

RETHINKING THE ENTRANCE TO ARCHITECTURAL EDUCATION: A CRITICAL OVERVIEW

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Abstract

Architecture has much in common with other disciplines: social sciences, management, history, operational research, philosophy, graphic design, math and etc. These features that distinguish architecture from other disciplines impute different kind of responsibilities for architectural education. Besides technical and professional skills, an architect must have imagination and be creative at many levels, and must gain artistic and intellectual ability as well. This issue gains importance especially in countries that are experiencing a development process. For developing countries, integration of creative thinking skills in university education is a crucial need for shaping their future orientations and actualizing reforms in political, economic, and cultural areas.

In Turkey, because of increasing population and limitation of resources, the process of architectural student selection changed to standardized, quick achievement tests that assessed general intelligence (g factor) but not spatial cognition ability and creative skills. Today, students are selected and placed in schools of architectural education according to their university entrance examination (OSS) scores. OSS is given once every year to select the best performers among almost 1.6 million high school graduates and to place the most brilliant students in the departments they have chosen. When the candidate size is considered, this elimination system is the only predictor of an individual's capacity for higher education. Although, some researchers demonstrated that, OSS has high reliability and validity for both verbal and numerical tests, it is criticized by educators as relying on only linguistic - logical - mathematical forms of intelligence and ignoring the humanistic characteristics such as personality, interests, abilities, attitudes and

creativity of individuals including potential architect candidates. However, it is believed that, for design related disciplines, some keywords such as motivation, ability and divergent thinking has effective role on the academic achievement.

This study aims to focus on the self-reported perception of students with respect to interest - ability - creativity when entering architectural education. In order to accomplish this goal, a research was conducted in the Department of Architecture at Yıldız Technical University. In addition to the use of quantitative measures accepted in the scientific literature for validity and reliability, some other instruments and self - evaluation tests were employed for gathering data. The data were analyzed using SPSS statistical package. Results not only demonstrated the profile of architectural students selected using current admittance methods but also suggested a number of directions for further research.

Keywords: architectural education, architectural design, psychology of design, architectural students, university entrance examination.

Introduction and Theoretical Framework

Before the discussion on empirical study which examine self perceptions of interest - ability - creativity, the student selection and placement system for higher education should be discussed in general manner. In order to compare the situation in Turkey with the situation in other countries, selection and placement processes for architectural education will be summarized in all over the world.

Although today, there are no test which is known reliable to measure the aptitude of individuals aspiring to become architects, the research on this issue has been needed to consider over the past fifteen year period. The first major study attempting to construct a series of predictors of an applicant's potential success in an undergraduate architecture curriculum was sponsored by the AIA and the ACSA and conducted by the Educational Testing Service (ETS) in Princeton from 1956 to 1964. An experimental battery of seventeen tests was designed to measure those factors, which in the opinion of the AIA Committee on Aptitude Tests, were related to success in architecture. During the 1956 the experimental battery was administered to approximately 600 entering freshmen in eleven

schools. Those tests showing highest promise were included in the “Architectural School Aptitude Test” (ASAT), first administered nationwide in 1964. The ASAT is designed in six parts. The first four parts are multiple-choice questions which are machine scored; the last two are open-ended free response tasks which are hand scored (Moore, 1970). In order to explore the validity and reliability of ASAT for architectural education an experimental study was conducted in the 1960s. According to research results, a more accurate prediction of success for architecture students could be made by using tests designed specifically to tap abilities which architects had judged were related to success in architecture school along with the traditional tests used to predict college performance. Course grades and faculty ratings were predicted for 228 students from ASAT scores. The scores alone, however, predicted long-term criteria poorly but when supplemented with other intellectual measures or with biographic data, the best predictions over all architecture criteria were made. Results showed the ASAT to be useful as a tool for guiding prospective architecture students (Lunneborg and Lunneborg, 1968).

Although in the first years of the system it was believed that the validity and reliability of ASAT is sufficient for predicting success, the test has been abandoned decades ago due to its unsuitability for predictive validity. Currently, there are very few architectural school using the Architectural School Aptitude Test in order to predict the probability of success in a professional program in architecture. The University of Kentucky which use some supplementary tests (portfolio, controlled test, personal interviews, home project assignment, etc) is one of them. Today, there are no known tests that reliably measure the aptitude of individuals aspiring to become architects. To date, no other test has replaced it (Akin and Akin, 1996). In order to assess the potential of applicants several methods have been applied by the instructors of architecture schools such as portfolio reviews, interviews, pre-college programs and etc.

