivi, and Mashatzadegan 2013). Maleki and colleagues (2012) define social awareness as the ability to recognize others' emotions and know how to deal with their

emotional responses (Maleki Avarsin, Hosseini Nasab, and Vafajou 2012). In terms of the relationship management component, Moafi and Teymourzadeh (2012) explain that this component can determine the intimacy rate, interaction, satisfaction, participation, welfare facilities, and motivation of individuals (Moafi Madani and Teymourzadeh 2012). Although creativity is freely discussed, a clear conceptualization of it can be difficult, and many different definitions have been proposed (Crilly 2015). In general, it can be difficult to present a unique definition of creativity (Augello et al. 2015). Creativity is a normal component of the design process, which is mainly identified by an ethical mutation occurring between problem space and solution (Demirkan and Afacan 2012). Guilford (1967) defines convergent and divergent thinking as two main forms of human thinking linking convergent thinking to intelligence and divergent thinking to creativity. According to the theory provided by Guilford, divergent thinking comprises several important factors, including fluency, which means generating identical thoughts; flexibility, which means generating diverse and unusual thoughts; originality (initiative), which means using unique and novel solutions; elaboration, which means generating details (Enayati and Abedi 2016). Education is a determinant of the progress and development of communities (Tascı 2015). It can be stated that the majority part of architecture education occurs in the design studio (Dayaratne 2013), and the design studio is the key core of architecture education (Karlı 2015). Architectural design studios can be considered a significant component of architecture education playing the most vital role in the development of this process (Mohammed and Elbelkasy 2016). In studios, students can ask questions, discuss and debate, and explain and transfer their theoretical knowledge through the education process (Ustaomeroglu 2015). Sedaghati and Hojat (2019) investigated the curriculum of contiguous and non-contiguous master's degrees of architecture and compared their adaptability with architecture education factors and generally found that in all three areas of knowledge, ability, and insight, the contiguous master's degree was more successful course (Sedaghati and Hojat 2019a). Sadeghi and Hojat (2019) conducted a comparative study of contiguous and non-contiguous master's degree courses in architecture from the perspective of professors, employers, and graduates in Iran. This study used George Beredy's technique in four phases: description, interpretation, juxtaposition, and comparison. In the first phase, the content of architecture education and the goals of the curriculum has been described. Interpretations and opinions (about this content, including knowledge, insight, and ability) of professors, employers, graduates, and students of two considered courses were collected through interviews and questionnaires in the next step. The comparison was then conducted

after juxtaposition. The results indicated that they introduced a contiguous master's degree as the most suitable course (Sedaghati and Hojat 2019b). Asgari et al. (2019) analyzed the skills priorities of the architectural education system for bachelor's degrees by comparing the top architecture school in Iran and the world. They introduced flexibility as the most specific characteristic of the description of the architecture courses in the world. This issue can be applied in two areas of flexibility in elective courses and flexibility in the subject of architectural design courses, which is based on the way that students are evaluated and courses are selected depending on their talents (Asgari et al. 2019). Zeinali and Farahza (2020) carried out a study to compare architecture curriculums in the top universities in the world and Iran and concluded that in top universities of the world, greater weight is given to integrative courses rather than technical courses and architectural design courses. According to the syllabus approved in 1998 in Iran, these courses include lower units at Tehran University (2013) and Ferdowsi University of Mashhad (2016). This ratio has been improved in the approved syllabus of Shahid Beheshti University (2005) and Yazd University (2017) (Zeinali and Farahza 2020). Motiei et al. (2018) explain that contiguous teaching of basic courses, integrated courses, and practices with an emphasis on individual and group practices can be used to increase the motivation, emotional intelligence, and creativity of architecture students to achieve a dynamic and targeted education system (Motiei, Mehdizadeh Saradj, and Bayzidi 2018). Sedaghati and Hojat (2020) compared the success rate of educational courses after the cultural revolution. They found a significant difference between graduates of contiguous master's degree courses and graduates of non-contiguous bachelor's and master's degree courses in all areas of foundations and architecture education components. Graduates of contiguous master's degree courses were superior to the graduates of non-contiguous courses (Sedaghati and Hojat 2010).

