Effective Structural Methods and Criteria in Iranian Architectural Education

Abstract

Education methods are one of the most significant topics today, the main purpose of which is to find new solutions to improve the quality of learning. Iran's educational structures have not changed much in recent decades and one of the main reasons is the unfamiliarity of professors with new teaching methods. Iranian architecture education, similar to other sciences, is associated with its own problems and complexities. To conduct this research, via an inductive analysis of theoretical content, primary, various methods of teaching, review and theoretical and practical classification have been done, then each in two categories, including methods and practical solutions, is modeled and the content framework of their constituents is specified. In the method section, our goal is to determine the general framework for the formation of its thematic content in terms of the intended educational method. In the process option, the application and the procedure of using the mentioned method and possible tools in that educational process are specified. In the next step, the selected cases have been comparatively evaluated based on the effective criteria in Iranian architectural education, with the aim of finding possible potentials for future research. Finally, after the theoretical analysis of educational methods with effective structural criteria many potentials have been identified, among which the problem-based method is one of the valid solutions; however, an accurate evaluation of each category requires further research.

Research aims:

1. Examining the types and methods of education and the conditions of their use.

2. Analysis of theoretical and practical teaching methods and understanding of methodological frameworks in architecture.

Research questions:

1. What are the types and methods of education in the structure of Iran's educational system?

2. What methods and structures are applied in teaching architecture in Iran?

Keywords: architectural education, structural methods and criteria, practical and theoretical education.

Introduction

Architecture is one of the applied sciences that is constantly evolving in Iran and the world in terms of study and teaching methods. Studies show that architecture education in the world is divided into two categories of classical (traditional) and modern structure; The first example is the French School of Fine Arts and the latter the student-teacher system in Iran. The threshold of the second type dates back to the founding of the German Bacchus School, where many efforts were made to improve the educational process of teaching art and architecture. Scientific research and evaluation of architectural education has begun over the past few decades, and with it, new processes and perspectives for the promotion of architecture have been introduced. One of the most common of these educational methods in Iran and other parts of the world is the use of visits and scientific excursions. Students are generally encouraged to visit the sites in the field and to design in order to observe various phenomena through the built environment. Unfortunately, research shows that these visits and exercises are not thoughtful and are not based on a structural research plan. This simple example is one of the main strategies used in architectural education. One of the main issues to note in educational systems is the gap between theory and practice and the lack of application of knowledge. A limited number of instructors can claim that their teaching has been substantially validated through educational research. One of the biggest weaknesses is the type and method of training as in many parts of the world, including Iran, education is based on oral presentation.

Regarding the background of the present study, it should be said that an independent work with this title has not been written so far, nonetheless, some works have studied the issue of education in architecture in Iran. Nabih (2010) says in this regard: architecture education programs are

based on lectures, the tendency to leave the workshop and students' denial of using the knowledge acquired by themselves (Nabih, 2010: 90). Accordingly, different educational methods have been introduced to improve the quality of education and eliminate its weaknesses; one of these general structures introduced is active learning, in which the process of student participation in activities is considered. In this strategy, students are activated with projects, and they are encouraged to reflect individual concepts and their application; hence, passive learning by listening to lectures is not the best way to teach optimally (Khalifa, 2017: 26, 27). Instructors need to be familiar with a variety of methods of teaching architecture to use new strategies to improve the quality of student education; especially in the modern era where research and technology advances introduce new principles every day and the system and standards of education in Iran requires up-to-date procedures and introduction of new approaches. The present study intends to investigate the methods and structural types of architectural education in Iran and their nature based on qualitative and quantitative data.

Conclusion

Since the modernization of the educational system in Iran, learning methods have undergone many changes. These changes have sought to optimize learning and improve its quality. Due to the passage of time and cultural and scientific changes, it is necessary to review and improve the educational methods in architecture education in order to create both new scientific perspectives and the connection between theoretical and practical courses. In the last few decades, many research has been done in the field of architectural education; nevertheless, many professors and students are unfamiliar with the framework and potential of these methods. In this research, an attempt has been made to analyze a number of the educational methods and strategies proposed in the past few decades in order to find a more logical and practical view. There are many criteria for choosing an educational method. Researchers such as Cole (1981) have divided these criteria into audiences, subject matter, intended change, need, time, and method availability (Cole, 1981: 29). Balachandran (2011) defines the environment, society, emotions, and the psychology of learning as determinants of method (Balachandran, 2011: 15). In Table (2), based on these and the personal experience of researchers in Iranian universities, factors such as budget, group and individual activities, tools needed and time required for implementation in educational systems

(including Iran), on the evaluation of educational methods in architecture are noted, categorized and compared.

