

ISSN 1840-1503

TECHNICS TECHNOLOGIES EDUCATION MANAGEMENT



JOURNAL OF SOCIETY FOR DEVELOPMENT OF TEACHING AND BUSINESS PROCESSES IN NEW NET ENVIRONMENT IN B&H





EDITORIAL BOARD

Editor	Dzafer Kudumovic
Complexity	Lana Kudumovic
Secretary	Nadja Sabanovic
lechnical editor	Eldin Huremovic
Lector	Mirnes Avdic
Lector	Adisa Spahic
Members	Klaudio Pap (Croatia)
	Nikola Mrvac (Croatia)
	Damir Modric (Croatia)
	Davor Zvizdic (Croatia)
	Janez Dijaci (Slovenia)
	Tadeja Zupancic (Slovenia)
	Rajendrakumar Anayath
	(India)
	Anastasios Politis (Greece)
	Jelena Ivanovic Sekularac
	(Serbia)
	Hasan Hanic (Serbia)
	Dragan Peric (Serbia)
	Samir Causevic
	(Bosnia and Herzegovina)
	Amir Pasic
	(Bosnia and Herzegovina)
	Vesna Maric-Aleksic
	(Bosnia and Herzegovina)
	Isad Saric
	(Dosnia ana Herzegovina) Validia Undeinh die
	(Rosnia and Herzegovina)
	Muharem Sabic
	(Bosnia and Herzegovina)
	(

Address of the Sarajevo, Editorial Board Bolnička bb phone/fax 00387 33 640 407 ttem_bih@yahoo.com, http://www.ttem.ba

Published byDRUNPP, SarajevoVolume 16Number 2, 2021ISSN1840-1503e-ISSN1986-809X

Table of Contents

The role of school principal in raising of employee motivation
The Genius Loci of Urban Settlements in the Ottoman Period of Bosnia and Herzegovina
Open school and EMILIN's model of work in teaching methodology60 Dragana Aleksic, Mensura Kudumovic
Learning from the past about water and architecture: Case of Kampong Ayer, Brunei
Instructions for the authors

The role of school principal in raising of employee motivation

Semso Aganspahic, Mensura Kudumovic

University of Sarajevo, Faculty of Educational Sciences, Sarajevo, Bosnia and Herzegovina.

Abstract

This paper speaks of principle, description of one's job and all activities one performs in school, especially in motivating of employees in school. The aim of this research comes out of necessity to determine the role of school management and the way of motivation improvement among employees.

This research is conducted under the survey method of theoretical analysis pedagogical choose mentation analysis method and interviewing and scaling with questionnaire for principals, teachers, and professional associates in primary schools. This research included 7 primary schools in Bosnia Podrinje County (BPC) Gorazde, in Federation of Bosnia and Herzegovina. The research included 55 responded 10 principals, 10 professional associates and 35 teachers. The results show how estimated principles generally use motivation factors more in ones work. There are differences in frequency of usage of certain motivation factors in principles work regarding gender, degree of education and length of service in school. School management as well as other subjects in educational process have positive attitude in concept of usage of motivation factors in work process in school.

Key words: school, mandate functions, principle, motivation, teacher, motivators, professional associate.

1. Introduction

Nowadays, education is on the margins of social events and it is very difficult to maintain the continuity of good work and fulfilment of all obligations for the majority of school employees. Each school depends on approach to the particular task and how enthusiastically the task is done.

Teachers are among ones whose approach to their obligations is done with a lot of love and dedication, and the main driving force of all jobs is internal motivation. Nowadays a big problem is the lack of certain mechanisms that would help to motivate employees to be even more satisfied. Constant cooperation with parents of students, as well as with the local communities is necessary in order to achieve the set goals of educational and upbringing work.

The principal of a certain school is an important role in respect of which the progress also depends. The transformation of management into leadership began in the 1990s. About 20 years ago, people talked and wrote about management in education, in recent years they talked about management and leadership in education, and today more and more about leadership - leadership in education. In order to successfully fulfil managerial role in the school in a wide range of operational tasks, appropriate competencies are of enormous importance for principal.

Starting from the basic hypothesis that work and job characteristics are the main sources of motivation for work, it is necessary to act in such a way that the work is acted upon, ie that the work performed by employees implies responsibility, to be as creative as possible and encourages individual development and self-affirmation (Varga, 2011, 5).

When motivating their employees to work, principals should keep in mind that people's characters are different and that not all employees will be motivated by the same means. Thus, some are finding motivation for work in the income, others in the progress of their students, others in praises and alike. It depends on principals how much they would be able to understand need and wishes of employees, determine their personalities and apply the means of motivation for which is decided that would work for an individual employee.

The importance of good leadership at the school level and the impact of leader's behaviour of school principals is clearly and faithfully demonstrated in various research and literature. So far it is understood that school principals are aware that without proper investment and selection of staff there are no good results. Just as the well-known rule in working with students is that they will achieve good learning outcomes if they are prepared and motivated to work, so the same rule applies to teacher motivation. In order to be more motivated to work, principals should encourage their teachers to come up with new ideas and introduce innovations into the teaching process.

Further on, school principals cannot use incomes as a motivation tool, since the salaries are determined by the budget and other regulations. Even thought, it is indisputable that salaries with which people meet important needs in difficult social times gain in importance in the motivation to work, the fact remains that money is not the motivating tool that encourages people to often voluntarily decide to accept certain tasks beyond their obligations.

Motivation is everything that moves an employee to achieve a goal and reflects that activity. The motivation and motive in particular are in its essence primarily a hypothetical factor and therefore it is very difficult to quantify. Thus, the very syntagma of motivation and motive is one of the central questions of psychology (Beck, 2003, 24-31). The motive is understood as an internal construction that arises as a result of the interaction of psychological and physiological processes.

School managers therefore must meet the needs of the employees if they want to motivate them to be more productive. The greatest success of employees is in meeting their needs, which culminate in providing better service, and as such leads to the long-term strategic goals of the institution (George and Jones, 1999, 91). It is obvious that motivation is influenced by a number of factors, but they all act through the employee and influence perception, values and needs through him.

2. Meaning of motivation

The word motivation is derived from the Latin verb to move. Today it is considered as the energy that activates us and directs our action towards goals (Vizek-Vidović et al., 2003). Further on, in psychology, motivation is most often defined as a state in which we are internally stimulated by certain needs, desires etc, at achieving a goal (Petz, 1992). Thus, a person which is highly motivated for achieving something and in reaching the set goal nothing can distract certain focus. Many authors have tried to define the concept of motivation (Everard and Morris, 1990; Treven, 1998, Certo, 2003) as achieving results and similar.

Motivation is an important factor in the business environment and provides an increased willingness of employees to successfully response to the tasks. Employees who are motivated for work are usually enthusiastic, excited and open for new opportunities. Motivation depends on a number of internal and external factors, which is why the level of motivation is different in different business environments.

3. Employees motivation

The set aim of this research stems from the need to determine the role of management in school and how to improve employee motivation.

Starting from the problem and the set goal of the research and the problem defined in this way: "School management, as well as other subjects of the educational process have a positive attitude regarding the use of motivators in schoolwork".

Thus, the aims of this research are set as:

- To determine the differences in the use of internal and external motivators in the area of BPC Gorazde by the school principal
- Differences in the application of internal and external motivators in the work of principals in the area of BPC Gorazde from the point of view of primary school teachers,
- Examine the attitudes of professional associates on the use of certain motivators by school principals in the area of BPC Gorazde

This research was conducted in the BPK Gorazde in Bosnia and Herzegovina, using the survey method and method of analysis of pedagogical documentation and using the technique of interviewing with the use of questionnaires for principals, teachers and professional associates in primary schools.

For this research, we selected seven primary schools from the area of the BPK of Gorazde.

55 (fifty-five) respondents participated in the research: ten principals, ten professional associates and thirty-five teachers.

4. Results and discussion

Data collection was performed on the basis of questionnaires, which contained 27 questions. Further on, data were processed and gain results of the application of motivators by the school principals in the work of employees in the BPK of Gorazde.

10 (ten) principals of primary schools from the area of the BPK of Gorazde participated in the research, among which 2 (two) have a university degree, 4 (four) have a university degree and 4 (four) have a master's degree. The structure by gender is as follows: 4 (four) are principals and 6 (six) are principals of primary schools.

Table 1. Attitudes of school principals towards motivational factors

Claims (attitude towards associates)		Never		Very rarely		Uccasionally	Often		Always	
	f	%	f	%	f	%	f	%	f	%
1. In every situation performs in primarily as a human being									10	100
2. Understands personal problems of employees									10	100
3. Has a good relationship with the students									10	100
4. Correctly treats associates							2	20	8	80
5. Collaborative attitude towards employees							1	10	9	90
6. Provides support to employees in every situation							1	10	9	90
7. Has an understanding for Problems related with work									10	100
8. Praises the employees at his school for a well-done job through a bulletin board					1	10	2	20	7	70
9. Provides support to employees in cooperation with parents					2	20	2	20	6	60
10. Treats employees politely									10	100
11. Does not condemn, but gives the possibility of eventual mistakes to be corrected					3	30	1	10	6	60
12. Tries to make the better working conditions for employees							1	10	9	90
13. Has a democratic style leadership							2	20	8	80
14. Try to get as involved as possible in teaching process							2	20	8	80
15. Has a positive attitude towards various types of learning					1	10	2	20	7	70
16. Collaborates with cultural and other institutions							1	10	9	90
17. Never use work " a must"	10	100								
18. Take proper care of the associate areal schools									10	100
19. Invests in equipping the library									10	100
20. Supports seminars attendance							2	20	8	80
21. Publicly praises employees for the results achieved (at school meetings)									10	100
22. Support usage of teaching devices							1	10	9	90
23. Seeks for work and order, but also act alike							-	10	10	100
24. Fighting for better financial support by the authorities incharged									10	100
25 Gives a free day as a kind of reward							2	20	8	80
26. Provides salary supplement as a reward	2	20	5	50	3	30		20		
27. Organizes joint gatherings of employees		20	5		2	20	2	20	6	60