3. METHOD

This study used the mixed research method. In the quantitative phase, a descriptive study of the causal-comparative type was used. Analysis of quantitative data was done through the independent two-sample t-test using SPSS software. Qualitative data were analyzed through interviews with architecture professors and architects based on the theories derived from library and bibliographic sources considering grounded theory. A statistical society comprised architecture graduates of the Azad University of Tabriz with two contiguous MSc and BA degrees. This study used a convenient sampling method and selected 30 graduates from each group. graduates of contiguous MSs degrees (n=30) were chosen from students who entered the university from 1995 to 1999, while BA graduates (n=30) were selected from those who entered the university during 2000-2004. The quantitative data were collected through an emotional intelligence questionnaire by Brad Berry and Greaves and a creativity questionnaire by Abedi. The emotional intelligence questionnaire by Brad Berry and Greaves consists of 28 6-point items. This questionnaire addresses self-awareness (6 items), self-management (9 items), social awareness (5 items), and relationship management (8 items) components. The creativity questionnaire by Abedi consists of 60 items with a reliability coefficient of 0.83 obtained in the retest method. Items of this test are based on a 3-point scale, and options measure three scales of high, average, and low scales of creativity randomly based on four subtests: fluency, elaboration, originality, and flexibility. The total score of each sub-test indicates the score obtained by the subject.

4. RESULTS

According to qualitative data collected through interviews with architecture professors and architects based on the theories obtained from library sources review and using grounded theory through open, axial, and selecting coding phases, 15 initial concepts, 13 core categories, and one final core category were extracted and reported in Table 1.

Table 1. Concepts and Categories derived from Qualitative Data based on the Grounded Theory

Concepts	Core Categories	Description	Core Category
1. Self-Awareness 2. Self-Expression 3. Independence or Autonomy 4. Happiness	Emotional Intelligence (intrapersonal component)	A high EQ is required to overcome problems and make a decision with positive outcomes. Increased self-awareness has made students attend studio activities individually or in a group with more awareness of their skills, indicate more flexibility in teamwork, and have more responsibility.	Du'dynamic and targeted education: according to this category, education must be purposeful to increase the intelligence and creativity of students, which subsequently fosters more productive and skilled architects.
5. Social Responsibility 6. Interpersonal Relationships 7. Flexibility 8. Tolerating the Mental Pressure	Emotional Intelligence (interpersonal component)		

Concepts	Core Categories	Description	Core Category
9. Problem-Solving 10. Creation 11. Originality Power 12. Unique Response 13. Outstanding Perception 14. Curiosity 15. Critical Thinking	Creativity	The promotion of students' creativity is a substantial case in architecture education. When creativity is increased, when a person deals with a problem become curious and criticizes that case based on different perceptions, and can create a unique response using the power of originality and initiative.	Du'dynamic and targeted education: according to this category, education must be purposeful to increase the intelligence and creativity of students, which subsequently fosters more productive and skilled architects.

In the quantitative phase, graduates of both the old education system (contiguous MSc degree in architecture) and the new system (contiguous BA degree) filled out two standard questionnaires on emotional intelligence by Brad Berry and Greaves and creativity by Abedi. Data analysis was done using an independent two-sample t-test. One of the following hypotheses is considered in the case of the influence of these two architectural education systems on the emotional intelligence of graduates:
H0: in the opinion of respondents, no difference

exists between the mean values of two long-term (contiguous MSc degree) and short-term (contiguous BA degree) architecture education systems.
H1: in the opinion of respondents, a difference exists between the mean values of two long-term (contiguous MSc degree) and short-term (contiguous BA degree) architecture education systems.
After the normality of the variables was confirmed, the independent t-test is used to test this hypothesis. The normality of observations is examined based on the Shapiro-Wilk test (Table 2).

Table 2. Normality of Observations using Shapiro-Wilk Test

	Shapiro-Wilk		
	statistic	df	Sig.
self-Awareness	0.964	60	0.074
Self-Management	0.963	60	0.064
Social Awareness	0.966	60	0.093
Relationship Management	0.972	60	0.173

In this test, the null hypothesis (H0) indicates normality, while the opposite hypothesis indicates non-normality of data. According to the significant value greater than 0.05 for four components of self-awareness, self-management, social awareness, and

relationship management, their data can be assumed as normal data. Now, mean values are compared for regular variables. The variance equality test is an essential phase to compare mean values (Table 3).