In spite of the fact that, the curricula of higher education in Turkey looks similar to the rest of the world, the selection and placement system is different with some regards. Today, Turkish high school graduates are selected and placed in higher education according to their university entrance examination scores (Oral, 2006). The

exam was first applied in the late 1960s. With the increasing number of youth and the overloaded applications, the universities gathered and founded "Higher Education Council", and subdivision named "Student Selection and Placement Centre". During the 1970s, because of increasing population, and limitation of resources, the process of selection was changed to standardized, quick achievement tests that assessed basic theoretical knowledge but not creative skills. The main aim of this system was to select and place students with the highest probability of success in the available higher education programmes, taking into consideration their preferences and performance on OSS (Student Selection Exam). In 1980, the number of the exams were increased to two, namely the OSS and OYS. This system continued until 1999. In 2006, the system is upgraded again. The exam is now similar to the dual ranked system (1980-1999) in terms of topics.

The most significant reason why OSS is being conducted instead of aptitude tests and personal interviews is the limited total capacity of universities for the approximately 1.6 million candidates which is increasing every year. Although, some researchers demonstrated that, the exam has high reliability and validity for both verbal (Dursunoğlu, 2002) and numerical tests (Sezen, 1998; Köksal 2002), it is criticized by educators as relying on only linguistic, logical, mathematical forms of intelligence and ignoring the humanistic characteristics such as personality, interests, abilities, attitudes and creativity of individuals including potential architect candidates. "Life = 180 minutes?" This is a slogan used by Turkish Education Association in order to criticize the system. The system attempts to encompass all the work of a student throughout his or her 12 years of academic life in a 3 hour multiple choice exam.

In the light of the current selection and placement system it can be claimed that students, who applied to an architectural program, don't have any supplemental exam and aptitude test for measuring their ability on creativity and efficiency. In addition, there are no sufficient vocational guidance services which help secondary and high school students wishing to start professional education in design. Thus, at their point of entry to the architecture school, students different from each other in terms of their interests and abilities (Ochsner, 2000).

Empirical research

The empirical study aims to focus on the self reported perception of students with respect to interest - ability - creativity when entering architectural education. Data were gathered from the sample of first year architecture students at their point of entry to the university. A total of 98 freshmen students of the Department of Architecture at Yıldız Technical University were recruited for the study. Participants were selected randomly. Participation was on a voluntary basis. All participants were informed that the questionnaire was a part of a research. The data were analysed using SPSS statistical package. Two methods of data collection were analysed. The first one was the "Recognition Questionnaire", and the second one was the "Self Assessment Inventory".

In order to collect demographic data for individual differences a Recognition Questionnaire was designed for the particular aims of the present research. Types of questions can be summarized as following: Questions examining socio demographic variables (sex, age, educational background, educational levels of parents, occupational levels of parents, etc), Questions examining students' self awareness of their interests and abilities related to architectural profession. Questions examining students' perceptions of their suitability for architectural education. Measures were answered directly by the interviewer in a place of their own choosing. While the "Recognition Questionnaire" was answered by 98 respondents, the "Self Assessment Inventory" was answered by 70 respondents.

"Self Assessment Inventory" is a self-reported questionnaire which was designed in order to help high school graduates to become more aware of their own personality and individual differences for vocational selection (Kuzgun, 2000). The reliability of SAI is quite satisfactory, with correlations generally above 0.73. There are three section of SAI: Interests, Skills and Values. The inventory includes 23 sub tests (Interests: 11 subtests, Skills: 3 sub tests, Values: 9 sub tests). Each of the consonant sub tests includes 10 items. For the purpose of this research, only third section (Values: ability utilization, creativity, variety, competition, leadership, cooperation, regular life, prestige, economic rewards) which includes "creativity" as an intrinsic value was employed.

Participants filled out the questionnaire at the beginning of their first year of studies to avoid possible effect of education on the dependent variables. In order to explore the relative position of all intrinsic and extrinsic indicators in their own “value orientation”, 90 Likert-type items ranged from 1 (very little) to 4 (very much) were administered. The mean percentile ranks of the participants were calculated according to the data from the standardization sample of 1902 high school graduates.

Results

When using Recognition Questionnaire, respondents were asked “did you choose an architecture school with a conscious decision” the most common answer was “conscious” (approximately 44%) and “absolutely conscious” (approximately 34%). Only 1 per cent of participants stated that the decision was “unconscious”. Of the students 21 per cent answered this question by “neither conscious nor unconscious” (Figure 1).

