

ADAPTIVE PRACTICE-ORIENTED BACHELORS OF ARCHITECTURE EDUCATION SYSTEM FOR BETTER JOB SATISFACTION IN ARCHITECTURE-RELATED JOBS IN DHAKA

Tasnova Iqbal¹ and Meherun Nesa Bobby²,

¹SPACE ARCHITECTS ENGINEERS PLANNERS, Bangladesh

²VENNA ARCHITECTS, Bangladesh

*** Tasnova Iqbal**

Abstract.

The study assessed the attributes of education system of Bachelor of Architecture Education that cater to better job satisfaction to harness adaptive practice-oriented education systems for more participation in architecture-related professions in Dhaka. Total thirteen public and private Universities, recognized by Institute of Architects Bangladesh (IAB), all over Bangladesh and mostly concentrated in Dhaka are now providing a five-year long Bachelor of Architecture Undergraduate program. The programs complete around 180 to 200 credits which varies with university. Some universities currently teaching the course are still to be accredited by IAB in future. Consequently, it is being seen in many cases that not all graduates from both IAB accredited university and non-accredited university are undertaking an architectural job. Moreover, not all graduates from an IAB accredited university are applying to earn Full IAB membership even though some are practicing in architecture-related jobs full-time. The low participation in architecture-related jobs and reluctance to take IAB membership, after completing Bachelor of Architecture Undergraduate program, could be due to attributes in the education system causing job dissatisfaction. The research methodology adopted a mixed method undertaking both qualitative and quantitative approaches. Indicators of Bachelor of Architecture Education Systems that contribute to better job satisfaction were identified through literature review and evaluated by field observation and quantitative survey through SWOT analysis. The field observation was done by both authors through their own academic and job experiences in renowned local architecture firms and universities based in Dhaka and through observations during visits to other Dhaka based architecture firms and universities. The qualitative survey was done in Bachelor of Architecture alumni groups from both IAB accredited and non-accredited universities engaged in Dhaka in architecture-related professions. The case study areas chosen are all in Dhaka as Dhaka, being the capital of Bangladesh, has become the melting pot of renowned architecture firms and B. Arch departments. Key findings evaluated that some attributes of Bachelor of Architecture education system are responsible for job dissatisfaction and that the graduates want to be engaged in professional development throughout their career for greater adaptability to changing requirements of the building industry. The architects want to be recognized also by their master degree or PhD by an institute. Moreover, remuneration is the major catalyst behind job dissatisfaction. Women are also unintentionally discouraged to join the industry as no architecture firms in Dhaka have a daycare or baby nursing room. Finally, the research

proposed several strategies aimed at creating an adaptive practice-oriented education system which will lead to better job satisfaction in architecture-related professions in Dhaka.