Table 3. Variance Equality Test

	Levene's Test for Equality of Variances	
	F	Sig.
self-Awareness	0.025	0.875
Self-Management	0.613	0.437
Social Awareness	0.165	0.686
Relationship Management	0.331	0.567

Levene's Test considers the null hypothesis for equality of variances, while the opposite hypothesis indicates variance inequality. According to the results

obtained for variables, variances were equal, so a t-test can be used.

Table 4. Independent Two-Sample t-Test using SPSS Software

	t-test for Equality of Means						
	t	df	Sig. (2-tailed)	Mean Difference	Std. Error Difference	95% Confidence Interval of the Difference	
						Lower	Upper
Self-Awareness	-2.310	58	0.024	-1.53333	0.66390	-2.86228	-0.20439
Self-Management	-2.698	58	0.009	-4.06667	1.50755	-7.08436	-1.04897
Social Awareness	-2.497	58	0.015	-2.00000	0.80081	-3.60300	-0.39700
Relationship Management	-2.634	58	0.011	-2.66667	1.01253	-4.69346	-0.63987

This study assigned graduates of the short-term architecture education system to the first group and assigned the graduates of the long-term architecture education system to the second group. According to Table 4 and the influence of these two architectural education systems on self-awareness, Sig. (2-tailed) value equaled 0.024, which is less than 0.05. Therefore, a difference exists between the mean values of the two architecture education systems regarding the self-awareness component, and H0 is rejected at the confidence level of 95%. Since the mean difference between the two groups is less than zero, the mean value of the short-term system is less than the long-term system in terms of self-awareness. Considering the influence of these two architectural education systems on self-management, Sig. (2-tailed) value equaled 0.009, which is less than 0.05. Therefore, a difference exists between the mean values of the two architecture education systems regarding the self-management component, and H0 is rejected at the confidence level of 95%. Since the mean difference between the two groups is less than zero, the mean value of the short-term system is less than the long-

term system in terms of self-management. Regarding the influence of these two architectural education systems on social awareness, Sig. (2-tailed) value equaled 0.015, which is less than 0.05. Therefore, a difference exists between the mean values of the two architecture education systems regarding the social awareness component, and H0 is rejected at the confidence level of 95%. Since the mean difference between the two groups is less than zero, the mean value of the short-term system is less than the long-term system in terms of social awareness. Regarding the influence of these two architecture education systems on relationship management, Sig. (2-tailed) value equaled 0.011, which is less than 0.05. Therefore, a difference exists between the mean values of the two architecture education systems regarding the relationship management component, and H0 is rejected at the confidence level of 95%. Since the mean difference between the two groups is less than zero, the mean value of the short-term system is less than the long-term system in terms of relationship management.

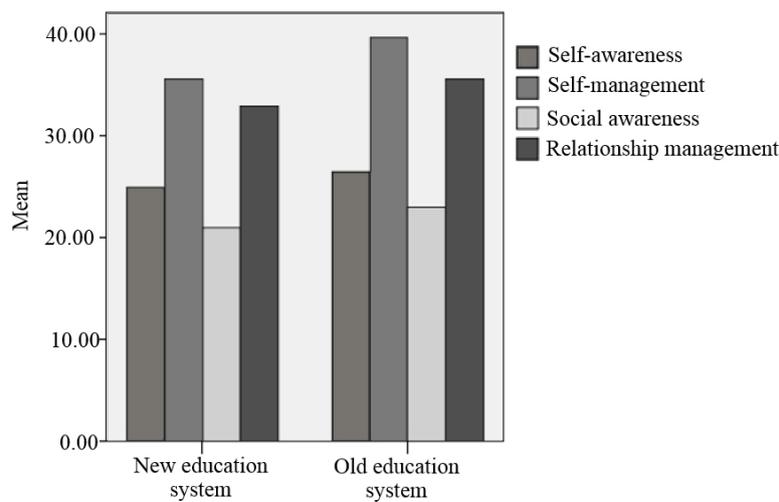


Fig. 1. The Mean Value of Emotional Intelligence Components in two Old and New Architecture Education Systems