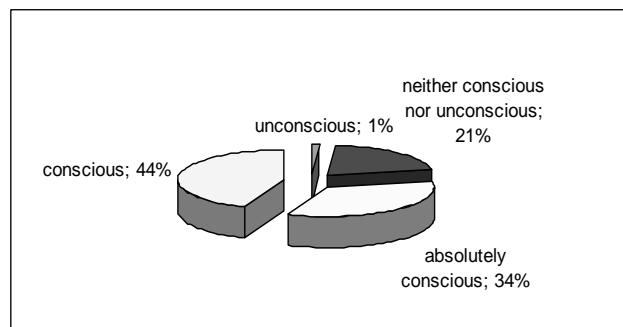


Figure 1. The distribution of answers to the question: “Did you choose an architecture school with a conscious decision?”

Similarly, the question of “do you believe that architectural profession is suitable for your interests and abilities” was most commonly answered by “suitable” (approximately 61%). Nearly 10 per cent of participants preferred the answer of “absolutely suitable”. Among the participants, only 5 per cent undergraduates considered that architectural profession is not really suitable for their own interests and abilities (Figure 2). Approximately 24 per cent students answered this question by “neither suitable nor unsuitable”.

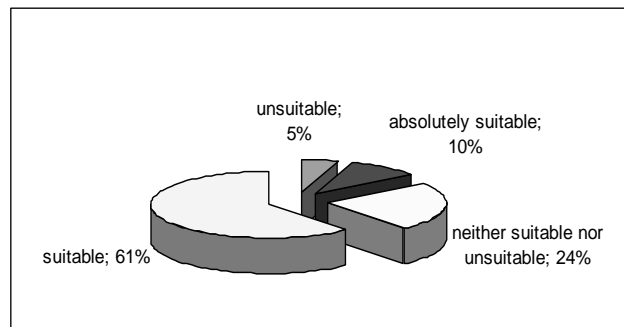


Figure 2. The distribution of answers to the question: “Do you believe that profession is suitable for your interests and abilities?”

When the participants were asked “How much do you know about the architectural discipline? Is it enough for making vocational decision?”, approximately 41 per cent participants said “neither yes nor no”. Nearly 36 per cent of whole sample selected the answer of “yes”. Participants who preferred the answer of “absolutely yes” are limited in number for this question (approximately 5%). The repeated usage of the negative expression “no” increased in number for this question (Figure 3). The answers of the respondents’ showed that although they believe that architectural profession is suitable for their own interests and abilities, they don’t know enough about architectural profession. Despite the fact that choosing an architecture school is described as a conscious decision by the participants, they don’t believe that they get enough occupational and educational information and advice.

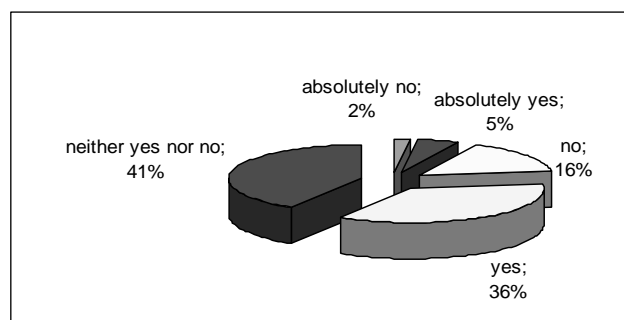


Figure 3. The distribution of answers to the question: “How much do you know about the architectural discipline? Is it enough for making vocational decision?”

Table 1. The distribution of answers to the question: “What are your reasons for giving a place to an architecture school in the preference list of OSS (Student Selection Examination)”.

	N	min	max	mean	std. dev.
Because it takes part in the occupations which I enjoy very much.	71	1	4	1.96	.99
Because it takes part in the occupations which is suitable for my own interests, abilities and personal characteristics.	63	1	4	1.86	.91
Because it takes part in the occupations which seems more suitable from the other possible alternatives.	62	1	4	2.31	1.15
Because it takes part in the occupations which is respected for values of community.	44	1	4	3.14	1.00
Because it takes part in the occupations which provides economical satisfaction and comfortable life for individual.	41	1	4	2.83	1.02
Because it takes part in the occupations which provides social guarantee and employment guarantee.	25	2	4	3.12	.78
Because it takes part in the occupations which provides comfortable occupational environments.	17	1	4	3.24	.97
Because it takes part in the occupations which provides the maintenance of parents' employment opportunities.	14	1	4	2.57	1.08
Because of the influences of my social environment (parents, relatives, friends, etc.).	7	1	4	2.43	1.13
Because I don't have any idea about this occupation and I placed it in my preference list by chance.	6	2	4	2.83	.75