Key Words: Adaptive practice-oriented education, Job satisfaction

1. Introduction

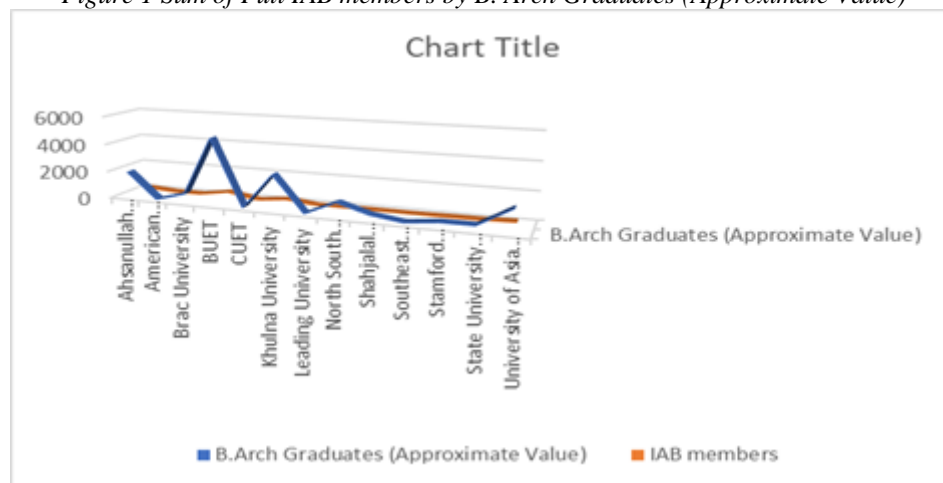
Education all over the globe has always been a significant means of job satisfaction. Previously knowledge in many fields was dispersed through apprenticeship which prepared pupils about what to expect from the field, and how to prepare oneself for such circumstances. But at present formal education is more inclined towards teaching theories. Previously architecture education was also taught through apprenticeship unlike today's education conducted based on theory-based curriculum. After completion of Bachelor of Architecture undergraduate program, it is seen that some students never enter formal architecture practice, are unable to secure desired jobs within the limited job opportunities available in the architecture-related professions, some are unable to cope with job demands if employed due to lack of practical exposure during B.Arch., some frequently change jobs due to low salary, and some who eventually sustain in the industry sometimes complain overtime and work environment as seen from questionnaire and field observation. It can be said that there is job dissatisfaction within the architecture community to some extent. An adaptive practice-oriented Bachelor of architecture education system for better job satisfaction in architecture-related professions will be an effective way to achieve job satisfaction by employing certain strategies. The key research questions of this study are; what are the attributes of Bachelor of Architecture Education System that causes job dissatisfaction in architecture-related professions in Dhaka; how to create better job satisfaction in architecture-related professions in Dhaka. The research aims to explore factors to recommend strategies to establish an adaptive practice-oriented Bachelor of architecture education system for better job satisfaction in architecture-related professions. To achieve the research aim, two objectives have been formulated based on the research questions. The two objectives of this research are to identify the attributes of Bachelor of Architecture Education System that will contribute to better job satisfaction in architecture-related professions in Dhaka and to create better job satisfaction in architecture-related professions in Dhaka.

1.1 Research Problem

The last decade has witnessed an increased number of architecture departments; from seventeen to thirty departments at present. Three decades ago, around fifty students graduated Bachelor of Architecture program every year but now the number has increased significantly. Currently, there are thirty private and public universities teaching Bachelor of Architecture degree program of which thirteen universities have been accredited by Institute of Architects Bangladesh already. Bangladesh University of Engineering and Technology and Khulna University are the oldest universities teaching architecture. Institute of Architects Bangladesh (IAB) was established in 1972 following the independence of Bangladesh in 1971. IAB provides membership to both architecture students and practicing architects, which are student members, associate members, and members. Surprisingly there are 1647 full members, 729 Fellows and 4761 associate members at IAB. The other members in the IAB directory are student members. This research did not consider the deceased and suspended members of any of these four categories of membership. The graduates from nonaccredited architecture universities do not qualify for any category of IAB membership. It can be stated that not all graduates of IAB accredited universities take IAB membership and even if they do most remain as associate member. Two years of full-time practice under any IAB member architect or Fellow is mandatory for all associate member architects to qualify for full IAB membership exam. The small number of regular IAB full members in comparison to the number of graduates from accredited universities teaching B. Arch undergraduate program, which is less than 10%, indicates that not all undergraduates from architecture departments practice after graduation, refer to Figure

1. In this research only job satisfaction level is considered amongst many other factors for low participation in architecture-related jobs.

Figure 1 Sum of Full IAB members by B. Arch Graduates (Approximate Value)



Source: (Authors)

2 Job Satisfaction and Bachelor of Architecture Education

Job satisfaction and dissatisfaction are a set of perceived emotions either positive or negative in nature with which employees view their jobs (Karan et al., 2018). It can be described as a person's perceived cognitive, affective, and evaluative reactions towards job (Greenberg, 1997). Job satisfaction ensures commitment to organization (Davis, 2014). Job satisfaction significantly reduces recurrent absence and lack of discipline (Davis, 2014). Satisfied employees do not tend to leave jobs (Lambert & Paoline, 2010). Parameters such as age and gender, religion and race, leadership, organizational change, and technology innovation, continuing professional development (CPD), recruitment, rotation, and retention, working environment, communication and commitment, salary, and stress can predict job satisfaction (Haque et al., 2012). Also, parameters such as education, age, professional qualification level and length of service predict job satisfaction (Klopota et al., 2018). In summary, attributes such as education, CPD, professional qualification, leadership, communication, technology innovation, recruitment and retention, stress, organizational change, working environment, salary, and length of service affect job satisfaction. It can be said that education is one of the attributes that affect job satisfaction. Therefore, a practice-oriented Bachelor of Architecture (B. Arch) education system comprising of professional skills, leadership skills, communication skills, technological skills, job seeking and creating skills, stress management skills, persistence skills, and adaptive skills, along with CPD courses after graduation, will harness job satisfaction as it addresses most of the other attributes of job satisfaction through education, refer to Table 1.