Claims (attitude towards associates)	Never		Very rarely		Occasionally		Often		Always	
	f	%	f	%	f	%	f	%	f	%
1. In every situation performs in primarily as a human being					1	2,8	7	20,0	27	77,2
2. Understands personal problems of employees					1	2,8	10	28,6	24	68,6
3. Has a good relationship with the students							5	14,3	30	85,7
4. Correctly treats associates							8	22,9	27	77,1
5. Collaborative attitude towards employees							8	22,9	27	77,1
6. Provides support to employees in every situation					1	2,8	8	22,9	26	74,3
7. Has an understanding for Problems related with work					1	2,8	6	17,2	28	80,0
8. Praises the employees at his school for a well-done job through a bulletin board	5	14,3	2	5,7	8	22,9	7	20,0	13	37,1
9. Provides support to employees in cooperation with parents			1	2,8	4	11,4	4	11,4	26	74,3
10. Treats employees politely					1	2,8	5	14,3	29	82,9
11. Does not condemn, but gives the possibility of eventual mistakes to be corrected					5	14,3	6	17,2	24	68,5
12. Tries to make the better working conditions for employees							7	20,0	28	80,0
13. Has a democratic style leadership							9	25,7	26	74,3
14. Try to get as involved as possible in teaching process					2	5,7	11	31,4	22	62,9
15. Has a positive attitude towards various types of learning							7	20,0	28	80,0
16. Collaborates with cultural and other institutions					1	2,8	3	8,6	31	88,6
17. Never use work " a must"	15	42,9	16	45,7	4	11,4				
18. Take proper care of the associate areal schools					1	2,8	6	17,2	28	80,0
19. Invests in equipping the library					3	8,6	7	20,0	25	71,4
20. Supports seminars attendance					4	11,4	5	14,3	26	74,3
21. Publicly praises employees for the results achieved (at school meetings)							8	22,9	27	77,1
22. Support usage of teaching devices					2	5,7	4	11,4	29	82,9
23. Seeks for work and order, but also act alike							6	17,1	29	82,9
24. Fighting for better financial support by the authorities incharged							4	11,4	31	88,6
25. Gives a free day as a kind of reward			4	11,4	6	17,2	7	20,0	18	51,4
26. Provides salary supplement, as a reward	10	28,6	11	31,4	9	25,7	5	14,3		
27. Organizes joint gatherings of employees	1	2,8			3	8,6	8	22,9	23	65,7

Table 2. Teachers' attitudes towards the school principal's motivational factors

35 (thirty-five) primary school teachers from the area of the BPK of Gorazde participated in the research, out of which 8 (eight) have a university degree, 25 (twenty-five) have a university degree and 2 (two) have a master's degree. The structure by gender is as follows: 23 (twenty-three) are female teachers and 12 (twelve) are primary school teachers.

Claims (attitude towards associates)		Never		Very rarely		Occasionally	Often		Always	
	f	%	f	%	f	%	f	%	f	%
1. In every situation performs in primarily as a human									10	100
being									10	100
2. Understands personal problems of employees							1	10	9	90
3. Has a good relationship with the students									10	100
4. Correctly treats associates									10	100
5. Collaborative attitude towards employees							1	10	9	90
6. Provides support to employees in every situation							1	10	9	90
7. Has an understanding for problems related with work							1	10	9	90
8. Praises the employees at his school for a well-done job through a bulletin board	1	10					2	20	7	70
9. Provides support to employees in cooperation with parents							2	20	8	80
10 Treats employees politely									10	100
11. Does not condemn, but gives the possibility of eventual mistakes to be corrected									10	100
12. Tries to make the better working conditions for one										
12. Thes to make the better working conditions for em-									10	100
13. Has a democratic style leadership							1	10	9	90
14. Try to get as involved as possible in teaching	1									
process							1	10	9	90
15. Has a positive attitude towards various types of							1	10	0	00
learning								10	9	90
16. Collaborates with cultural and other institutions							1	10	9	90
17. Never use work " a must"	5	50	5	50						
18. Take proper care of the associate areal schools							3	30	7	70
19. Invests in equipping the library					1	10			9	90
20. Supports seminars attendance							2	20	8	80
21. Publicly praises employees for the results achieved (at school meetings)							1	10	9	90
22. Support usage of teaching devices	1						1	10	9	90
23. Seeks for work and order, but also act alike									10	100
24. Fighting for better financial support by the authori- ties incharged									10	100
25 Gives a free day as a kind of reward							2	20	8	80
26 Provides salary supplement as a reward	2	20			4	40		20	4	40
27. Organizes joint gatherings of employees					2	20	2	20	6	60

Table 3. Attitudes of professional associates to the school principal's motivational factors

10 (ten) professional associates of primary schools from the area of the BPK of Gorazde participated in the research. Out of that number of professional associates: 9 (nine) have a university degree

and 1 (one) has a Master's degree. The structure by gender is as follows: 7 (seven) are associates and 3 (three) are primary school associates.

5. Conclusion

Based on the research of the attitudes of school principals regarding the motivation of their employees, it can be concluded that there is no difference in the use of internal and external motivation factor in relation to the gender of the principals. Each of the directors uses approximately the same motivation factor for their employees, in order to achieve success in their work and achieve the satisfaction of all employees.

Further on, the attitudes of principals regarding the application of motivation factors for successful work in school, the following can be concluded:

- 90% use internal factors for motivation as a kind of incentive for successful work
- External motivation factors are used by 80% as a form of reward

In accordance with the above, it can be stated that approximately the same use of external and internal motivation factor depends on the attitude of the school principal.

Based on the research of teachers' attitudes towards motivation provided by school principals, it can be concluded that there is no big difference in the use of internal and external motivation factors in relation to the attitudes of principals. The difference appears in several questions, which refer to the appreciate on the bulletin board, use of word a must, a day off as a reward and a raise as a reward. In these attitudes, teachers are somewhat divided and do not have a completely positive attitude for these claims. The question is whether principals are subjective, or teachers are too objective. Each of the principals use approximately the same motivation factor for their employees, in order to achieve success in their work and achieve the satisfaction of all employees.

Based on the views expressed by professional associates, it can be concluded that the attitudes regarding motivation factors, of professional associates and school principals are approximately similar. This can be seen from many claims that completely coincide with the claims of school principals.

References

- 1. Aleksic D, Kudumovic M. Management of modern school and Information technology, TTEM, 2018; 13 (1): 44-54.
- 2. Bahtijarevic-Siber F, Sikavica P, Pološki-Vokić N. Suvremeni menadžment, Školska knjiga, Zagreb, 2008.
- 3. Bolman L, Deal T. Choice and lidership, San Francisko, 1997.
- 4. Buch T. Theories of Educational Leadership and Management, Sage, London, 2003.
- 5. Bush T, West-Burnham J. The principles of educational management. London: Pitman, 1994.
- 6. Conger J A. Learning to Lead: The Art of Transforming Managers into Leaders, Jossey-Bass, San Francisco, 1992.
- Dunhan J. Developing Effective School Management, Routledge, London, 2005.
- 8. Everard K B, Morris G. Effective school Management. London: Paul Champan Publishing Ltd., 1990.
- 9. George MJ, Jones RG. Organizational Behavior, Addison-Wesley, London, 1999.
- Kudumovic M., Krsmanovic S., Kudumovic Dz. Information Technologies and Quality of Management decision in University Education, AIM, 2005; 13(4).
- 11. Petz B. Psihologijski rjeènik. Zagreb: Prosvjeta, 1992.
- 12. Treven S. Management človeških virov, Gospodarski vestnik, Ljubljana, 1998.
- 13. Vizek-Vidovic V, Rijavec M, Stetic-Vlahovic V, Miljkovic D. Psihologija obrazovanja. Zagreb: IEP-Vern', 2003.
- 14. Varga M. Upravljanje ljudskim potencijalima kroz motivaciju, Zbornik radova Međimurskog veleučilišta u Čakovcu 2, 2011.

Corresponding Author: Semso Aganspahic, Univerity of Sarajevo, Faculty of Educational Sciences, Sarajevo, Bosnia and Herzegovina, E-mail: sensem@bih.net.ba

The Genius Loci of Urban Settlements in the Ottoman Period of Bosnia and Herzegovina

Nadja Sabanovic¹, Lana Kudumovic², Ibrahim Numan²

¹ Institute for construction of Canton Sarajevo, Sarajevo, Bosnia and Herzegovina,

² Fatih Sultan Mehmet Vakif University, Istanbul, Turkey.

Abstract

Urban settlements in Bosnia and Herzegovina started to emerge in their current form in the Ottoman period, which stretched from the fifteenth to the nineteenth century in Bosnia. In this period, new settlements in Bosnia and Herzegovina were developed according to principles that had already been widely applied in the Ottoman Empire, especially in the region of Central Anatolia. New social values were formed alongside processes of urbanization-these were the most significant changes that drove the development of Bosnia and Herzegovina from the Middle Ages onward. Such realities are conveyed in the unique genius loci of the settlements examined here. The aim of this paper is to define the essential spatial attributes of those settlements in Bosnia and Herzegovina that developed during the Ottoman period and their contribution to their "spirit of a place". To achieve this goal, a range of spatial qualities have been extracted and examined. The discussion highlights how these spatial qualities contributed to the endurance of places with similar conceptual bases, keeping their distinctive spirit and authenticity.

Keywords: the spirit of a place, Ottoman culture in B&H, historic settlements, the built environment.

1. Introduction

Over the course of the history of the world, significant changes have been caused by the development of science, technology, and civilization, all of which have contributed to successive improvements in the built environment and living conditions. Inevitably, such changes to build and natural environments have informed the development of particular social standards, interactions, relations, and behaviors, which have all shaped people's lifestyles and traditions. These processes have attached a specific range of values to each particular place, today recognized as its *genius loci* or the "spirit of a place". This phenomenon is among the most significant attributes in the value of these places and confirms their authenticity.

In Bosnia and Herzegovina, during Ottoman period (1463-1878), urbanization took place based on principles rooted in Central Anatolia, a core region of the Ottoman Empire. These created urban settings, in essence, followed the idea of a division between private (residential) and public space (market/bazaar, čaršija, as a center of trade and administration).

The argument is often made that each component of the urban setting encompasses a number of structures that follow similar principles (on a smaller scale) of the division between public and private zones. Fundamentally, this division was based on the principles of Islam, being a new and widely accepted religion spread across Bosnia by the Ottomans, along with new cultural forms and amenities.

The other values recognized in this spatial arrangement are the result of specific environmental conditions and inhabitants' relationship with nature. These values can be found at both the urban and architectural levels. They appear in the principles used to create variations of open and closed spaces, such as gardens with water and other natural elements, which can provide a pleasant microclimate. The final principle shaping urban settlement was based on the sophisticated logic of the interconnection of elements in space according to function and usage. This type of relation was also echoed in social life, customs, and habits.

This paper will evaluate the process of urban development in Bosnia and Herzegovina during the Ottoman period by defining all the relevant elements of significance in shaping its spaces.