Figure 1 compares four components of self-awareness, self-management, social awareness, and relationship management in two new (contiguous BA degree in architecture) and old (contiguous MSc degree in architecture) education systems. This figure depicts that the old education system is more influential rather than the new education system regarding all four components of self-awareness, self-management, social awareness, and relationship management. One of the following hypotheses is considered in the case of the influence of two architectural education systems on the creativity of graduates:

H0: in the opinion of respondents, no difference exists between the mean values of two long-term (contiguous MSc degree) and short-term (contiguous BA degree) architecture education systems.

H1: in the opinion of respondents, a difference exists between the mean values of two long-term (contiguous MSc degree) and short-term (contiguous BA degree) architecture education systems.

After the normality of the variables was confirmed, the independent t-test is used to test this hypothesis. The normality of observations is examined based on the Shapiro–Wilk test (Table 5).

Table 5. Normality of Observations using Shapiro–Wilk Test

	Shapiro-Wilk		
	Statistic	df	Sig.
Fluency	0.963	60	0.068
Elaboration	0.972	60	0.174
Originality	0.980	60	0.439
Flexibility	0.943	60	0.007

In this test, the null hypothesis (H0) indicates normality, while the opposite hypothesis indicates non-normality of data. According to the significant value greater than 0.05 for the three components of fluency, elaboration, and originality, their data can

be assumed as normal data. Since the significance value of flexibility is less than 0.05, the normality presumption of it is rejected. Therefore, this component must be normalized using the Box-Cox transformation (Table 6).

Table 6. Normalizing Flexibility using Box-Cox Transformation

	Shapiro-Wilk		
	Statistic	df	Sig.
Flexibility	0.974	60	0.222

Now, mean values are compared for regular variables. The variance equality test is an essential phase to

compare mean values (Table 7).

Table 7. Variance Equality Test

	Levene's Test for Equality of Variances	
	F	Sig.
Fluency	0.208	0.650
Elaboration	0.708	0.404
Originality	0.876	0.353
Flexibility	0.034	0.854

Levene's Test considers the null hypothesis for equality of variances, while the opposite hypothesis indicates variance inequality. According to results

obtained for all four variables, variances were equal, so a t-test can be used.

Table 8. Independent Two-Sample t-Test using SPSS Software

t-test for Equality of Means							
						95% Confidence Interval of the Difference	
	t	df	Sig. (2-tailed)	Mean Difference	Std. Error Difference	Lower	Upper
Fluency	-2.983	58	0.004	-3.56667	1.19547	-5.95967	-1.17367
Elaboration	-9.683	58	0.000	-6.06667	0.62655	-7.32085	-4.81249
Originality	-3.161	58	0.003	-3.46667	1.09684	-5.66224	-1.27110
Flexibility	-2.587	58	0.012	-0.63795	0.24658	-1.13152	-0.14437

According to Table 8 and the influence of these two architecture education systems on fluency, the Sig. (2-tailed) value equaled 0.004, which is less than 0.05. Therefore, a difference exists between the mean values of the two architecture education systems regarding the fluency component, and H0 is rejected at the confidence level of 95%. Since the mean difference between the two groups is less than zero, the mean value of the short-term system is less than the long-term system in terms of fluency. Regarding the influence of these two architectural education systems on the elaboration, Sig. (2-tailed) value equaled 0.000, which is less than 0.05. Therefore, a difference exists between the mean values of the two architecture education systems regarding the elaboration component, and H0 is rejected at the confidence level of 95%. Since the mean difference between the two groups is less than zero, the mean value of the short-term system is less than the long-term system in terms of elaboration. Regarding the

influence of these two architectural education systems on originality, Sig. (2-tailed) value equaled 0.003, which is less than 0.05. Therefore, a difference exists between the mean values of the two architecture education systems regarding the originality component, and H0 is rejected at the confidence level of 95%. Since the mean difference between the two groups is less than zero, the mean value of the short-term system is less than the long-term system in terms of originality. Regarding the influence of these two architectural education systems on flexibility, Sig. (2-tailed) value equaled 0.012, which is less than 0.05. Therefore, a difference exists between the mean values of the two architecture education systems regarding the flexibility component, and H0 is rejected at the confidence level of 95%. Since the mean difference between the two groups is less than zero, the mean value of the short-term system is less than the long-term system in terms of flexibility.