2.1 What is Architecture Education

Architectural education has always been like an apprenticeship where knowledge was taken from masters by students. Around 19th century the French opened schools to train architects (Stevens, 2014). By 20th century Architecture education got administered within the higher education system (Bhattacharjee & Bose, 2015). According to Bhattacharjee and Bose (2015) the concept of organized formal architectural education system was formed by the French, the concept of research in the field of architectural education system was formed by the Germans, the concept of apprenticeship was practiced in United Kingdom, the concept of combining the above three mentioned concepts in an university environment was introduced by United States.

Consequently, the need for a more structured architectural education standards emerged globally.

2.2 Development of Bachelor of Architecture Education Standards

In the context of Bangladesh, Bangladesh University of Science and Technology (BUET) opened in 1962 and Khulna University (KU) opened in 1991 has a multidisciplinary course curriculum, in accord with UIA / ARCASIA and CAA, ensuring unhindered knowledge from practical scenarios. International Union of Architects (UIA) is followed by ARCASIA regarding setting guidelines for architecture education (2017) which is primarily focused on professional perspectives. UIA and UNESCO outlined a charter for architectural education. According to UIA Architectural Education Commission (2002), architects and architecture students must be responsible professionals with understanding of environmental ethics, should work to benefit society and implement strategies to improve standards of human settlement. As architects have significant number of professional responsibilities the education system and its curriculum should be adequate to prepare them (Ibrahim, 2013).

2.3 IAB Criteria for Architecture Education in Bangladesh

ASIAB is entrusted to assess and grade architecture departments holistically, certifying all the components; the average of these grades forms the overall grade (UGC, 2005). UGC also requires universities to have their own campus within a time of it's opening.

Institute of Architects Bangladesh (IAB) introduced Accreditation Standard of the Institute of Architects Bangladesh, (ASIAB, 2020). ASIAB advocates the values declared in UNESCO/UIA charter. According to ASIAB architecture program objectives should be design, preparedness, sensibility, recognition of regional characteristics, appreciation interdisciplinary nature, upholding social justice and nature of continuous learning. The minimum credit hour required for Bachelor of Architecture degree is 160. It includes 14 credit hours of general education such as language, communication skills, leadership, teamwork and interpersonal skills, capability for lifelong learning, entrepreneurship, and global outlook; 16 credit hours of history, human behaviour, and environment; 24 credit hour of technical systems such as learning construction method, technique, regulations, and drawing. 6 credit hours of practice courses such as professional ethics, competencies, team building, client, and interdisciplinary communications; 60 credit hours of design and design communication studios such as design, critical thinking and problem solving and presentation skills; and 40 credit hours of optional courses with equal combination of taught and studio subjects. The ratio of studio and theory courses should be 1:1 or preferably more studio courses. ASIAB also requires 300 hours of continuous professional internship after third year, final evaluation through external jurors, non-architecture courses, research in design studios or relevant discipline and dissemination, specialized courses are encouraged, and community architecture through design studios are encouraged. ASIAB encourages interaction between practice and teaching. ASIAB suggested, 30sft per student for studio workspace, 15sft per student for theory classes and 1:15 teacher to student ratio for design studios. IAB has also issued Sample Employment Handbook for Architectural practices, 2018; Code of Ethics and Professional Conduct, 2018; and Introduction to Standard Contracts and Scale of Minimum Fees, 2018.

2.4 Operation Variable of Bachelor of Architecture education

UIA and ARCASIA encompass specific objectives of social, cultural, political contexts; professional, technological, industrial contexts; the World: local, global, ecological contexts; and academic contexts including science and knowledge in general. In this research these four broader objectives are considered as operational variables of architectural education under which indicators of education affecting job satisfaction will be organised.