According to the summaries of Table (2), each of the teaching methods has its own characteristics. In education processes in Iran, one of the first determining factors in education is its costs. If a method or tool has high costs, in many free and non-profit universities, it will not be possible to do so due to university budgets; Of course, this criterion is very dissimilar in terms of academic policies. By standard, theoretical methods are inexpensive, and practical methods may have moderate and higher costs. The next important factor is the tools used, some of which are listed in the table and can be very extensive depending on the creativity of the teacher and the available facilities. In general, problem-based teaching methods are the most problematic; But according to extensive research, many researchers such as Salama are the most productive option in education, especially architecture education; however, accurate assessment of the potential of using any of these educational strategies in Iran requires several structural studies. Achieving the dominant style of students in order to plan educational in line with its characteristics, will cause the neglect of other learners with different styles. It is necessary to study the students individually and plan the educational strategies uniquely (Sadat Hosseini, Flamaki and Hojjat, 2019: 137). As a result, depending on the teacher's ability and available facilities, professors need to use their appropriate strategies and methods to expand and increase potential in the classroom to further enhance the quality and perceptual efficiency of students.

References

Akinsanya, P. (2014). Dewey's Pragmatic Education: An Eclectic Philosophy of Note. Education Practice and Innovation, 1(1), 13-16.

Ashkan, M. (2016). The Phenomenological Evaluation of Teaching Professionalism in The Architecture Design Studio Culture: A Case at the University of Kansas. International Journal of Architectural Research, 10(1), 41-61.

Ayati, M. Khosh Daman, p. (2012). Culture, curriculum and teaching and learning styles. Iranian Curriculum Studies Quarterly, 7 (26), 149-172. [In Persian]

Balachandran, T. (2011). Factors Influencing the Perceptual Teaching Styles of Teacher Candidates in Math Education, Ontario Institute for Studies in Education of the University of Toronto.

Barrett, T. (2017). New Model of Problem-based learning: Inspiring Concepts, Practice Strategies and Case Studies from Higher Education: Maynooth: AISHE.

Bose, M. (2007). Design Studio: A Site for Critical Inquiry. In A. M. Salama, and N. Wilkinson (Eds.), Design Studio Pedagogy: Horizons for the Future (pp. 131-141). Gateshead, UK: The Urban International Press.

Callander, S. (2011). Searching and Learning by Trial and Error. American Economic Review, 10(1), 2277–2308.

Cheng, M. M. H., Cheng, A. Y. N., & Tang, S. Y. F. (2010). Closing the gap between the theory and practice of teaching: implications for teacher education programmes in Hong Kong. Journal of Education for Teaching: International research and pedagogy, 36(1), 91-104.

Choi, H. H., & Kim, M. J. (2016). The Potential of Reasoning Methods as A Teaching Strategy Supporting Students' Creative Thinking in Architectural Design. International Journal of Architectural Research, 10(3), 6-20.

Clark, R. C., Nguyen, F., & Sweller, J. (2006). Efficiency in Learning Evidence-Based Guidelines to Manage Cognitive Load. San Francisco: John Wiley & Sons, Inc.

Cole, J. (1981), Selecting Extension Teaching Method, Journal Of Extension.

Creswell, J. W. (2014). Qualitative Research Designs. In V. Knight (Ed.), Research Designs (Fourth ed.). United states of America: Sage Publication.

Dall'alba, G. (2005). Improving teaching: Enhancing ways of being university teachers. Higher Education Research and Development, 24(4), 361-372.

Friedman, D. B., Crews,T. B., Caicedo,J. M., Besley,J. C.,Weinberg,J., &Freeman, M. L. (2010).An exploration into inquiry-based learning by a multidisciplinary group of higher education faculty. Higher Education, 59, 765–783.

Gallagher, C. (2012). The Trouble with Outcomes: Pragmatic Inquiry and Educational Aims. College English, 75(1), 19.

Gick, M. L. (1986). Problem-Solving Strategies. Educational Psychologist, 21(1-2), 99-120.

Henriksson, C. (2012). Hermeneutic Phenomenology and Pedagogical Practice. In N. Friesen, C. Henriksson, & T. Saevi (Eds.), Hermeneutic Phenomenology In Education. Boston: Sense Publishers.

Hunt, A. (2008). Pragmatic Thinking and Learning. USA: The Pragmatic Bookshelf.

Jackson, I. (2008). Gestalt – A Learning Theory for Graphic Design Education. JADE, 27(1), 63-69.