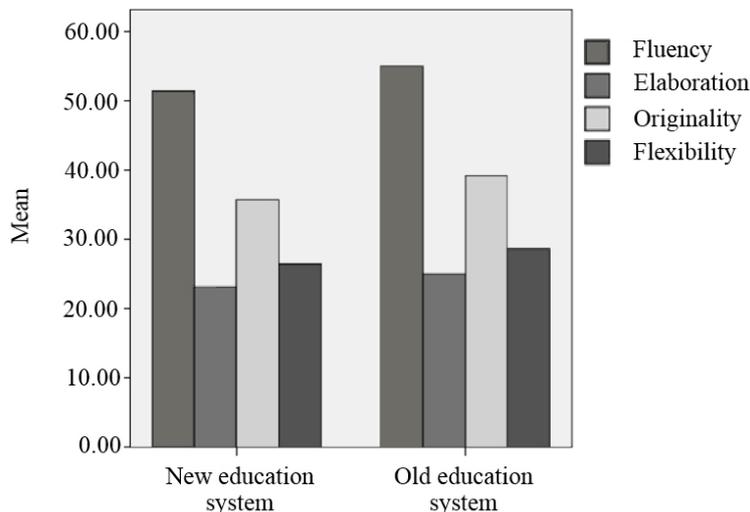


Fig. 2. The Mean Value of Creativity Components in two Old and New Architecture Education Systems

Figure 1 compares four components of fluency, elaboration, originality, and flexibility in two new (contiguous BA degree in architecture) and old (contiguous MSc degree in architecture) education

systems. This figure depicts that the old education system is more influential rather than the new education system regarding all four components. The long-term education system increases the

creativity of architects. In this system, curiosity makes an architect criticize a problem based on outstanding perceptions and bring a unique response to it by using originality skills. High creativity allows the architect to achieve better design skills, so can select the best design by creating various ideas. A long-term education system enhances the emotional intelligence of architects. In this system, it can be explained that integrative education helps students to have more mastery over basic factors of the design and obtain the skill for converting ideas to architectural designs, like architecture maps, replicas, and 3D drawings. In this way, students become more confident and motivated to practice. In other words, the self-awareness of students will be increased. The enhanced self-awareness allows students to participate in studio activities individually or join the group with high-level information and skills. In this case, students are more flexible in teamwork and become more responsible. Because students have different tastes, talents, and skills in teamwork, some conflicts or disagreements may exist in group activities. If intrapersonal ability increases, interpersonal skills

will be increased. Therefore, students with such characteristics can understand others' feelings and solve disagreements to achieve their desired goals. In this case, more intimacy and satisfaction appear among members.

5. DISCUSSION AND CONCLUSION

In general, it can be stated that low intrapersonal skills, inability to make relationships with others, lack of purpose, and ability to find the solution for problems decrease the emotional intelligence and creativity of graduates. The improper teaching techniques are the most important and influential factors, which lead to unproductive and inefficient architects. According to research results of the quantitative phase, the long-term architecture education system had more influence rather than the short-term education system in terms of all four components of creativity (fluency, elaboration, originality, and flexibility) and all four components of emotional intelligence (self-awareness, self-management, social awareness, relationship management) (Fig. 3).