2.5 Adaptive Practice-Oriented Bachelor of Architecture Education System

The research attempts to increase job satisfaction through adaptive practice-oriented B. Arch education system keeping it within the UIA, UGC and IAB guidelines. It is studied from

literature review that acquiring certain skills and increasing practical exposure during B. Arch affects job satisfaction positively, refer to Table 1.

3 Research Methodology

Considering the research questions, aim and objectives, both qualitative and quantitative method approach was adopted. Qualitative research is an emergent process rather than tightly prefigured and explores the meaning ascribed to a problem (Creswell J W & Creswell J D, 2017). Creswell (1994) A quantitative research is an inquiry into a problem based on testing a theory, with variables, measured with numbers, and statistically analyzed, to determine if a theory is true. Yin (2013) describes the case study method as an empirical inquiry that investigates a contemporary phenomenon within real-life context when the boundaries between phenomenon and context are not clear; it uses multiple sources of evidence (Yin, 2017).

The research includes four research techniques for data collection, which are questionnaires and field observation to retrieve primary data, literature review of secondary data and document review of policies and guidelines by UIA, ARCASIA, UGC and IAB. The case study areas are, randomly selected firms teaching B.Arch., are surveyed by a qualitative approach to derive in-depth data collection on operational variables of education that affect job satisfaction. In this research Bachelor of Architecture graduates from both accredited and unaccredited universities (public and private universities) who are now either owners, employees or unemployed in architecture-related professions were randomly selected for the quantitative questionnaire. The data availed was used for data analysis comprising of content analysis and SWOT analysis. Findings from the data analysis were later used to establish the recommendations to develop Adaptive Practice-Oriented B. Arch education system.

4 Findings and Analysis

This section presents the analysis based on the research questions, aim and objectives. It involves evaluation of indicators that affect job satisfaction.

4.1 Assessment of Study Area

Indicators of education, refer to Table 1, when evaluated showed that, even though B. Arch departments have met minimum ASIAB standards, some aspects of education indicators need to be intervened for better job satisfaction in architecture-related jobs. In the B. Arch departments established here in Bangladesh, almost all the universities have fulfilled the minimum ASIAB standard and teach more than 160 credit hours. Even though B. Arch curriculum are exhaustive it needs more on-site exposures for proper illustration of any concept and its applicability. B. Arch curriculum also need more multidisciplinary and interdisciplinary optional courses to add variety and uniqueness to the curriculum and student respectively. Universities thoroughly teach Code of Ethics and Professional Conduct (IAB, 2018) but often overlooks study of other necessary publications. There is also a lack of standardization between B. Arch departments and hence criteria to evaluate students and their qualities also differ. IAB regularly conduct CPD courses for practicing architects.

The questionnaire survey and field observation, in architecture-related jobs, show that there is no day care for children and no breast-feeding room; low number of firms had shared toilet for both males and females; some firms had provision for shared lunchroom; the prayer room is mostly used by both males and females; and few job give free meals and transport. It also showed that the major reason for changing jobs is low salary. Most of the respondents are associate members but wish to become full members and hope to have their own firm. The questionnaire also revealed that half of the respondents said that their offices don't give time for personal skill development but still majority of them are willing to attend certified workshops that will help them professionally. All respondents agreed that contextuality is important. Majority agreed that during B. Arch, design courses need practical exposure and

other course assignments should be relevant to the respective design studio one is attending, for holistic development of knowledge in built environment. The majority also preferred design instructors good at both practical and academic fields, refer to Figure 2.