In addition to spatial and functional organization, SOCIAL arrangements, ETHICAL approaches, and RELIGIOUS influences all inform and dominate these spaces. Their common influence has created a range of spatial qualities that have been transmitted into the spirit of various places. It is clear that each of these influences can be found in all the key urban elements of settlements and their particular micro locations. Therefore, spatial qualities can be examined according to their particular spatial arrangement or urban organization, or else the focus can be placed on particular urban areas or architectural elements.

2. The development of urban settlement principles during the Ottoman period

Bosnia and Herzegovina were the westernmost Ottoman *Eyalet* or Principality. After several attempts, in 1463 the Ottoman army under Fatih Sultan Mehmet II conquered the territory of modern-day Bosnia and Herzegovina (**Bašagić-Redžepašić, 1900, pp. 15-19**). With the arrival of the Ottomans, urbanization and the expansion of settlements was rapidly realized according to new demands and relationships and relying on new urban codes and laws. This period saw the development of a new basis for the urban settings of Bosnia and Herzegovina.



Figure 1. Ottoman province (Eyalet) Bosnia around 1606 (Šehić, Tepić, 2002, p. 59).

At the beginning of this process of urbanization, it was important that new settlements could serve as administrative centres, as well as accommodate military facilities. The arrangement of space was defined according to a number of social spheres—social, religious, functional, and ethical.

Functional elements of the settlements

The typical ottoman city/town had two different areas or spheres of life:

A. "Čaršija" _Urban core _commercial zone

B. "Mahala" _ Residential zone (Grabrijan, 1957, pp. 8, 38), (Figure 2).

The commercial centre (čaršija) acted as the urban core and was where various public facilities were located, including: mosques, *hammami* (public baths), public schools, craft and trade centres, marketplaces, public kitchens, *han* and *karavansaray* (two kinds of inn/hostelry), and public fountains etc. The č*aršija* was a place of craft and trade, as well as an administrative and religious centre, and included all the important facilities necessary to sustain an urban settlement.

Various public buildings were set in the čaršija. These were usually dominating structures built in an oriental architectural style and had an important role in the expansion of Ottoman culture, while also being associated with Islam—the new religion of Bosnia. Public buildings were also important elements in the process of creating the urban silhouette and aesthetic character of a place. The mosque was the primary indicator of an Ottoman urban settlement, being a central place for social meetings and the most monumental public building.



Figure 2. Ottoman Urban settings, graphical representation of urban zones and focal functions

Social arrangement

The *waqf* was the most important institution for the development of urban settlements. The purpose of a *waqf* (a charitable foundation) was to serve the needs of the people and provide social assistance, acting as a kind of social security system (**Ertem, Vakıflar dergisi, 2011, p. 26**).

During the Ottoman period, new residential areas in Bosnia and Herzegovina were built according to the new state system, standards, and ethics. The characteristic "neighbourhood" was one of the basic principles that influenced the formation of residential culture. Its philosophy was both social and humanistic. Neighbourhoods represented one of the best social systems in the Ottoman Empire for satisfying the needs of inhabitants at the local level. They usually contained public faucets or wells for clean drinking water, bakeries, a mosque, mekteb (primary religious school), groceries, and the neighbourhood cemetery (mezarlik). There was no strict class border within a neighbourhood between the wealthy and the poorer inhabitants who were usually under the patronage of a wealthy family from the neighbourhood (Pašić, 1991, pp. 73, 81).

Ethical approach

A new sense of privacy suddenly gained importance with the arrival of a new culture (inspired by eastern religious rules and laws). The natural conditions and ambience were also relevant to the creation of built spaces, free of schematic planning systems. Neighbourhoods (*originally: mahalle*) were typical areas for residence and the private family house was the basic unit. In traditional cities, housing was built on slopes, which maximized light in each dwelling unit, and provided good views and the maintenance of close visual ties with the natural surroundings (Kudumovic, 2018, p. 272) (Figure 3).

Cohesion between the built and natural environments was founded on the prioritisation of basic human needs in building practises, constituting an ethical approach to urban development.

This new life philosophy brought a dose of humanity into the building process and the construction of a dwelling saw the application of unwritten laws that respected human beings and the environment. The approach to building was ethical and on a human scale, except in the case of important religious buildings, which were constructed for God and some public buildings that sought to display the power of the Ottoman Empire.



Figure 3. The appearance of a typical sloping residential Sarajevo neighbourhood (Hrasnica, 2003, p. 68).

Religious influence

In the very early stages of Ottoman rule of present-day Bosnia and Herzegovina, almost all the major monotheistic religions coexisted—for example, the majority of Bogomils generally tolerated Islam. Bosnia and Herzegovina became a melting pot of differences and influences. It was the meeting place of Ottoman culture and Bosnian mediaeval tradition and an area influenced by both Mediterranean and Central European culture. In a short time, a particular Bosnian-Oriental style developed (**Şimşek, p. 469**), while also displaying markings that referenced the local area (Hadžijahić, Traljić, Šukić, 1997, pp. 35-65).

The organisation of the cities/towns was deeply influenced by the Islamic principles of living. These principles attached great respect to nature, water, cleanliness, and good relations between people based on religious beliefs. Endowments (of *waqf*) included different facilities serving religious, educational, cultural, and economic purposes. They were often of considerable architectural value and were made for the benefit of Muslims, as well as for members of other religious communities.

3. "The spirit of a place" in settlements that developed during the Ottoman period in Bosnia and Herzegovina

Defined as "the prevailing character or atmosphere of a place" (**Oxford Online Dictionary**), the concept of the *genius loci* has its origins in ancient Roman culture. In Roman mythology¹, it referred to spirits thought to inhabit particular places and protect them. In the twentieth century, the concept of the *genius loci* came into focus to refer to a location's characteristic atmosphere or the "spirit of a place" (**Vogler and Vittori, 2006, p. 2**).

Norberg-Schulz (1980), in in his book *Genius Loci: Towards a Phenomenology of Architecture*, explained the relationship between *genius loci* and architecture. He promoted traditional forms in towns and buildings in order to better understand places and their meaning (Jive' n and Larkham, 2003, Vol. 8, No. 1, **pp. 67-81).** For Norberg-Schulz, all spatial segments determine a place including: 1. Image, 2. Space, 3. Character, and fourth attribute 4. Genius loci (Norberg-Schulz, 1980, **pp. 6-73).** Several important factors contribute to defining the spirit of a place. They go beyond physical attributes and include social interactions, habits, and tradition.

Furthermore, people develop relationships with their surroundings and these determine possible directions, paths, points of centralization, and actions in space. In the history of the built environment, natural conditions have always been key to choosing a dwelling place since the time of the oldest civilisation. Throughout the history of urbanization, the first requirement in choosing a location for settlement was always whether the natural conditions could provide for a reasonable quality of life, depending on the purpose of the settlement.

In discussing the qualities of a space and knowing the importance of water for the development of civilization, as well as the meaning of these elements in different cultures and traditions, it is not surprising to see a focus on the use of water in Ottoman architecture, especially in Bosnia, a country abundant in water resources. As such, it is reasonable to focus on the role of natural resources and conditions in places designated for urbanization.

Water is a natural element that has great significance as a basic element of life and has commonly been the most important factor in shaping human habitats. It was a key segment in the formation of the Ottoman city, not just from an architectural, functional, and aesthetic, but also from a social, religious, cleanliness, recreational, and psychological point of view. The Ottomans took great pleasure in seeing running water and hearing its sound. They built public fountains, drinking fountains, and water structures wherever it was possible, even in private houses (Aru, 1949, p. 32).

During the Ottoman period, drinking fountains and faucets also acted as meeting points where socialization occurred. The use of water in residential architecture was associated with the landscape to form pleasing conditions and pleasant places to live in (especially during the hot, dry summer days). In houses in the southern part of the country, Herzegovina, the way water was made to flow through open channels in private gardens offers a good example of how it was valued as an important design element

Extraordinary examples can be found in the housing complexes of Rizvanbegović on river Bregava in Stolac and Velagićevina on the river Buna, both located in Herzegovina. They can be assessed as having very high ecological standardseven today, they fulfil all the standards of sustainable architectural design and also of lifestyle quality (Figure 4). These examples express a harmonious composition of natural environmental conditions with "man-made" architecture, united in the creation of a distinctive spirit of a place.

Another kind of influence that is significant in determining the spirit of a place comes from several intangible elements. Such intangible factors may be associated with a place's historical background, particular purpose, or anything related to customs and habits etc. Likewise, the Ottoman lifestyle did not just focus on the social arrangement, but also included a focus on spiritual and religious aspects of life._

¹ Genius loci is a Roman concept: according to an ancient belief, every 'independent' being has his own genius, his guardian spirit. This spirit gives life to places and people, bringing them from the cradle to the grave, determining their character or essence (Petzet, 16th General Assembly of ICOMOS, Scientific Symposium, Quebec, 2008, p. 2)



Figure 4. Velagićevina residential complex, built in the Ottoman period in Blagaj (Source: Dževad Hadžihasanović, 2009)



Figure 5. Residental house in Begovina, Stolac

Finally, we can conclude that the spirit of a certain place is like a special 'substance' that differentiates places. The character of a built place relies on the interdependent relationship of many tangible and intangible factors (the surroundings, material, colours, lights, sounds, proportions, and many other pieces form the final composition) (Sabanovic, 2020, p. 40).

However, the spirit of a place is not something valued by everyone in the same way. People often connect their dwelling or habitat with a sense of identity or belonging to a place. As such, the same place will not be valued in the same way by inhabitants and by visitors. Inhabitants are those who identify themselves with a place or originate from that place. Each person experiences a place in a different way, but the prevailing characteristics make its character or special spirit dominate its expression and can be marked through human experience.

Inhabitants feel attached to a place, while the interest of visitors may be limited to its aesthetic attributes, or they have an interest in experiencing

local culture, but are often limited to following the recommendations of tourism marketing. Therefore, the appearance of a place in synthesis with feelings reflected towards an observer help construct its character or atmosphere (Yu-Chu, Chen, 2014, pp. 43, 47).

3.1. Qualities of the built environment from the Ottoman period in Bosnia and Herze-govina

Built environments dating from the Ottoman period in Bosnia and Herzegovina reveal a set of components that have, in their interaction, produced the special character of these places. These can be distinguished as tangible and intangible qualities of space, as shown in Table 1. These are recognized as present at both the urban and architectural levels.