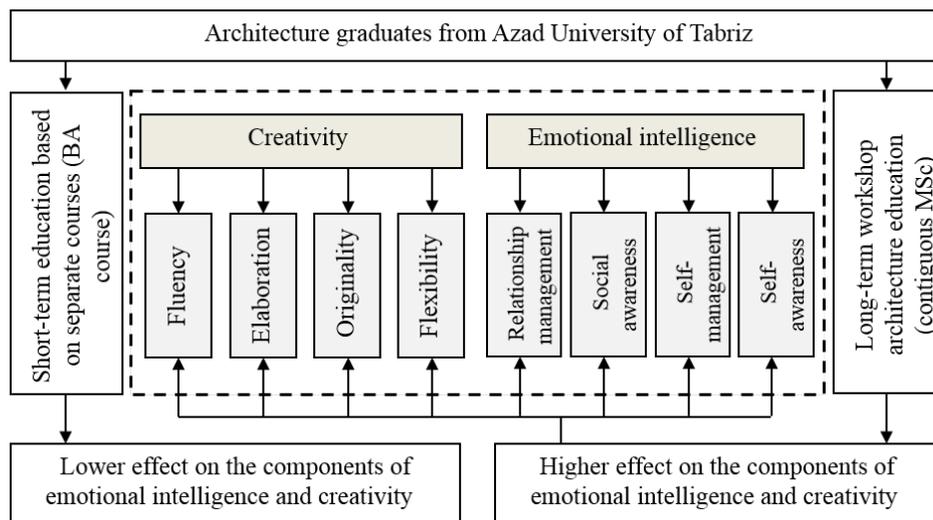


Fig. 3. Model of Influence of Contiguous BA and MSc Education Systems on Emotional Intelligence and Creativity of Graduates

If education is based on the rational method, acceptable results will be obtained. In the old education system of architecture, the basic courses were taught simultaneously in integrative courses 1, 2, and 3, which improved the skills of students in the design context helping them to find a suitable solution for designing. The improved skills of architects allow them to use their skills in the best way, control their behaviors, deal with social issues, and make decisions to achieve the best outcomes. Such skilled architects can find solutions to problems and generate unique responses. Moreover, graduates of long-term contiguous MSc courses have longer work experience and skills; hence, it is logical that these components

are more in long-term contiguous MSc courses through six-year courses. The long-term architecture education system improved the skills of students by integrating the courses and making coordination between professors in holding classes and selecting common practices. Nevertheless, it is essential to improve these capabilities, which increase the self-confidence of students motivating them to generate new ideas that, in turn, make students creative. In short-term (contiguous BA), skills and subsequently academic motivation of students are decreased due to miscellaneous training and personal choice of design prerequisites, non-coordination between professors in selecting practices, and lack of a logical connection

between syllabuses. Hence, some measures must be taken to increase the academic motivation, emotional intelligence, and creativity of students. According to this study, teaching architecture courses based on an appropriate teaching technique-like what was done in the long-term education system (contiguous MSc)

in integrative courses- can improve the creativity of students, and increase their academic motivation and emotional intelligence. Therefore, the long-term education system is a dynamic and targeted education that improves the quality of education (Fig. 4).

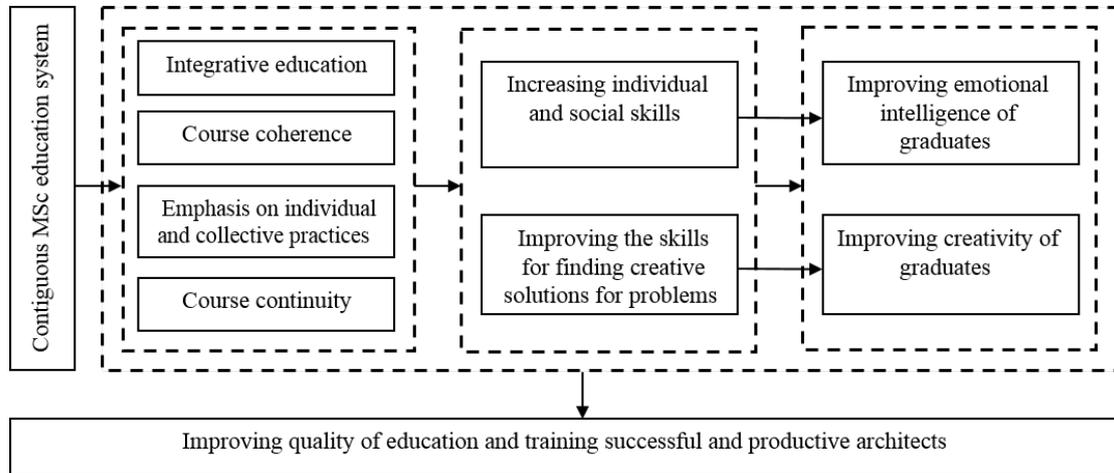


Fig. 4. Analytical Model of the Influence of Contiguous MSc Education System on the Improvement of Emotional Intelligence and Creativity of Graduates

