



An Exploration of the Effectiveness of learning Environment on Improving the Quality of Architecture's Education

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Abstract: *A learning environment involves all of the social, Cultural factors and the physical, mental and emotional facilities which influence on a learner's growth and development in an educational institute. A human being's life is mostly intertwined with learning and experiences which occur through fellowship and social interactions. This is while the role of physical design has been proved in terms of the environment's effects on establishing positive and constructive social behaviors. What can be studied as the problem for the settings of architecture's education is the lack of effective physical criteria on designing desirable education setting for improving the users' social interactions. Therefore, the current research intends to explore and obtain the physical criteria influencing on designing the architecture faculty for improving the quality of education.*

The research design involves a descriptive – analytical research of survey kind. In order to measure the variables, a questionnaire was used and the data was analyzed by SPSS. The results indicated that the physical criteria can improve the quality of architecture's education.

Key words: *Architecture's education, Education objectives, Education's quality, Setting for architecture's education, Social interaction.*

1. INTRODUCTION

The higher education is one of the most important establishments for education, development and supplying of the human resources while also playing a vital role in stable progress and development. As a structured organization, it needs a scientific consideration of all sectors with its various aspects (Gordon, 2002). If an organization seeks to reach its objectives through an effective organizational structure and a clear mission, it needs capable human forces (Sharifi et al, 2010). Since training the skillful human forces is one of the tasks of the educational system, the educational centers, with training human forces, play a vital role for materializing a country's achievement. With the human capital inventory increases, the productivity of the workforce improves. The increased productivity of the work force in all economic productivity of the individual sectors.

Finally, it leads to growth and development. Hence, with responding the activities and the increased competition within educational systems, the quality of education is more concentrated (Movahed et al, 2013). The quality of education involves a multi dimensional process which should be considered in various aspects. However, what has been considered here is the generalize factor or the learner as the main client or stockholder of the educational services education, with its settings mostly influence the subjectivity and

civilization of the communities. To learning environment includes all of the mental, physical and emotional facilities and the social and cultural factors which influence on the growth and development of the learner in an educational institute (Days, 2009). On the other hand, with individualism increased, the physical environment was given more importance as carrying those residing at the neighborhood in order to make them closer and compromising part of their lost social interactions in previous urban and architectural buildings and structures (Salehinia and Memarian, 2009). This is while the role of physical design has been proved for environment's influence on establishing positive and constructive Social behaviors (Long, 2004). Therefore, it is believed that the educational Setting, as physical environment, experiences highest level of interaction as between the features of the environment and its users. What can be investigated as the problem of educational Spaces in architecture is the lack of attention to the physical criteria influencing on designing the desirable educational Space in order to improve the users' social interactions. In consequence, Sometimes, and important part of education, either in social aspect or in scientific aspect, is lost. Therefore, it is an undeniable necessity to provide appropriate capabilities for the students in architecture's educational setting for establishing Social interactions and make it welcomed by the students. Therefore, the current research intends to obtain the Factors influencing on designing an atelier directed faculty for improving architectures' education by which an education directed qualified setting is provided for increasing students' tendency to participate in learning there by enhancing education's quality.

LITERATURE REVIEW

The word "quality" was devised from the Latin word "Qualitas Qualitat" (A Greek translation of "poiotes" meaning type and tat, tas from the Latin word "gui" meaning who (yamani & Hesari, 2006). The quality refers to the matching of the products with the needs of the clients or the products being accorded with the predetermined Standards. However, generally, it could be argued that the quality, in general, it could be argued that the quality, in general, means the features of products which can meet the needs of users. Therefore, evaluation and improvement of quality in such areas as industry, production, health and education are considered as vital necessity (Fathabadi, 1999).

Quality is a Greek translation of the word used by Plato and Aristotle for Seperating the nature of the things (Tahmasebi, 2007). Also, it is used as competency for a product which meets the user's expectations (Neghzarian, 2007).

The quality of education refers to the education which provides the required skills for producing a stabilized life development for the learners (Tikly and Barret, 2011). As viewed by Klater, the education can e defined as the educational department's commitment to obtain the educational objectives (Sandoval et al, 2010).