Traditional built environments commonly respect natural conditions, engage local crafts, use domestic materials, respect human nature, and express the traditional lifestyle of a certain period. Physical appearance is important in the development of recognizable silhouettes of settlements. They can include slopes with traditional houses descending towards a river and urban centres arranged as a composition of domes and hipped roofs intersected with greenery. In such a place, the central mosque was emphasized above any other structure. The usage of local materials was important in depicting the local tradition embedded in those spaces. Urban spaces were created to fulfil functional needs while taking into consideration sustainability and connections to resourcesclean water, fertile land, roads, and rivers etc.

In Ottoman culture, there was also a notable correlation between indoor and outdoor spaces and a necessity of achieving unity with natural surroundings. Consequently, they shaped the spatial aspects of dwellings, which consequently affected urban forms (Numan, Pulhan, 2005, p. 161).

The most heavily accentuated qualities included the ethical principles of building, respecting nature, and respecting the human scale and basic human needs. These also included maintaining good relations with one's neighbours, the right to a view, and an appreciation of privacy. Morals (ethics) are not just evident in the relationship between

Our		URBAN LE	VEL	ARCHITECTURA	L LEVEL
charao	cteristics	Public zone čaršija	Residential zone mahala	Public buildings	Houses as dwelling units
IBLE	Spatial	Centres with commercial, religious, educational, social, and administrative functions and a strategic position.	Follows terrain morphology; no spatial conflict is present regarding sunlight, vista, or privacy.	Contribute to the emergence of recognizable silhouettes and urban morphology (e.g. domed buildings such as mosques, hammams, ma- drasas etc.).	Distinguished private/closed and private/open space in the housing compound ar- rangement.
TANG	Environmental	Spontaneous open public space design (e.g. com- mercial streets); natural ele- ments (e.g. rivers, greenery etc.) are interwoven into urban tissues of centers.	Bounded by nature; human scale; pri- vacy.	Public buildings compounds integrate positive relations of open and closed spaces with the presence of natural ele- ments that contribute to the overall building design.	Pleasant micro climate; importance of cleanliness; ecology and com- fort.
GIBLE	Sensory	Social interaction.	Social interaction. Sense of belonging to the community.		Sense of privacy.
INTANG	Symbolic	Respect of religious laws and social justice; coexistence of different reli- gious communities.	Unity and harmony.	Power.	Safety.

Table 1. Spatial qualities of the built environment from the Ottoman period in Bosnia and Herzegovina

people and nature, but also between people. It can be concluded that spatial and social boundaries influence the design of built environments (as an example, the phenomenon of privacy in oriental architecture should also be mentioned). On a large scale, this was reflected in the division into public (administrative and commercial centre) and private (neighbourhood) spaces. At a smaller scale, private houses were also divided into private and public spaces. Therefore, the spatial organization of a house, depending on its function, was designed to be open or enclosed. Thus, traditional houses were open to nature and the environment. The way houses communicated with their natural surroundings of gardens and courtyards was a product of spontaneous design. Elements, such as greenery, gardens, and water, were a part of house design. On the other hand, from the outside houses were isolated islands and thus hidden from outside observers or visitors. The administrative and trading centre (čaršija) of an urban place provides an example of a place open to all users and public and social activities. In such an environment, we can encounter the public *hammam* (public baths) as a small enclosure, a mystical world in the middle of the crowded čaršija where everything happened. Similarly, most public buildings were built according to the logic of creating the built environment to fulfil similar principles. Their physical appearance in combination with local traditions and lifestyle, contributed to the formation of the particular spirit of a place.

4. Conclusion

The Ottoman period was a very productive time in the urban development of Bosnia and Herzegovina. Urban development was based on principles that distinguished private and public spaces at different levels. Different aspects of an urban space, such as social arrangement, religious influence, the functional elements of settlement, and ethical approaches to nature and humans were all significant in creating a unique spirit of a place. Recognising spatial qualities in each urban element and its interconnection can help us to understand the range of values embedded in the urban and social fabric—its structure made up of both tangible and intangible elements.

The Ottoman urban fabric in Bosnia is still, in its essence, present today in the historic centres of many settlements, even though the historical periods after the Ottomans saw new social and political attitudes that reshaped the urban settings and many structures lost importance. The new atmosphere was accompanied with forgotten traditions and values, including those specific to residential areas. For example, the essence of distinguishing private and public areas has been forgotten and with rapid globalisation and other influences of modern times, the disappearance of traditional and spiritual values at the global scale has intensified, leading to a subsequent loss of authenticity.

References

- 1. Aru KA. TURK Hamamları Etudu, ITU-T.A.O, 1949.
- Basagic SB, Redzepasic M S. Kratka uputa u prošlost Bosne i Hercegovine, Vlastita naknada, Sarajevo, 1900.
- 3. Ertem A. Osmanlıdan Günümüze Vakıflar, Vakıflar dergisi Aralık 2011.
- 4. Grabijan D. The Bosnian Oriental architecture in Sarajevo, Univerzum, Ljubljana, 1983.
- Grabrijan D, Neidhardt J. Arhitektura Bosne i put u suvremeno / Architecture of Bosnia and the way modernity, Državna Založba Slovenije, Ljubljana, 1957.
- 6. Hadzijahic M, Traljic M, Sukic N. Islam i muslimani u Bosni I Hercegovini, (y.y), 1997.
- 7. Hrasnica M. Arhitekt Josip Prošpil Vancaš- Život i djelo, Biblioteka: Acta Architectonica et Urbanistica, AFS, Sarajevo, 2003.
- 8. Pulhan H, Numan I. The transitional space in the traditional urban settlement of Cyprus, Journal of Architectural and Planning Research, 2005; 22(2):160-178.
- 9. Jive' n G, Larkham PJ. Sense of Place, Authenticity and Character: A Commentary, Journal of Urban Design, 2003; 8(1):67–81.
- 10. Kudumovic L. Urban transformation and development of the urban fabric in the Balkans after Ottoman conquest, CIÉPO 22nd

symposium, Uluslararası Osmanlı Öncesi ve Osmanlı Çalışmaları Komitesi Trabzon, 2018; I. Cilt, pp. 267-285.

- 11. Lynch K. The image of the city, The MIT Press, Cambridge Massachusetts, and London, England, 1960.
- 12. Norberg-Schulz C. Genius Loci: Towards a Phenomenology of Architecture, Edinburgh College of Art Library, Rizzoli, New York, 1979.
- 13. Spahic O. Towards Understanding Islamic Architecture, Islamic Research Institute, International Islamic University, Islamabad, Islamic Studies, 2008; 47(4).
- 14. Simsek O. Revitalising and rethinking courtyard housing in Sarajevo, Islah 2019 - 2nd International Conference on Islamic Architectural Heritage, FSMVÜ Yayınları, İstanbul, 2019.
- 15. Pasic A. Islamsko stambeno graditeljstvo, Institut za islamska istraživanja, Zagreb, 1991.
- 16. Petzet M. Genius loci-The Spirit of Monuments and Sites, Scientific Symposium, Quebec, (30 Septeber, 16th General Assembly of ICOMOS, 2008.
- 17. Sabanovic N. Bosna Hersek'te hamamlarüzerinden gelişen su kültürü ve yapıları, Fatih Sultan Mehmet Vakıf Üniversite – PhD Thesis, 2020.
- 18. Sehic Z, Tepic I. Povjesni Atlas Bosne i Hercegovine, Sejtarija, Sarajevo, 2002.
- 19. Vogler A, Vittori A. Genius Loci in the Space-Age, 1st Infra-Free Life Symposium Istanbul, December 11-15, 2006.
- 20. Yu-Chu Chen. A Preliminary Study Applying the Theory of Genius Loci on Tourism: A Case Study of Shiding Village, New Taipei City, Taiwan, 2014. Retrieved from: https://chungyuanchristianu.academia.edu/Departments/Interior_Design_Departmeny/Documents

Corresponding Author: Nadja Sabanovic, Institute for construction of Canton Sarajevo, Sarajevo, Bosnia and Herzegovina, E-mail: nadja.sabanovic@gmail.com

Open school and EMILIN's model of work in teaching methodology

Dragana Aleksic¹, Mensura Kudumovic²

¹ Independet university of Banja Luka, Bosnia and Herzegovina,

² University of Sarajevo, Faculty of Educational Sciences, Bosnia and Herzegovina.

Abstract

EMILIN model-electronic model for innovative-logical research of teaching process, represents innovation which student and teacher can use together through physical contact and live word of teacher, but with assistance of information technologies. School now days are considered organisers, directors and coordinators of all programs related to general development of young people and social environment in which they act and will be more considered as such in future. Therefore, schools, will be less considered as teaching institutions and more considered as organisers of teaching and various social, cultural and teaching actions and programs in environment with larger number of participants from its environment: parents, companies, associations, organisations and order interested subjects. In order to achieve such social intention of school it is necessary to connect, cooperate and act along with social environment.

Aim: The aim of this paper is to examine the level of satisfaction and usage of it and new e-model of innovative-logical research of teaching.

Methods: This research is conducted in primary schools in Bosnia and Herzegovina (Federation, Republic Srpska and district Brcko) during 2018/2019. This research included 797 respondents (539 students and 259 teachers) in 12 primary schools.

Results: Nearly half of respondents evaluated as good or excellent the question about usage of computers and new EMILIN model in teaching and teachers of primary schools have shown approval of its application, but with statistically significant difference in this evaluation.

Conclusion: EMILIN model facilitates learning, and teachers and students are satisfied with new ways of work with help of this model and IT.

Key words: *Open school, inovations, Emilin model, teaching process learning.*

1. Introduction

The modern school enables the adaptation of learning process to each student individually in accordance with his abilities, desires and motivation. Among other things, it also involves usage of gadgets such as tablets, mobile phones, smart boards, and thus while being networked students are able to acquire new knowledge. They are able to work and cooperate in different ways and especially important to be mentioned is encouraged and achieved interaction. (Glasser, 1994)

The school should be the initiator of mutual pedagogical performance. In that sense, it becomes the centeral environment in which through operating various pedagogical activities, students are gathered and their complete upbringing is enabled. In this way, i is possible to achive compehesive opening and bonding with the environment in which it operates and therefore the symbolic name of "open school" is given.

An open school cannot be satisfied with teaching alone. The present time demands a contentrich school, which does not mean overloaded students by content. The school should have a good measure of compulsory material and meet the individual interests of students, as well as the needs of the environment. Is also involve a good balance of all forms and types of teaching (eg. regular, elective, optional, extended, etc.). Free activities in extracurricular activities should always be added to the obligatory teaching contents. This requires open access and free choice of content and methods of work. Extracurricular activities always provide an opportunity to create a lively school environment, ie a school adapted to the needs of life. They always create divers' activities from multiple fields where greater freedom and independence of students is expected, as well as cooperation between the environment and the family (Puževski, 2002).