Kaufman, D. M. (2003). Applying educational theory in practice. BMJ, 326, 213-216.

Khalifa, F. A. (2017). Autonomy in Architectural Education: A Bahraini Perspective. International Journal of Architectural Research, 11(2), 24-33.

Kirschner, P. A. (2002). Cognitive load theory: implications of cognitive load theory on the design of learning. Learning and Instruction, 12, 1-10.

Krajcik, J. S., & Blumenfeld, P. C. (2006). Project-based learning. In R. K. Sawyer (Ed.), In The Cambridge handbook of the learning sciences (pp. 317–334). New York: Cambridge.

Krupinska, J. (2014). What an architecture student should know. New York, USA: Routledge.

Küpers, W. (2011). Embodied Pheno-Pragma-Practice – Phenomenological and Pragmatic Perspectives on Creative "Inter-practice" in Organisations between Habits and Improvisation. Phenomenology & Practice, 5(1), 100-139.

Lamancusa, J. S. (2006). Design as the Bridge Between Theory and Practice. Int. J. Engng Ed., 22(3), 652-658.

Lofthouse, N. (2013). The Changing Nature of Architectural Education Do Live Projects prepare students for the realities of architectural practice? (MA degree), Oxford Brookes University.

Larkin, M., & Thompson, A. R. (2012). Interpretative Phenomenological Analysis in Mental Health and Psychotherapy Research. In A. Thompson & D. Harper (Eds.), Qualitative research methods in mental health and psychotherapy: a guide for students and practitioners (pp. 99-116). Oxford: John Wiley & Sons.

Manen, M. v. (2007). Phenomenology of Practice. Phenomenology & Practice, 1(1), 11-30.

Masdéu, M., & Fuses, J. (2017). Reconceptualizing The Design Studio in Architectural Education: Distance Learning and Blended Learning as Transformation Factors. International Journal of Architectural Research, 11(2), 06-23.

McIntyre, D. (2006). Bridging the gap between research and practice. Cambridge Journal of Education, 35(3), 357-382.

Memarian, H. (2011). New student-centered methods in engineering education. Iranian Journal of Engineering Education, 13 (52), 1-21. [In Persian].

Motahari Nejad, H. (2013). The Evolution of Engineering Education in the World and Iran Iranian Engineering Education Quarterly, 15 (58), 1-14. [In Persian]

Nabih, H. E. (2010). Process-Based Learning: Towards Theoretical and Lecture-Based Coursework in Studio Style. International Journal of Architectural Research, 4(2-3), 91-106.

Nesbitt, K. ed. (1996). Theorizing a New Agenda for Architecture: an anthology of architectural theory. New York: Princeton Architectural Press.

Palmer, M., Larkin, M., De Visser, R. & Fadden, G. (2010). Developing an interpretative phenomenological
 approach to focus group data. Qualitative Research in Psychology, 7, 99–121.

Pedaste, M., Mäeots, M., Siiman, L. A., & Jong, T. d. (2015). Phases of inquiry-based learning: Definitions and the inquiry cycle. Educational Research Review, 14, 47-61.

Pugnale, A., & Parigi, D. (2012). Approaching Technical Issues in Architectural Education. Aalborg University, 8.

Sadat Hosseini, L. Flamki, M.M. Hojjat, A. (2019). The role of creative thinking and learning styles in teaching architectural design. Two Quarterly Journal of Architectural Thought, Vol. 1, 125-140. [In Persian]

Salama, A. M. (2008). A Theory for Integrating Knowledge in Architectural Design Education. International Journal of Architectural Research, 2(1), 29.

Salama, A. M. (2010). Delivering Theory Courses in Architecture: Inquiry Based, Active, and Experiential Learning Integrated. International Journal of Architectural Research, 4(2-3), 278-295.

Salama, A. M. (2013). Seeking Responsive Forms of Pedagogy in Architectural Education. Field Journal, 5(1), 9-30.

Sirowy, B. (2010). Phenomenological Concepts in Architecture, Towards a User-Oriented Practice. (Dissertation).

Smith, J.A., Flowers, P. & Larkin, M. (2009). Interpretative phenomenological analysis: Theory, research, practice. London: Sage

Squire, L. R., & Frambach, M. (1990). Cognitive skill learning in amnesia. Psychobiology, 18(1), 109-117.

Thomas, J. W. (2000). A Review of Research On Project-Based Learning. Retrieved from San Rafael, California.

Wang, T. (2010). A New Paradigm for Design Studio Education. JADE, 29(2), 173-183.