In education, the concept of "quality" is a multi dimensional complicated item and it is refered to those changes occurring in students' behaviors (Doherty, 2008). Thus, the only valid criterion of quality is the changed behavior of the Students and their learning. Although many experts stressed on quality of education, no similar definition has yet been provided. In many countries, the issue has been the reduced ratio of students to their teachers. The upcoming investigations showed that these discussions were misleading (Cummings, 1995).

The international network for guaranteeing the quality of higher education defines it according to such criteria as: matching with the predetermined standards and tending toward the specified objectives (Bazargan, 2001). The quality of higher education involves matching of input, process, output and outcomes of the system with those standards established for improving the activities of higher education with respect to the missions, objective and expectations of higher education (Sobhaninejad and Afshar, 2008).

Chapman (1999) observed quality as equivalent to education Standards, like the learners' progress level. This definition is completely consistent with the concentrations on learning (Chapman, 1999).

Baker (1999) defined the quality as the total outcomes of an educational course. He supposed that a course is qualified when such out puts as establishing a certain level of ability within the maximum time period, satisfaction of skill need and meeting job career development needs have been obtained (Baker, 1999). The quality of higher education has been described as “the quality is desirable when the institute contributes the students to be able to obtain the learning objectives which include good academic standards” (Rowley, 1996). The above mentioned discussion helps us understand that one way for make the education qualified is to obtain the educational objectives. However, “the academic education intends to train informed and capable individuals and to do it, the universities need to educate individuals having knowledge and skills in order to match with the changes in the society (Vahidshahi et al, 2012).

Among the common objectives of desirable architecture education in this research, the following can be mentioned: increased incentive and passion for learning (Hojjat, 2004, Biabangardi et al, 2005, Karami et al, 2008, Momeni et al, 2008, increased Specialty Skills (Hojjat, 2004; Momeni et al, 2008), Curiosity (Hojjat, 2004), Creativity (Hojjat, 2004; Samavi et al, 2008; karami et al, 2008; Tahmasebi et al, 2010; parvin et al, 2014).

For the factors influencing on improving the quality of education, Several researches were done including the one done by yamanidouzi and Bahadori (2008) titled as “A comparison of the factors influencing on education’s quality at master Courses In Shahid Behesti and Sharif industrial university” – the results indicated that using the criteria for selecting the faculty members and students, how to teach, organizing the educational contents and spaces evaluation of classes influence on the quality of education.

Aguiar and Retamal (2009) studied the positive effects of educational environment on education’s quality titled as “the supportive environment and education’s quality for human being’s education”. Vining (2006) Studied the Schools at western Philadelphia to analyze the effects of internal setting and space on students’ achievements and attitude. The investigation concentrated on color, light and materials used for designing which are considered as non – structural elements of the schools. These can be improved without renewal and major changes. The results showed that these elements clearly influence on the Students’ soul, mind and attitude So that the Spaces’ internal design influence on their users both physiologically and psychologically. In Iran, Mortazavi and Kazemi (1997) found that “the Successful students with more positive attitude toward educational setting evaluate the educational settings as more desirable (Mortazavi, 2001).

RESEARCH METHOD

Here, a descriptive research method of survey kind was used with respect to nature and objective research. The statistical community of research included 126 students of architecture who were studying at architecture faculty in Gilan University and Lahijan’s Deylaman non – profit faculty. They were randomly selected. In order to obtain the research objectives, a researcher made questionnaire was used with a five point likert Scale. Also, the reliability of the tools for collecting data by using a Chornbach value of 0.865 In order to determine the validity, the questionnaire was studied by the consultant professors. Having been supported, finally the questionnaire was given to the sample individuals. Here, in order to analyze the data and test the hypotheses, the multivariable regression was and SPSS were used.

DATA ANALYSIS AND FINDINGS

RELIABILITY AND VALIDITY

In order to determine reliability, the Cornbach alpha was used. In order to study the Cornbach alpha, 40 questionnaires were distributed among the Sample members. In Cosnsequence, software analysis gave a value of 0.865 for Cornbach alpha which indicates a higher reliability.