In final, the teachers are those who should be involved all these activities, which create an open school. In particularly, teacher engagement must be focused primarily on planning and implementing pedagogical ideas and pedagogical practice. In that way, the school becomes a real place of social upbringing and education of young people. The quality of teaching would certainly be improved by this way of working. Learning would be reduced to what is possible and what is useful, which is in fact our main goal (Aleksić, 2018).

There is no doubt that the electronic model of innovative-logical study of teaching or shorter EMILIN-model is a proposal to improve the teaching process with the help of information technology and certainly represents a new way of working in teaching methodology. This model is designed as a virtual classroom and virtual organization equipped with current electronic and computer devices. All these devices are connected into a single system that has its own software to manage it. In that classroom, the teacher realizes the curricula and contents through specially prepared virtual lessons. Classes are organized and implemented in such a way as to achieve the overall interaction of teachers and students, and also between students and students. Learning new content, practicing what has been learned and checking is done also using a electronic devices (laptop, tablet).

Further on, EMILIN-model implies also a distinctive look and equipment of the classroom, as well as the arrangement of tables and devices within it. One such classroom should include the following: computers, tablets, small storage server, smart board, projector, smartphones, digital cameras, video cameras, microphones, mini television and radio studio for recording and editing shows, photocopiers, scanners, printers, TV sets, speakers, headphones, custom school furniture, etc. Teachers must be professionally trained to determine certain parts of the teaching content that can be converted and realized in the form of virtual lessons (creation of their own films, radio shows, picture galleries, etc.) (Aleksić, Kudumović, 2016).

Teachers are required to be able to use and work with computers and computer programs of different types, as well as video cameras and to create videos, take photos etc. Teachers must be specially prepared for this way of working. Also, they are expected to be ready for daily improvement and upgrading of their competencies according to the lesson which they will deliver, because each lesson requires special attention individually and therefore particular way of performing. One of the good solutions for the introduction of information technology in teaching is the creation of special applications for each subject. In these applications, special tools are created that monitor the needs of the teaching content of a particular subject.

Applications would be different from already designed and used computer programs in the teaching process and would be adapted to the characteristics of teaching content and different systems for its learning. As an example, we can cite the creation of an application for learning the mother tongue called PROJEZ (application created for learning the curriculum of the mother tongue). This application includes the following tools, such as literary processing tools, grammar processing tools, expression culture processing tools, and special tools that can link that content to some other content from the internet and other files. In the group of tools for processing literature, there are those which helps to find faster and easier unknown words in the texts, characters, characteristics of the characters and some other possibilities. Tools for processing grammar lessons include underlining certain types of words (nouns, adjectives, verbs), then sorting those types of words, etc.

The work plan and schedule of classes according to this model is somewhat different from the classical teaching. For this way of working, a block of classes of two subjects is planned in accordance with the correlative contents that are taught according to the operational plan. Thus, a block class of mother tongue and art culture is created, if similar contents are taught at the same time. The block class for work is planned due to the time spent preparing for the work of various devices, as well as their storage after finishing work, students are well motivated and their attention is greater throughout the time. Since the contents from different subjects would be used and connected, then it takes enough time to import it all into one whole (Aleksić, Kudumović, 2021)

2. Methodology

The research was conducted as applied research, using different research methods, inclduing method of theoretical analysis, descriptive method, causal method and Survey method. Various techniques (surveying, scaling, testing, interviewing) were also used in the research. The descriptive method in the research of upbringing and education is a set of scientific-research procedures that describe phenomena in upbringing and education (Aleksić, 2018). The research was conducted in primary schools of Bosnia and Herzegovina in bothe entitites (Federatia and Republic Srpska) as well as in primary schools of Brčko District, and in several schools in the Republic of Croatia. A total of 797 respondents were included.

3. Results

The research covered a total of 12 primary schools. Respondents were informed in advance about the time of the survey, as well as the main goals of their participation in the research. The content of the survey was prepared in advance so that the questions used to collect the data needed to examine and describe the given phenomena were clearly specified.

To the question: "How much does the use of computers and the new EMELIN model in teaching make learning easier for you?", The answers are shown in table 1.

10

10.2

13

Out of a total of 539 students, one fifth of the respondents (21.4%) rated the use of computers in teaching as insufficient or Sufficient to facilitate learning, 30.1% of them graded with medium grade (good), while close to half of the respondents or 48.5% graded as very good or excellent (Aleksić, 2018).



Graph 1. How much does using a computer make learning easier for you?

Out of a total of 539 students, the majority of respondents (53.5%) are satisfied or very satisfied with the use of computers for learning purposes, as well as with the use of the new learning model.

EMILA's model by teachers checking knowledge through computers, 19.3% of them graded as good, while 27.3% of respondents graded as insufficient or sufficient.

It can be concluded that teachers of 12 primary schools express satisfaction with the use of the EMILIN model and IT (there is a statistically significant difference) and evaluate that satisfaction

Duimany sahaal	Insufficient		Sufficient		G	ood	Very	good	Excellent	
Frimary school	Ν	%	N	%	N	%	Ν	%	Ν	%
19.april	7	35.0	3	15.0	4	20.0	1	5.0	5	25.0
Desanka Maksimović	28	34.1	6	7.3	34	41.5	6	7.3	8	9.8
Druga osnovna škola			6	13.3	5	11.1	11	24.4	23	51.1
Goran Ivan Kovačić	2	8.3			10	41.7	10	41.7	2	8.3
Ivan Filipović	4	11.1			9	25.0	14	38.9	9	25.0
Liješće	3	5.1	14	23.7	21	35.6	17	28.8	4	6.8
Meša Selimović	4	8.7	3	6.5	15	32.6	15	32.6	9	19.6
Musa Ćazim Ćatić	1	2.6	1	2.6	14	36.8	11	28.9	11	28.9
Peta osnovna škola	3	7.5	1	2.5	10	25.0	15	37.5	11	27.5
Skender Kulenović	1	6.7			6	40.0	5	33.3	3	20.0
Stiepan Radić	1	28	4	11.1	8	22.2	9	25.0	14	38.9

13.3

26

26.5

29

Table 1. How much does the use of computers and the new EMELIN model in teaching make learning easier for you?

20

20.4

29.6

Sveti Sava

Dwimawy Sahaal	Insufficient		Sufficient		Go	ood	Very	Good	Excellent		
Frimary School	N	%	N	%	N	N %		%	N	%	
19.april	5	25.0			1	5.0	4	20.0	10	50.0	
Desanka Maksimović	39	47.6	9	11.0	11	13.4	9	11.0	14	17.1	
Druga osnovna škola	6	13.3	6	13.3	6	13.3	4	8.9	23	51.1	
Goran Ivan Kovačić	2	8.3	1	4.2	1	4.2	10	41.7	10	41.7	
Ivan Filipović	1	2.8	2	5.6	6	16.7	11	30.6	16	44.4	
Liješće	5	8.5	3	5.1	22	37.3	14	23.7	15	25.4	
Meša Selimović	7	15.2	1	2.2	10	21.7	16	34.8	12	26.1	
Musa Ćazim Ćatić	2	5.3	4	10.5	9	23.7	12	31.6	11	28.9	
Peta osnovna škola	2	5.0	2	5.0	7	17.5	17	42.5	12	30.0	
Skender Kulenović	3	20.0			3	20.0	4	26.7	5	33.3	
Stjepan Radić	4	11.1	3	8.3	9	25.0	13	36.1	7	19.4	
Sveti Sava	17	17.3	23	23.5	19	19.4	20	20.4	19	19.4	

Table 2. How satisfied are you with the use of computers for learning purposes and the EMILIN work model by your teachers?

statistically significantly differently (H = 70.956; df = 11; p <0.001), (Aleksić, 2018).



Graph 2. (EMILIN model)

4. Conclusion

Teachers and students are satisfied with the new ways of working, with the help of the EMILIN model of teaching and IT. Almost half of the students graded as very good or excellent, when asked about the grade for the use of computers and the new EMI-LIN model in teaching, and primary school teachers express satisfaction with its application, there is a statistically significant difference in that grade.

Schools must think about their future and the needs of modern society and thus modernize their work organization. With the help of the EMILIN model of teaching, it is quite possible to achieve this, because it certainly represents a reform of the traditional way of working.

References

- 1. Aleksic D, Kudumovic M. Dodatno obrazovanje nastavnika za upotrebu multimedija u vaspitnoobrazovnom procesu/ Additional teacher education for using multimedia in pedagogical and educational process. BJHS, 2016; 4 (3-4): 87-94.
- Aleksic D. Savremena škola u novom mrežnom internet okruženju i reinženjering nastavnih procesa. Doktorska disertacija. Sarajevo: Pedagoški fakultet, 2018.
- 3. Aleksic D, Kudumovic M. Savremena škola Sarajevo: Pedagoški fakultet, 2021.
- 4. Glasser W. Kvalitetna škola. Zagreb: Educa, 1994.
- 5. Puzevski V. Škola otvorenih vrata. Jastrebarsko: Naklada Slap, 2002.
- 6. Suzic N. Pedagogija XXI vijek. Banja Luka: TT-centar. 2005.

Corresponding Author: Dragana Aleksic, Independet university of Banja Luka, Banja Luka, Bosnia and Herzegovina, E-mail: gagalukic86@hotmail.com

Learning from the past about water and architecture: Case of Kampong Ayer, Brunei

Inanc Isil Yildirim¹, Lana Kudumovic²

¹ Faculty of Engineering and Architecture, Interior Architecture Department, Beykent University, Istanbul, Turkiye,

² Faculty of Architecture and Design, Fatih Sultan Mehmet Vakif University, Istanbul, Turkiye.

Abstract

Water is the most important source of life and livelihood for the continuity of life. Throughout history, in city planning, architecture and interior architecture, which form the shell of life, different solutions have been produced to meet the needs of people with water. While the changing needs of life add new meanings to live with water, we witness the changing borders between sea and land. Although habitats on water seem like an alternative due to extreme climate changes, actually living with water is not a new concept. However, with the number of extreme climatic events as a result of human activities and the changing of the planet's climate, some issues and sensitivities have emerged in the evaluation of water. Not only extreme climate changes, but also increasing density, economic trends and sustainability issues have led to an increased focus on living with water. In this study, the example of Kampung Ayer in Brunei, which is one of the largest water neighbourhood that has survived to the present day and where life still continues, has been discussed and evaluated as a source that can provide inputs for the design of water cities, which are seen as an alternative among the cities of the future, by trying to understand their positive features and possible problems. In this context, considering historical process and population density, the features that can be considered as a water city with public functions such as education, health and transportation have been effective in the selection of the sample. The guiding and instructive features of these examples from the past, which will provide a sustainable and healthy collective life, to the floating architectural examples of the future are discussed. As a result, by learning from the historical water villages, findings and suggestions are included to be an input for future designs. The originality of this study is the use of water villages, which have many post-use experiences of life on water in history, as a learning tool in floating architectural designs.