It is recommended to follow the syllabus and curriculum to make coordination between professors based on the semesters and teaching practical courses emphasizing the basic courses in the first, second, and third semesters. The practices must also be selected purposefully. For instance, the staircase subject is taught to architecture students simultaneously with teaching plan drawing and stair section by the drawing professor, construction of staircase replica by replica professors (materials and construction workshop), and drawing staircase perspective by the architectural expression professor. Hence, courses must be integrated and taught to take steps towards teaching skills and realizing them by presenting courses by professors, reviewing the syllabus in the department, and making coordination between professors.

Therefore, the integrative syllabus has been proposed for the courses “Introduction to Architectural Design 1” and “Architectural Expression 1” in the first semester based on the experience of authors obtained from teaching basic courses as reported in Table 9. It is suggested that further studies examine other components, such as learning and job satisfaction in two long-term (contiguous MSc) and short-term (BA course based on separate courses) education systems in architecture in universities that have accepted students in both systems. By doing so, the strengths and weaknesses of these two education systems will be found and researchers can find the best solutions to achieve a better education system for architecture discipline and improve the skills of students in different areas.

Table 9. Proposed Integrative Practice for the Courses "Introduction to Architectural Design 1" and "Architectural Expression 1" in the First Semester

Semester	Course	Objectives and the Subject of Course based on the Approved Syllabus	Integrative Practice
The First Semester of Contiguous BA in Architecture Engineering	Introduction to Architectural Design 1	<ul style="list-style-type: none"> - Introduction to technical drawing skills - Introduction to drawing rules for architecture plans at different scales - Introduction to drawing 3D pictures - Building simple and complex volumetric models to become familiar with materials and principles of volumetric composition - Roleve practice to get familiar with building elements 	<ul style="list-style-type: none"> - Introduction to geometric subjects in Architectural Expression 1 Course and building 3D volumes of the same geometrical drawings in Introduction to Architectural Design 1 - Making Platonic volumes and integrating volumes in Introduction to Architectural Design 1 and drawing 3D plans of these volumes in Architectural Expression 1 - Constructing integrative volumes in Introduction to Architectural Design 1 and drawing perspective of these integrative volumes in Architectural Expression 1 - Making different elements of a building, such as a staircase and drawing its plan in Introduction to Architectural Design 1 and drawing its perspective in Architectural Expression 1 - Drawing the indoor space of a building and its plans in Introduction to Architectural Design 1 and drawing its perspective and shadows in Architectural Expression 1 - Teaching how to draw architectural plans of a building and constructing its interior and volumetric replicas in Introduction to Architectural Design 1 and drawing perspective and freehand design of that practice in Architectural Expression 1
	Architectural Expression 1	<ul style="list-style-type: none"> - Introduction to types of drawings and their applications in architecture - Familiarity with geometry and drawing 3D plans of volumes - Training freehand drawing skills - Familiarity with different types of perspectives - Teaching how to draw shadows in perspective and plans 	<ul style="list-style-type: none"> - Freehand drawing of implemented projects in the city in the course of Architectural Expression 1 - and contrasting its volumetric replica and drawing its façade and project Roleve in the course of Introduction to Architectural Design 1 - choosing a final joint practice like a real small implemented project for both courses and drawing plans and building its replica in Introduction to Architectural Design 1 and freehand design and drawing its final perspectives in Architectural Expression 1 - final evaluation of practices by professors in the groups within two courses

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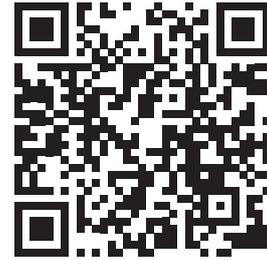
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