Participants were given 10 alternative definitions for the question of “What are your reasons for giving a place to an architecture school in the preference list of OSS (Student Selection Examination)”. Respondents were asked to select and enumerate the 4 most important reasons (Table 1). The most preferred item within the list was this sentence: “Because it takes part in the occupations which I enjoy very much”. 71 participants from the whole sample gave a place to this item in the most important 4 reasons (1st alternative 28%; 2nd alternative 26%; 3rd alternative 9%; 4th alternative 8%). “Because it takes part in the occupations which is suitable for my own interests, abilities and personal characteristics” followed the previous mentioned one according to repeated frequency among ten items. 63 participants gave a place to this reason in the most important 4 items (1st alternative 27%; 2nd alternative 22%; 3rd alternative 10%; 4th alternative 4%). One of the other most selected sentences was “Because it takes part in the occupations which seems more suitable from the other possible alternatives”. Although 62 participants from the whole sample gave place to this item in the most important 4 reasons, the repeated frequency in the first and second alternative is less than the above mentioned ones (1st alternative 22%; 2nd alternative 11%; 3rd alternative 17%; 4th alternative 12%) (Table 1).

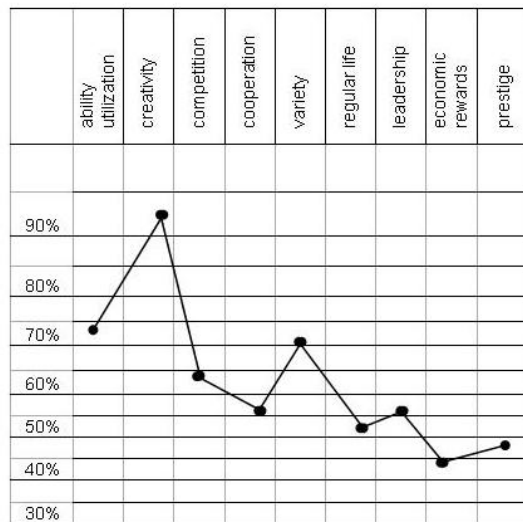


Figure 4. The mean percentile ranks of SAI according to the data from the standardization sample of 1902 high school graduates.

Results of Self Assessment Inventory (SAI) which was designed in order to help high school graduates to become more aware of their own personality and individual differences for vocational selection showed that “creativity” as an “individual value orientation” had most important role for the participants. Figure 4 shows the mean percentile ranks of the participants, while using the standardization sample. Self perception scores of freshmen architecture students through creativity measure significantly was higher than the standardization sample of 1902 high school graduates. They feel themselves as creative persons. The mean percentile ranks according to the data from the standardization sample of 1902 high school graduates showed that, “ability utilization” was the another important “intrinsic value” for the participants. The value of “variety” followed the first mentioned ones (Figure 4).

Conclusion

The results of the present study which aims to focus on the self reported perception of students with respect to interest - ability - creativity at their point of entry to an architecture school showed that architectural profession is a conscious choosing and it is suitable for their own interests and abilities. In their “value orientation” creativity have most important role among the all intrinsic and extrinsic values. According to this finding, most of participants have some sense that they will be undertaking a different kind of education with different goals from that which they have previously encountered. In similar with the results of previous research the present study indicated that, students from design related disciplines (even at their point of entry to the university) are aware of the fact that creative thinking is a key competency for the purposes of design education.

When the selection and placement system for higher education is considered, these results can be identified as unexpected. Because the process of architectural student selection is achieved with standardized, quick achievement tests that assessed general intelligence (g factor) but not spatial cognition abilities and creative skills. Although students enrol in design schools across the world mostly without being evaluated on the basis of their ability and creativity, this issue gains importance especially in countries that are experiencing development process like Turkey. Despite the pre-university education which can not exactly prepare students for

design professions and despite the selection and placement system, students showed a conscious approach even over the expectations. However, although they believe that architectural profession is suitable for their own interests and abilities, they indicated that they don't know enough about architectural profession. In spite of the fact that choosing an architecture school is identified as a conscious decision, they believe that they don't get enough occupational and educational information and advice. This result is important for the benefits of further study on vocational guidance related to design training.

It should be taken into account that the results of the present study is only based on students' own self perceptions. Measures that were employed for gathering data for the particular purposes of the study is only based on the self-reported questionnaires. Quantitative measures accepted in the scientific literature for validity and reliability only measured their own ideas about their own level of interest - ability - creativity. Despite this fact, when the limited number of research examining high school graduates' level of abilities and skills with direct methods is considered, it can be suggested that self evaluation issue is also important for their choosing process of a vocation. Providing self evaluation tools for candidates in order to test their potential and skills for design related disciplines should be one of the fundamental aims of vocational guidance services. It is authors' hope that the research demonstrated the profile of architectural students selecting current admittance methods might contribute to the future investigations and might be useful for whom interested in improving vocational guidance services for design training.

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