Key Words: Living with Water, Floating Architecture, Traditional Floating Villages, Climate Change, Cultural Sustainability.

1. Introduction

The features in traditional architecture that have survived until today constitute important facts in the development of social life (Rapaport, 1969). Civilizations around the world have developed around bodies of water, where vital needs such as drinking water, irrigation and fishing could be met. Even in modern times, port cities continued to emerge near water bodies. Thus, relations with water have emerged in different forms such as fountains, bridges, arches, pools, and alike, and in architectural context, unlike land formations, water cities continue their existence on water rather than on land next to the water. These settlements, known as floating villages, have developed on the surface of inland water bodies for cultural and functional reasons in different parts of the world. Quantity and quality that meet the four basic human needs (drinking water for survival, water for human hygiene, preparing water and food for sanitation services, for modest household needs) constitute 'basic water requirements' for people to maintain healthy life cycles. Regardless of the economic, social or political status of the individual, there is a basic water requirement of 50 liters per person per day for the needs of a person. Apart from this, water is needed to grow food and protect natural ecosystems (Gleick, 1996). There is an increase in the need for additional housing and construction sites due to rising populations in some countries, especially in Europe and Asia, and rising sea levels in the context of worldwide climate change. Looking at water cities in many examples of the world, Asia has a much longer history of floating architecture (Stopp & Strangfeld, 2010). The concept of floating architecture includes the space or spaces where basic needs are met on the water and can move from one point to another when necessary (Yıldırım, 2017).

In the future, there are scientific indications that the habitats on terrestrial surfaces will be depleted due to climate change, increasing population density, and reduction of terrestrial resources. Extreme climate events are becoming more numerous due to the planet's climate transforms as a result of human activity. Designers and engineers around the world are working to develop flexible, adaptable, durable solutions in response to coastal flooding in the form of extreme natural events. Not only extreme climate changes but also rising density, economical trends and sustainability problems caused a growing focus on living with water. Except from the countries which have the risk of flood, or rising sea levels, the other countries have also the probability to be affected by the climate changes and therefore taking into consideration water-based solutions. Also, the flow of the capital and changing human lifestyle requirements direct us to the water as an alternative living space. As a respond to the world's sustainability problems, from both economical, socio - cultural and also the ecological, it is required to understand the importance of living with water. As the designers and engineers of the "climate change generation" they have the responsility to look at the past, present and the future and ask the opportunities of water that they could apply, inform and transform to their designs. Although the concept of living with water is not a new concept, some sensitivities related to water have been included in our lives, especially the way we evaluate water in the process after Covid 19. The subject of water adaptation to cities stands out as a topic that needs to be evaluated from a different perspective today. Solutions are being sought to adapt the water to the city and to ensure the life cycles of the settlements in harmony with the water due to the already rising water levels in some regions. At this point, considerations of designing with water becomes even more important. Because life on water is different from terrestrial life, and it is necessary to consider design solution in this context. For our architectural, interior architecture and design disciplines learning to design with water, which was previously dominated by our terrestrial life-based teachings, the data to be obtained from historical water settlements are an instructive resource that also includes vital experience (Shaaban, Yıldırım, 2019)

At the present time, when it comes to floating architecture, examples built and designed in hitech style are common, and in most cases supply and waste are handled through terrestrial infrastructure. To develop a self-sufficient sustainable floating community inhabited by thousands of people requires economical and environmentally friendly products, including infrastructure, prior to the application of new construction ideas and new materials. The floating architecture, which involves researching and solving unconventional problems, includes themes of water balance, fire protection, energy supply and smart application of environmental resources, protection from ice formation and use. In the scope of this paper, integration of water with spaces from a vernacular model of floating cities will be discussed. In addition, the solutions and problems covered by the study are aimed to provide information to designers who do not have experience in designing life in water for future water cities. Moreover, the article attempts to show how theoretical perspectives can be applied constructively to innovative floating architecture.

2. Literature review

Due to extreme natural events, climate change, increasing population density in the terrestrial area and decreasing resources, we come across many innovative projects and ideas for vital solutions on seas and water surfaces, coastlines and river regions. Advocating the necessity of transferring the floating settlement into practice, Stopp et al. (2016) also draws attention to many problems which are later referred to technique, management and user's social behavior in operating floating equipment. Scientist and futurists from all over the world are indicating the solutions for living with water and predict that the relationship between human and water will increase.

Many studies also dicussed problems and possible solutions of overwater settlements. For example, Bosselmann, P. C. et al. (2010) studied a group of water villages that will be a part of the existing

city extension within the scope of urban expansion to former agricultural lands in the Pearl River Delta and incorporation of villages into urbanized areas in Chinese cities, which have experienced intense growth and transformation in recent years, and the morphological analysis of settlement patterns, used in conjunction with stream morphological analysis of the water system. Another study is Olajuvigbe, Rotowa, Adewumi (2012) which evaluated the clean water supply to the water city of Lagos in Africa. In their work, which includes identifying water supply sources, assessing patronage levels among households, and identifying problems related to their operations, they examined the role of water vending machines in domestic water supply, independent of the mainland, with internal solutions. Liu (2019) et al. have archived the traditional Chinese village, which is best adapted to the climatic and environmental characteristics of the region, using local methods, accepting it as a large data source. In addition, they argued that by extensively researching the spatial design of water villages, they would set an example for the rapid urbanization in contemporary cities and their design to prevent the construction of buildings with lower cultural value and high energy consumption. In his study, Jones (1997) evaluated the historical water village of Kampun Ayer, by addressing the increasing development pressures and the desire for better living conditions in Brunei, and the replacement of most of the original building forms with modern replicas by making changes on the physical and social fabric of these settlements to overlap with traditional architectural styles. On the other hand, Stopp & Strangfeld (2010) stated that floating architecture could be a future solution to the current problems in many districts, cities and landscapes. Ahmad (2013), in the context of tourism history related with water, talked about the use of water cities as tourism objects as attraction elements and their contribution to cultural continuity. Yıldırım (2017), on the other hand, emphasized that the perception of people and space on water is different from terrestrial structures and that the characteristic structure of the floating architecture phenomenon should be understood, and design solutions should be produced. Although post-occupancy evaluations that will provide input to the design cycle in terrestrial architecture have been applied in almost every building type, they found this gap in floating architecture and obtained significant feedback on the designs of floating structures in their research, where they conducted the first Post Occupancy Evaluation (POE) study in floating architecture (Duman, Zengel, 2016). As can be seen from the literature, water cities have been examined as examples of floating architecture that embody the relationship of human and life on water from many different perspectives. However, there are only few studies on learning from past for future aquatic environments, which are discussed with an architectural approach, the aspects of cultural continuity are discussed, and possible solutions to future water cities.

3. Method

In this study, the Case Study method of analysis over the sample was applied. In sample selection, it is important that each sample has an ongoing process throughout history and still maintains continuity. The data obtained have been selected according to their potential to provide input to new designs in terms of sustainability of water cities.

3.1. Case Study: Kampong Ayer

Brunei is a country located on the north coast of the island of Borneo in Southeast Asia Kampong Ayer is the World's most populous and important traditional water village in Bandar Seri Begawan, the capital of Brunei, built on pillars in the water, stretching up the Brunei River. (Photo 1).



Photo 1. Location of Kampung Ayer Water Village https://commons.wikimedia.org/wiki/ File:Kampong Ayer, Brunei from OpenStreetMap.png

'Kampong Ayer', still in use as the primary name of the place, is the ancient Roman spelling of the Malay term 'Kampung Air', meaning 'Water Village'. Its past is evident from the narrative of the Italian explorer Antonio Pigafetta, who described the settlement as built entirely on salt water during his visit to Brunei in 1521 as part of the Magellanic fleet. (Photo 2). "Twenty-five thousand families live in houses, all made of wood and built on high pillars". (Antonio Pigafetta, European Sources for the History of the Sultanate of the Sultanate of Brunei in the Sixth Century, p. 11).



Photo 2. Historical living in water village Kampung Ayer http://3.bp.blogspot.com/_BHQXYbtdBiE/ SLXZbQvy_wI/AAAAAAAABM4/kekQoAT1x0E/w1200h630-p-k-no-nu/gambar_kampong_ayer_1950s.jpg

Olivier van Noort, according to history of Brunei Darussalam in the sixteenth sentury in European sources, stated that traditional houses built on columns on the Brunei River consist of neighborhoods with schools and mosques and that these houses can be moved from one side of the river to the other when necessary, for this they are built on light piles of wood. Being able to move to another place when necessary has also ensured that Kampong Ayer is protected from natural disasters (Nicholl, 1975). On an urban scale, wooden walkways on the water span a total area of 30 km, connecting the 30 villages that make up Kampong Ayer. Transportation is provided by motorboats on the streets where the walking paths are not connected to each other due to the fact that they are separated by wide waterways. Boats are usually made of wood and in the traditional local style and are often referred to as 'water taxis'. Shared services including electricity, water, telephone lines, internet access and television services are delivered to the floating village by suitable methods, if possible, wirelessly.

The established heritage of Brunei is the history of urban settlements, especially water villages, which are among the oldest settlements in the region. Considered one of the largest and oldest Malay water settlements in the world, the water villages in Kampong Ayer set an example with their characters and cultural features that still maintain a rapidly disappearing lifestyle. (Jones, 1997). Traditionally made of wood on stilts above the water, the houses in Kampong Ayer have adopted the style of traditional Malay houses as their architectural style. The houses are up to two floors. Most of them were built as special designs, just like in traditional design approaches. For this reason, individual original architectural styles come to the fore. (Photo 3 and 4).