Table1. Reliability values of the questionnaire’s variables

| Reliability Statistics | |
|------------------------|------------|
| Cronbach’s Alpha | N of Items |
| 0.865 | 22 |

MULTI VARIABLE REGRESSION TEST

For multivariable regression test the regression factors of the independent and dependent variables were separately studied and the regulated determination factor was calculated by using Durbin Watson test.

Table2. Multi Variable regression of the architecture criteria influencing on designing the architecture faculty and education objectives

| Model | | Unstandardize d Coefficients | | Standardiz ed Coefficients | t | Sig. |
|--------------------------------------|---|------------------------------|------------|----------------------------|--------|------|
| | | B | Std. Error | Beta | | |
| Increasing motivation and enthusiasm | Fixed | 1.596 | .307 | | 5.202 | .000 |
| | Fixed work space in the atelier | -.232 | .081 | -.240 | -2.880 | .005 |
| | Flexibility in educational space | .118 | .128 | .096 | .926 | .356 |
| | Effective interaction space of professor-student in atelier | .269 | .135 | .201 | 1.991 | .049 |
| | Exhibition space of student work | -.259 | .079 | -.282 | -3.265 | .001 |
| | Peripheral educational space | .251 | .108 | .215 | 2.333 | .021 |
| | architectural atelier for permanent using through the academic course | .172 | .078 | .179 | 2.203 | .030 |
| Reinforcing specialized skills | Fixed | 1.476 | .341 | | 4.324 | .000 |
| | Fixed work space in the atelier | .226 | .096 | .241 | 2.363 | .020 |
| | Effective interaction space of professor-student in atelier | .334 | .121 | .287 | 2.765 | .007 |
| | Exhibition space of student work | .237 | .092 | .226 | 2.580 | .011 |
| | Peripheral educational space | -.382 | .122 | -.252 | -3.125 | .002 |
| | architectural atelier for permanent using through the academic course | -.230 | .093 | -.267 | -2.486 | .014 |
| Inducing sense of curiosity | Fixed | 1.132 | .241 | | 4.706 | .000 |
| | Exhibition space of student work | -.192 | .087 | -.201 | -2.214 | .029 |
| | Peripheral educational space | .278 | .121 | .245 | 2.297 | .023 |
| | architectural atelier for permanent using through the academic course | .152 | .078 | .214 | 1.941 | .055 |
| Dev elo | Fixed | 1.923 | .267 | | 7.211 | .000 |
| | Flexibility in educational | -.184 | .090 | -.207 | -2.039 | .044 |

| | | | | | | |
|---|---|-------|------|-------|--------|------|
| | space | | | | | |
| | Exhibition space of student work | -.331 | .104 | -.266 | -3.169 | .002 |
| | Peripheral educational space | .371 | .101 | .391 | 3.655 | .000 |
| | architectural atelier for permanent using through the academic course | .133 | .102 | .157 | 1.304 | .195 |
| Developing spirit of collective cooperation | Fixed | 1.354 | .285 | | 4.752 | .000 |
| | Flexibility in educational space | -.183 | .086 | -.171 | -2.135 | .035 |
| | the existing places for establishing friendly communities | .323 | .090 | .315 | 3.598 | .000 |
| | Peripheral educational space | -.045 | .062 | -.059 | -.729 | .467 |
| | architectural atelier for permanent using through the academic course | .166 | .081 | .181 | 2.056 | .042 |

According to table 2, the final model involves a second multivariable regression. The significance value of fixed work space for teacher and students in the atelier, exhibition space for students’ works, educational Spaces, architectural atelier for permanent using through the academic course, was lowers than 0.05 which indicates a linear relationship between the variables and increased motivation.

The significance value for fixed work Space for the students in the atelier, effective interactive space between teacher and students in the atelier, exhibition space for student works, other educational spaces, and architectural ateliers for permanent use during the academic course is lower than 0.05 which indicates a linear relationship between the variables and enhanced specialty proficiencies.

The significance value for exhibition space for student works, other educational spaces is lower than 0.05 which indicates a linear relationship between the variables and the derived curiosity.