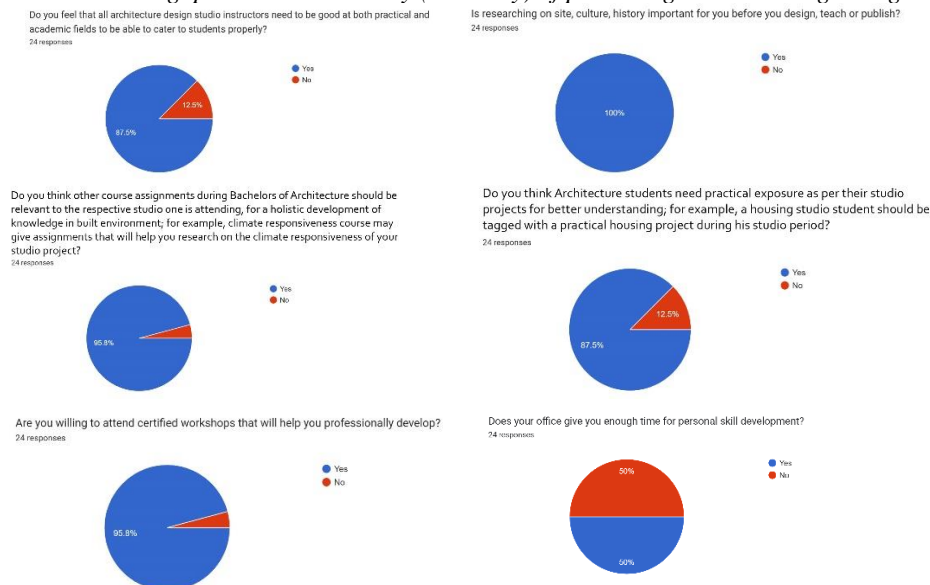
Table 1 Education as Attribute of Job satisfaction, Operational Variables of Education and Indicators of Education that affect Job Satisfaction

Attribute that affects Job Satisfaction	Operational Variables of Architecture Education	Indicators of education for better job satisfaction
Education	Social Context Cultural Context Political Context	<ul style="list-style-type: none"> - Spread Awareness about Profession - Social Awareness and Justice - Community Health and Services - Cultural Interests - Environmental protection - Sustainability - Public Health, Safety, and Welfare - Peace - Acquire diverse skills to serve
	Professional Context	<ul style="list-style-type: none"> - Sample Employment Handbook for Architectural Practices by IAB - Standard Contracts and Scale of Minimum Fees by IAB - Code of Ethics and Professional Conduct by IAB - Bangladesh National Building Code - Urban - Aesthetic - Technical - Structural Knowledge - Research - Resources - Legal considerations - Community Architecture and Service - Entrepreneurship Skills - Executive Skills - Business Skills - Project Management Skills - Leadership Skills - Target Setting Skills - Analytical Skills - Problem-Solving Skills - Communication Skills - Presentation Skills - Adaptability, Persistence and Perseverance Skills
	Technological Context Industrial Context	<ul style="list-style-type: none"> - Contextual - Climate Sensitive - Sustainable - Practicality - Architectural Software Applications and Simulation-based Software - RAJUK Building Rules
	The World: Local Context	<ul style="list-style-type: none"> - Standardized mode of Education and Grading - Contextuality - Community Architecture - Collaboration
	The World: Global Context	<ul style="list-style-type: none"> - Standardized mode of Education - Collaboration
	The World: Ecological Context	<ul style="list-style-type: none"> - Environmental Ethics

	Academic Context	<ul style="list-style-type: none"> - Qualify both National and International standards - Uniform Grading Scheme by UGC - Accreditation framework by ASIAB - Consistency to Ensure Quality - Comprehensive - Collaborative Efforts - Integrate Areas of knowledge - Relationship between educational environment and society - Research - Practice - Teaching Environment - Practice Oriented Teaching Stuff - Design Studio Courses - Supplementary Design Studio, - Compulsory Theory, Optional and Non-departmental courses - Multi-Professional Course - Short Course - Specialize in Specific Areas - Postgraduation - Continued Learning or CPD
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Source: (Adapted from Hovhannisyan et al., 2022; Shafaeiand & Hejazia, 2020; Ghom et al, 2020; Asgeri et al., 2020; Savas & Acar, 2018; Klopota et al., 2018; Haque et al., 2012; Monem, 2010; Sang et al., 2009; ; IAB, 2010; IAB, 2018; IAB, 2020; RAJUK, 2008; UIA, 2002; EU Architects Directive; UGC, 2005; UGC, Grading System; Ibrahim, 2013; by Authors, 2023)

Figure 2 Illustrating questionnaire Survey (Partially) of practicing architects regarding B. Arch



Source: (Authors)

5 Conclusion and Recommendation

As mentioned in section 2.5 adaptive practice-oriented Bachelor of Architecture education system can be achieved by intervening indicators of education for better job satisfaction in architecture-related professions; refer to Table 2.