Photo 3. Traditional Malay House style on water



Photo 4. Kampong Ayer have adopted the style of traditional Malay houses. https://cdn.idntimes. com/contenimages/community/2021/11/koutsarsky-cixrwfdhqne

Whereas, houses built by public housing initiatives, specifically in Kampong Bolkiah and as part of the pilot rejuvenation project in Kampong Lurong Sikuna, have a more uniform style similar to landbased housing estates (Photo 5). As for the logistics of Kampung Ayer, a floating settlement, it appears that it has an extensive network of walkways on stilts and footbridges that connect houses and other buildings. People travel by boat and water taxi. It causes Kampong Ayer to be compared to the "Venice of the East". (Photo 8). They are made of wood, concrete or with metal legs. Mosques, schools, post office, restaurants, police stations and fire brigades are located on the pillars descending into the water. The secondary school in Kampong Ayer, Awang Semaun Secondary School, is the only school of its kind where its buildings are built on water (Photo 6). However, Seyyidina Umar Al-Hattab Secondary School, built on the land, also has service area in some villages of Kampong Ayer.



Photo 5. As part of the pilot rejuvenation project in Kampong Lurong Sikuna uniform style similar to land-based housing estates https://commons.wikimedia.org/wiki/File:Kampong_Ayer_BSB1.JPG



Photo 6. Kampong Ayer, Awang Semaun Secondary School. https://commons.wikimedia.org/wiki/ Category:Awang Semaun Secondary School

Incidents of fire are common in Kampong Ayer and the main reported causes include faulty wiring and proneness to fire as many of the buildings are made of wood, so a fire station is important for overwater placement. (Photo 7).



Photo 7. Fire station for floating settlement https://commons.wikimedia.org/wiki/ File:Sungai_Kebun_Fire_Station.jpg



Photo 8. Kampong Ayer, Venice of the East. https://i.pinimg.com/originals/75/21/64/7521642 ef108afeb86bed92a3e5cd4e7.jpg

The water supply of the floating houses is provided by pipes next to the walking paths. The cables at the top bring the electricity. As with most floating habitats, a problem that needs to be resolved in order to ensure the sustainability of a healthy life in Kampong Ayer is related to waste management. Although modern sewage systems are available at most points to connect with systems on the mainland, it is recognized that the pollution is not solely from settlement, but also from waste flowing down the tributaries into the Brunei River, as upstream garbage management is not fully effective (Mail, 2016).

3.2 Case study: Traditional Malay housing analysis

The local residences of the Malays are considered as assets that maintain the cultural value in the region with their roofs suitable for the tropical climate, traditional architectural forms and harmonious proportions with decorative elements. However, these buildings require significant maintenance compared to modern structures, such as the difficulties of protecting their main material, wood, from the rotting effects of tropical weather and termite infestation. All houses are made of wood and thatch with nipa leaves. While urban regeneration has wiped out nearly all Malay urban districts, settlements displaying this vernacular architecture have survived and there is an ongoing effort to preserve indigenous architectural styles, mostly in water villages. Most of the Malay Houses are built from wood. They are very vulnerable to fire and the risk of fire spreading. For this reason, most of the houses float in the water to form a raft with wooden pieces connected together. If a fire breaks out at some point, every home owner can disconnect from other homes and get away from the fire. As a result, houses placed above water are better protected from fire. Also, when the resident feels dissatisfied with a particular place, they can move to a different neighborhood of the city (Saunders, 1994). The characteristic elements of local residential architecture, which Malay houses try to maintain in floating villages, can be listed as follows: 1. Pillars, 2. Stairs, 3. Divided rooms, 4. Traditional roof, 5. Decorations containing local colors and motifs. Most Malay houses are built on pillars or piles as Rumah Panggung "stage houses" (Photo 3, 4). This characteristic, which is the main feature of a typical Malay kampung house and is maintained in its aquatic structures, provides solutions such as avoidance of wild animals, floods and ventilation. Thanks to these pedestals, the house can be raised above the flood surface. Stairs are structural elements that form the identity of the traditional Malay house and are built to reach the elevated interior. Usually stairs connect the land front of the house to the ceramambi (porch or veranda). Stairs are usually molded decoratively and furnished in colour. Renewable natural materials such as wood and bamboo are used as construction. Joint details in dwellings are usually built in a prefabricated house logic, without the use of metal, including nails, instead using pre-cut holes and grooves to fit the wooden elements together. Since flexibility is an important requirement, especially in above-water structures, nails have been used later, but this use has been limited to non-structural elements of houses such as windows or panels. Wooden constructions made without nails or fixed metals and, movement in the water and reconstruction in a new location are made possible. Although Malay homes have various styles according to each state and sub-ethnic, there are common styles and similarities between them (Vlatseas, 1990). Many of the ancient Malay peoples of Southeast Asia sought to preserve the form of the self-regenerating environmental culture that emerged in their terrestrial areas, and the contemporary architectural design principles they used for shading and ventilation in their above-water structures.



Photo 9. Rumah Lontik with curved roof and boat-like structure. A Malay traditional house of Kampar Regency, Riau. The replica is located at Riau Pavilion, Taman Mini Indonesia Indah, Jakarta. File:TMII Riau Pavilion Malay House 04.jpg - Wikipedia

Looking at the interior design, which speaks the same language as its terrestrial structures, houses are consisted of rooms called serambi (patio), living room and bedrooms. Two important criteria guided the interior design. One of these; sensitivity to human scale, and the second is privacy. It is said that the distances between the footrests follow the width of the arms of the wife and mother of the family of the house, as an indicator of harmony with the human in proportions. To ensure privacy, the house consists of two parts, the main house (ibu) called Rumah Ibu and the simpler Rumah Dapur separated from the main house. The gable roof, an elongated frame with ornaments on the sides that covers the house, is designed to protect from heat and rain and to provide ventilation (Nasir, Theh, 1997). While each Malay region, state, or sub-ethnic group has its own regional or group style with preferred details, the local Malay roof is built to be suitable for hot and humid tropical climates. The different design styles of the gable roof appear in some homes as a sloping roof in the form of a pyramid or as a curved roof with a boat-like structure on pillars. Rumah Lipat Kajang features flat roof structure with intersecting edges forming an "x" peak at the corners of the roof. The larger structure with a similar crosscorner roof is called Rumah Limas (Photo 9).

4. Findings

In this study, which analyzes traditional water houses in Brunei, which is the oldest and still preserved example of floating architecture, as an important historical and cultural heritage, it is seen that there is a tendency of settlement in the same style when the settlement on the water is compared with the village. In fact, it is observed that houses come together, neighborhoods are formed, and public buildings are positioned, similar to the urban formation in the inland city. In this context, the positive and negative aspects of the given example, the opportunities and threats it contains are given in the findings in the form of a SWOT analysis (Table 1).

In Kampung Ayer water village, which is an example of a sustainable life on water, the factor that provides originality and can be seen as its strengths is that such a large historical living settlement on the water still continues. It stands out with the contribution of the architectural construction on the water to the cultural continuity. In addition, changing the position of the structures against floods and other natural disasters is an important factor. However, knowing the weaknesses of these settlements and developing them in later designs will make them more energy efficient and environmentally friendly. For example, it can be difficult for the aquatic habitat to stay in balance continuously due to wastes and chemicals from life. Garbage and sewage waste are an ongoing problem despite important measures and initiatives taken by the government and non-governmental organizations. Uncontrolled flows of waste from other water sources also negatively affect this problem. Vital wastes can pollute the water over time, and they can also be a threat to the natural life in the water. Over the last few years, the overall population has been shrinking as residents migrate and relocate to the land under the influence of modernization. Hence, it threatens the survival of Kampong Ayer and its customs and traditions. On the other hand, there are aspects that can be turned into opportunities in the design of life on water. Water is used as a natural air conditioning element and a visual natural landscape element in buildings. Since the houses placed on the water can be better protected from fire, they positively affect the sustainability of traditional houses. Malay houses on the water contain a lot of data on fire protection and the durability of wood on water for many years. An above-water use, exemplary of traditional Malay floating architecture, is pemantung, a stationary piece of wood that can be from about 300mm to 450mm high or higher, located above the finished floor level at the main door entrance to en-

	inalysis of Kumpong Ayer
	The fact that such a large historical settlement on the water still continues
Stronghts	Cultural continuity for the future generation
Strengitts	Framework for sustainable livelihoods
	Being mobile when needed
	Waste problem
Weeknesses	Harmful effects of water
weaknesses	Maintenance
	Security
	Visual natural landscape element
	Natural air conditioning
Opportunities	Preservation of traditional architecture
	Expansion of settlements without harming natural environement of the land (forests green
	area etc.)
	Unstable environmental conditions due to water level change
Trooths	Population growth
ireatiis	Consumer aspect of tourism
	Fire

Table 1. SWOT Analysis of Kampong Ayer



Figure 1. Learning from the elements of traditional Malay House (Yuan, 1988).

ter the house. The door is lifted above this level. The aim here is both to classify the barrier of the exterior and interior of the house (public and private) and to strengthen the boundary line of interior and exterior. Thus, it is to reduce the risk of falling into the water, which can be a source of danger for small children, and to prevent them from going out. This traditional solution to the danger of falling into the water, which creates a problem around floating houses, is an idea that can be applied to today's examples. The cross pillars beneath the traditional Malay dwelling mitigate the effects of the flood, while allowing the breeze to cool the house (Hosseini, et.al., 2012). Although the placement of the columns seems to be accidental, they form architecture that naturally fits the tropical conditions. If the placement logics of these columns can be associated with parametric architecture, flood protectors and wave preventers can be produced that other floating structures can also benefit from. The high pitched roofs and large windows not only allow for cross ventilation, they are carved with intricate organic designs. The connection types to be obtained from traditional Malay overwater residences, which are built completely without nails, contain lesson details for future designs.

As seen in the Figure 1, the space at the top of the roof helps to cool the house by providing ventilation on the roof. While the roof covering with a low heat capacity provides a good insulation against heat, ventilation flow is realized thanks to the roof joint gaps. Wide roof eaves provide effective protection from the sun. Good ventilation in the house is ensured by open interior solutions with minimal partitions. The windows can be opened completely, thus providing ventilation at body level.



Figure 2. Yuan, J. L. (1988). The Malay House

Due to the low thermal capacity materials used in the traditional Malay house, the lightweight structure keeps the house cool. It is also a lesson in the concept of a lightweight result building, which is one of the most important criteria of floating architecture. Elevated house on stilts catches higher speed winds and softens the effect of water. Furthermore, the modular design approach in traditional Malay residential architecture allows many houses to come together in different ways to form collective living units (Figure 2). Only the basic types of articulation possibilities are shown in the figure. They can be combined in other ways to further expand the range of home extensions. Modules are crucial in product design to speed up the production process, make products better, and ensure efficient assembly, a concept that exists in traditional Malay housing (Zainol, et al. 2013).