The significance value for flexibility in educational spaces, exhibition space for students’ works, other educational spaces is lower than 0.05 which indicates a linear relationship between the variables and creativity development.

The significance value for flexibility of educational space, the existing places for establishing friendly communities and architectural ateliers with permanent use facilities for the academic Course is lower than 0.05 which indicates a linear relationship between the variables and development of collective cooperation mentality.

Table3. A summary of the model for architectural criteria influencing on designing architecture faculty and educational objectives

| Model | R | R Square | Adjusted R Square | Std. Error of the Estimate | Durbin-Watson |
|--|-------------------|----------|-------------------|----------------------------|---------------|
| 1 Increasing motivation and enthusiasm | .554 ^a | .307 | .272 | .983 | 1.985 |
| 2 Reinforcing specialized skills | .477 ^a | .228 | .195 | .997 | 2.014 |
| 3 Inducing sense of curiosity | .442 ^a | .195 | .175 | .801 | 1.698 |
| 4 Developing creativity | .455 ^a | .207 | .181 | .991 | 1.777 |

| | | | | | | |
|---|---|-------------------|------|------|------|-------|
| 5 | Developing spirit of collective cooperation | .482 ^a | .232 | .207 | .784 | 1.803 |
|---|---|-------------------|------|------|------|-------|

A summary of the model for the effective architectural criteria influencing on designing the architecture faculty and educational objectives are presented in table 3.

The regulated determination factor and Durbin Watson test are the main outputs of the Model. The value for regulated determination factor for model 1 is 0.272 which indicates that 27.2% of the changes in increased incentive and motivation are influenced by the fixed work space for the student in the atelier, interactive space for teacher and student in the atelier, exhibition space for student works, other educational spaces and architectural atelier for permanent use during the academic course.

The value of Model Z's regulated determination factor is 0.195 which indicates that 19.5% of the changes in enhanced specialty skills are influenced by the fixed work space for the students in the atelier space for the students in the atelier, interactive space for teacher and student in the atelier, exhibition space for student works, other educational spaces and architectural ateliers with permanent use facilities during the academic course.

The value of regulated determination factor in model 3 is 0.175 which indicates that 17.5% of the changes in prompting curiosity are influenced by the exhibition curiosity are influenced the exhibition space for student works and other educational spaces. The value of regulated determination factor in model 4 is 0.181 which indicates that 18.1% of the changes in creativity development are influenced by flexibility of educational space, exhibition space for student works and other educational spaces.

The value of the regulated determination factor for model 5 is 0.207 which indicates that 20.7% of the changes in development of collective cooperation mentality are influenced by flexibility of the educational space, places for establishing friendly communities, architectural ateliers with permanent use for the academic course. The statistical value of Durbin Watson test was used to study the independent errors. Given the fact that the Statistical value of the test is at the range of 1.5 to 2.5 for the models, it is supported that the errors are not correlated.

CONCLUSION

Designing an educational space is intended to solve the spatial relationships required for education. This means that the spaces required for education need to be arranged beside each others in a manner that the final goal can be obtained (Moftakhari et al, 2015). Therefore, the current research evaluated the architectural elements influencing on designing architecture faculty thereby improving education's quality. With respect to the numbers of dimensions influencing on education quality and given the fact that mostly quality has been used as a factor for obtaining the predetermined objectives, first a review of the research background on education's quality and the changes in education on the output behaviors as the future architects used for dependent variables including increased motivation, incentive for learning, enhanced specialty skills, driving curiosity, creativity development of collective cooperation mentality. Then with deriving the factors for designing architecture faculty Including fixed work space for the student in the atelier, flexibility in educational space, interactive space for student and teacher in the atelier, exhibition space for student works, other educational spaces, architectural ateliers with permanent use during academic course and places for establishing friendly communities and their effects were considered as independent variables on the dependent variables. The Statistical analysis showed that there is a positive and significant relationship between the dependent and independent variables so that with the indepent variable increases, also the dependent variable will increase. The results indicated that, with increasing the quality of learning setting based on the physical criteria, an effective step can be taken for improving the quality of architecture's education.

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