5.1 Recommendation

Recommendations for adaptive practice-oriented B. Arch education system for better job satisfaction can be derived from the findings of SWOT analysis on the operational variables of education, refer to Table 2.

Table 2 Issues of Bachelors of Architecture education affecting job satisfaction and Recommendations

Operational Variables of Architecture Education	Issues with Indicators of education for better job satisfaction	Recommendations
Social Context Cultural Context Political Context	Taught theoretically and are not considered holistically in design studios.	The following considerations can be compulsory studio requirements: - Community Health and Services - Cultural Interests - Environmental protection - Sustainability - Public Health, Safety, and Welfare - Peace
Professional Context	<p>During B.arch. study of Bangladesh National Building Code; Standard Contracts and Scale of Minimum Fees and Sample Employment Handbook for Architectural Practices by IAB are often overlooked.</p> <p>Urban studios are being taught by architects.</p> <p>Fresh Graduates still demand holistic exposure to all steps of construction industry.</p> <p>Students still need in-depth knowledge of working drawing, resources, and structural processes due to lack of onsite exposure.</p> <p>Most architecture students are good at presentation but need greater emphasis on respective skills through multidisciplinary courses.</p>	<p>Introduce rigorous and mandatory training on Bangladesh National Building Code; Introduction to Standard Contracts & Scale of Minimum Fees 2018 and Sample Employment Handbook for Architectural Practices 2018 by IAB, so that architects know their rights from very start of their career.</p> <p>Urban experts such as urban planner and urban designer can be appointed as adjuncts to add new dimensions to these studios.</p> <p>There is need to learn practical construction processes, project management and latest software during B.Arch. for better career performance.</p> <p>Students can be tagged with actual projects during B. Arch for better understanding of working drawing, resources, and structural processes.</p> <p>The following skills are required for job satisfaction which is to be added to B. Arch formal curriculum: - Entrepreneurship Skills - Executive Skills - Business Skills - Project Management Skills - Leadership Skills - Target Setting Skills - Analytical Skills - Problem-Solving Skills - Communication Skills - Adaptability, Persistence and Perseverance Skills</p>
Technological Context and Industrial Context	Indicators of technological and industrial context are addressed in both design studios and theory.	Students need greater emphasis on simulation-based software for contextual, climate Sensitive, sustainable and practical output in design.
The World: Local Context, Global Context and Ecological Context	ASIAB advocates the values declared in UNESCO/ UIA charter to establish standardized mode of education.	

	<p>Local Grading system and number of semesters per year lacks consistency between the architecture departments of different universities in Bangladesh. It creates gap in skills development and evaluation process of graduates.</p> <p>Studio work on community architecture is limited.</p> <p>Some architecture departments in Bangladesh collaborates through design studios, internships, workshops, and conferences with local or foreign architecture schools, departments, and firms.</p>	<p>A standardized approach will make evaluation process of students easier to ensure quality.</p> <p>Exposure to practical community architecture through NGO will ensure hands-on skills.</p> <p>More local and foreign collaborations can be introduced.</p>
Academic Context	<p>Some universities still have increased emphasis on theory courses undermining the greater need for studio courses, practice, and studio based optional courses.</p> <p>Public universities receive funding to run research cells involving both educators and students and private universities also engage in research.</p> <p>Minimum standards of ASIAB have been met by most B. Arch departments.</p>	<p>B. Arch degree's core focus should be on design studios accompanied by theories and optional multi-professional courses. These courses always have space to be more comprehensive, practice oriented and specialized. Design studio students can be tagged with real projects of same type.</p> <p>More funding is required to run research cells involving both educators and students in all B. Arch departments. Design studios can be more research based to add meaning to the project.</p> <p>Aspects such as studios, lab facilities, workshops, library collections, archival systems, research facilities, jury spaces and exhibition spaces can always be further developed.</p>

Source: (Authors)

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