5. Conclusions

The statement that life will be widespread on the waters in the future has gone beyond being solely prediction. Focusing on the historical developments and challenges in traditional water living and conservation in the water village of Kampong Ayer, Brunei, this study reveals the many environmental, social and cultural frameworks that have shaped the development of local water architecture. As a result, economic development and population growth and changes in urbanization practices significantly affect water settlements in rural areas. The necessity of a holistic approach to protect sustainable land use and water management in the rural water village of natural and cultural structures emerges. Ongoing investments in tourism and urban infrastructure need to be implemented in a way that gives greater priority to sustainable goals that will support the village and help it develop in the future. Flexible planning and design approach represent one of the key words of architecture on water and predicts change over time. With Progressive design on water, it is possible to reach design and planning decisions that provide flexibility and adaptability over time. Considering the possibility of rising water level, planning studies should be gradual and have the ability to change according to conditions. Showcasing and sharing Kampong Ayer's settlement will help preserve and revitalize its community's socio-cultural heritage.

In this study, Kampung Ayer is evaluated as an example of maintaining the cultural heritage inconstructing structures on water. Water settlements such as Kampung Ayer should be modernized by equipping them with up-to-date technologies, taking into account their cultural sensitivities. Opening a traditional Malay house for accommodation on the water for tourists to experience, that the water coming from the city flowing from the river passes through the filter dam, the use of alternative energy sources (solar energy) instead of the cable system of electricity consumption, the internet provider stations provide distribution from certain main points in the campus, the tourist entrances and exits are limited and within certain routes. It is proposed to achieve the goals needed for sustainability. On the other hand, many new problems must be found regarding the physical and chemical effects of water on floating architectural structures. New materials and structures should be developed to withstand the different effects of water. The harmony between architecture and nature should be discussed. Finally, city-scale and regionalscale adaptation plans are suggested in order to guide the designs created in the historical process to successful designs on the water to be built today. Standards, zoning laws, building codes are tools that need to be reconsidered to ensure compliance.

It is seen that traditional architecture has changed with the rapid spread of technology and the discovery of new materials. In this research, the question of how we can maintain our architectural identity on water in the future by taking lessons from traditional construction methods in floating architecture has tried to be answered with the example of Kampong Ayer. Brunei Architecture has been examined not only with its forms and motifs, but also with its plan and social aspects, while reflecting the modern architectural thought on the water and reflecting its changing functions to the identity. In today's world, structures and concept projects on the water are trying to produce concepts based on forced forms with a new look, away from the traditional style. In floating architecture, although the forms that try to go beyond the traditional appearance are featured in the media with their utopian and imaginary aspect, it is believed that the message and elements of local architecture can be combined with the cultural identity and traditional solutions, water-specific design and art understanding, and read in a different way on the seas. This understanding will turn any building on the water out of the concept of a floating structure into a successful architectural structure. By establishing a region-wide viewpoint between design and

installation with the viewpoint connected with tradition and the past, viewpoints can be implemented in some way according to the floating architecture being considered. Analyzes show a strong connection between culture and contemporary architecture. This perspective implies the importance of the region, tradition and history as a bridge between the past and the future. We cannot ignore this importance in floating architectural examples.

References

- 1. Ahmad A. The constraints of tourism development for a cultural heritage destination: The case of Kampong Ayer (Water Village) in Brunei Darussalam, Tourism Management Perspectives, 2013; 8: 106–113.
- Bosselmann PC, Kondolf GM, Jiang F, Geping B, Zhimin Z, Mingxin L. The Future of a Chinese Water Village. Alternative Design Practices Aimed to Provide New Life for Traditional Water Villages in the Pearl River Delta, Journal of Urban Design, 2010; 15(2): 243-267.
- Duman II, Zengel R. Effects of physical design features to human comfort on floating spaces, Open House International, 2016; 41(1): 93-100.
- 4. Gleick PH. Basic Water Requirements for Human Activities: Meeting Basic Needs, Water International, 1996; 21(2): 83-92.
- Hosseini E, Mursib G, Nafida R, Shahedi B. Values in Traditional Architecture: Malay House, Conference: 6th International Seminar on Vernacular Settlements, Famagusta, North Cyprus, 2012.
- 6. Jones A. Urban conservation issues in Brunei Darussalam: the case of Brunei's water villages, Planning Perspectives, 1997; 12(4): 457-475.
- Liu Q, Liao Z, Wu Y, Degefu D M, Zhang Y. Cultural Sustainability and Vitality of Chinese Vernacular Architecture: A Pedigree for the Spatial Art of Traditional Villages in Jiangnan Region. Sustainability, 2019; No.11: 1-27.
- 8. Mail A. Live on Water: Lifestyle of Kampong Ayer Community during the British Residency Period, 1906-194, in book: Brunei: History, Islam, Society, and Contemporary Issues, Publisher: London: Routledge Editors: Ooi Keat Gin, 2016.
- 9. Nasir AH, Teh WHW. The Traditional Malay House. Singapore: Fajar Bakti, Shah Alam, Malaysia, 1997.
- Nicholl R. Ed. 'European Sources for the History of the Sultanate of Brunei in the Sixteenth Century.' Brunei Museums Special Publication 1975; No.9.

- Olajuyjugbe AE, Rotowa AE, Adewumi IJ. Water Vending in Nigeria. A Case Study of Festac Town, Lagos, Nigeria, Mediterranean Journal of Social Sciences, 2012; 3(1).
- 12. Piatek L. Displacing architecture? From floating houses to ocean habitats: expanding the building typology, in: Education for research - research for creativity / Słyk J., Bezerra L. (ed.), Architecture for the Society of Knowledge, Wydział Architektury Politechniki Warszawskiej, 2016; vol. 1.
- 13. Rapoport A. House Form and Culture London: Prentice - Hall, INC., Englewood Cliffs, N.J. 1969; vol.10.
- 14. Saunders G. A History of Brunei, Oxford University Press, New York, 1994.
- 15. Shaaban AS, Yildirim II. A Comparative Evaluation of Floating And Terrestrial Architecture; a Case Study of Google's Floating Data Center and Googleplex Terrestrial Building. ISDLW-I I st International Design For Living With Water Symposium Proceeding Book, 2019; pp.15-24.
- 16. Stopp H, Strangfeld P. Floating houses chances and problems, Eco-Architecture III, 2010; Vol. 128: 221-233.
- 17. Stopp H, Strangfeld P, Malakhova A. Floating Architecture and Structures; an Answer to the Global Changes, REAL CORP, 2016.
- Vlatseas S. A History of Malaysian Architecture, Longman Singapore publisher Pte.Ltd., Singapore.1990.
- Yildirim II. Yatlarda İç Mekân Tasarimi ve Algisi (Yacht Interior Design and Perception), YAPI-ENDÜSTRİ MERKEZİ YEM Publishing, 2017.
- 20. Yuan JL. The Malay House: Rediscovering Malaysia's Indigenous Shelter System. Penang: Institut Masyarakat. 1988.
- 21. Zainol NRB, Mamun A A, Permarupan P Y. Overview of Malaysian Modularity Manufacturing Practices, American Journal of Industrial and Business Management, 2013; 3(7).

Corresponding Author Inanc Isil Yildirim, Faculty of Engineering and Architecture, Interior Architecture Department, Beykent University, Istanbul, Turkiye, E-mail: inancisilyildirim@gmail.com

Instructions for the authors

All papers need to be sent to email: ttem_bih@yahoo.com,

Every sent magazine gets its number, and author(s) will be notified if their paper is accepted and what is the number of paper. Every correspondence will use that number. The paper has to be typed on a standard size paper (format A4), leaving left margins to be at least 3 cm. All materials, including tables and references, have to be typed double-spaced, so one page has no more than 2000 alphanumerical characters (30 lines). Sent paper needs to be in the form of triplicate, considering that original one enclosure of the material can be photocopied. Presenting paper depends on its content, but usually it consists of a page title, summary, text references, legends for pictures and pictures. Type your paper in MS Word and send if on a diskette or a CD-ROM.

TITLE PAGE

Every article has to have a title page with a title of no more than 10 words: name (s), last and first of the author (s), name of the instituion the authors (s) belongs to, abstract with maximum of 45 letters (including space), footnote with acknowledgments, name of the first author or another person with whom correspondence will be maintained.

ABSTRACT

Second page needs to contain paper summary, 200 words at the most. Summary needs to hold all essential facts of the work-purpose of work, used methods (with specific data, if possible) and basic facts. Summaries must have review of underlined data, ideas and conclusions from text. Summary has no quoted references. For key words, at the most, need to be placed below the text.

CENTRAL PART OF THE ARTICLE

Authentic papers contain these parts: introduction, goal, methods, results, discussion and conclusion. Introduction is brief and clear review of problem. Methods are shown so that interested a reader is able to repeat described research. Known methods don't need to be identified, it is cited (referenced). Results need to be shown clearly and legically, and their significance proven by statistical analysis. In discussion, results are interpreted and compared to existing, previously published findings in the same field. Conclusions have to give an answer to author's goal.

REFERENCES

Quoting references must be in a scale in which they are really used. Quoting most recent literature is recom-

mended. Only published articels (or articles accepted for publishing) can be used as references. Not-published observations and personal notifications need to be in text in brackets. Showing references is as how they appear in text. References cited in tables or pictures are also numbered according to quoting order. Citing paper with six or less authors must have cited names of all authors; if seven or more authors' wrote the paper, the name of the first three authors are cited with a note "et all". If the author is unknown, at the beginning of papers reference, the article is named as "unknown". Titles of the publications are abbreviated in accordance to Index Medicus, but if not listed in the index, whole title of the journal has to be written.

Footnote-comments, explanations, etc., cannot be used in the paper.

STATISTICIAL ANALYSIS

Tests used for statistical analysis need to be shown in text and in tables or pictures containing statistical analysis.

TABLES AND PICTURES

Tables have to be numbered and shown by their order, so they can be understood without having to read the paper. Every column needs to have title, every measuring unit (SI) has to be clearly marked, preferably in footnotes below the table, in Arabian numbers or symbols. Pictures also have to be numbered as they appear in text. Drawings need to be enclosed on a white paper or tracing paper, while black and white photo have to be printed on a radiant paper. Legends next to pictures and photos have to be written on a separate A4 format paper. All illustrations (pictures, drawings, diagrams) have to be original and on their backs contain illustration number, first author last name, abbreviated title of the paper and picture top. It is appreciated if author marks the place for table or picture. Preferable the pictures format is TIF, quality 300 DPI.

USE OF ABBREAVIATIONS

Use of abbreviations has to be reduced to minimum. Conventional units can be used without their definitions.