

Local-Cultural Values In Architectural Student Designs

Riza Aulia Putra^{1*}, Maysarah Binti Bakri²

¹Department of Architecture and Planning, Faculty of Engineering, Universitas Syiah Kuala

²Department of Architecture, Faculty of Science and Technology, UIN Ar-Raniry

*Email: rizaauliaputra@unsyiah.ac.id

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Abstract

Architectural education has an essential role in shaping the mindset of students that impacts the ability of conceptualization in the design process. As the core subject, Architectural Design Studio (ADS) influences the students, particularly in terms of design. Being the architect candidate, the student is encouraged to elaborate on local-cultural values in their design, so that, the student will design a building that reflects a specific region and become the image of the place. Incorporating cultural values into the ADS assignment is one effective way to encourage students elaborate and design the built environment with a cultural approach. This research aims to see students' competence in elaborating local-cultural values in their design and to assess the quality of cultural values implementation in ADS 5 assignment of Architecture Department Universitas Islam Negeri Ar-Raniry Banda Aceh's student. The research method is descriptive and qualitative. The participant in this study is a student enrolled in ADS 5 during the 2018/2019 semester. The student design projects as the main data are analyzed using a semiotic analysis approach. The result indicates that the characteristic of the stilt house and the characteristic triangle-shaped are the most frequently applied characteristic of the student design.

Keywords: *Semiotic analysis, Local cultural values, Architectural student designs*

INTRODUCTION

On a city scale, architecture is one of the identity artifacts. The identity is a basis for forming the image of a city, so it has its unique characteristic that differs from others (Ikaputra, 2019). It is not instant but a long process (Arif, 2008). The architectural product will shape the image of the city (Putra and Ekomadyo, 2015a). The travelers will recognize the culture and its local values by enjoying the look of the buildings (façade, form, etc.) in that city. Globalization affects architectural forms. The latest architectural product is influenced by the global culture so it starts eroding the local culture that impacts the loss of local identity on the architectural masterpiece (Purnomo and Fauzy, 2020). The current architectural

approaches usually adopt the sophisticated form which often eliminates the local culture and gets society's rejection (Bakri, 2018).

Traveling activities support the importance of local cultural identity implementation in contemporary architecture to create the uniqueness and identity of the place (Mahgoub, 2007). Besides, the practice of local cultural values also gives advantages to the built environment. The architect can apply this value through various approaches such as architectural aspects or structural aspects (Sari, Izziah, and Meutia, 2020). Many kinds of research have shown that traditional architecture or vernacular architecture as the cultural product is disaster responsive, both physically and non-physically (Sari,

Izziah, and Meutia, 2020; Setyowati et al., 2019; Wazir, 2019), climate-responsive which impacts the building energy-saving (Algburi and Beyhan, 2019; Nie et al., 2019), and even can be a basis of sustainable architecture in village or city-scale (Bakri, 2018; Sibarani, 2020). Considering its positive effect, the architectural products should reflect the local culture and context of its region. Therefore, in any built environment, the architect should implement the local cultural values in its design concept. So, the image of the city will have an architectural expression that reveals the character and identity of the place (Sukada and Salura, 2020). Related to that, architectural education has an important role in creating a city that has an identity or local cultural image. It is mainly because this institution is the one that graduates the architect which later contribute to building design in the city (Ramdan, Hamza, and Ismael, 2020). It is also responsible for shaping the paradigm that affects the students' character in conceptualizing architectural design (Abdullah et al., 2011). In addition, architectural education contributes to developing a student's capacity to be able to think constructively and creatively (Abu-Ghazze, 1997). It is important to implement the cultural approach design in architectural education, particularly in the ADS. So, the students will get used to elaborate on the cultural values in architectural design.

This research, which was conducted on students of the Architecture Program of Science and Technology Faculty, Universitas Islam Negeri (UIN) Ar-Raniry, aims to see student's ability in translating and elaborating local cultural values into architectural design. In this case, Acehese cultural values become themes or ideas to be developed into the design task. The design results will be assessed by the lecturer to determine the extent to which students can translate local Acehese cultural values into

architectural designs. This reading process will use the semiotic method developed by Ferdinand de Saussure. The reading process (decoding) had previously been carried out by Putra and Ekomadyo (Putra and Ekomadyo, 2015b) in a study of architectural values in Acehese Traditional Architecture and Ekomadyo (Ekomadyo, 1999) in the study of Sengkalan Memet in Javanese Architecture.

Semiotic as Reading Sign Method in Architecture

Semiotic is a knowledge that starts developing along with the rise of the postmodern paradigm (Putra and Ekomadyo, 2015b), and starts overlapping with architectural study when the society sees the architectural product as a meaningful sign sequence (Ekomadyo, 1999). In terms of its understanding, semiotics is the study of signs as part of social life. Semiotics puts culture as one of the objects of study by looking at cultural objects as a language phenomenon that has messages and meanings in it (Piliang and Jaelani, 2018). Ferdinand de Saussure who is well known in semiotic study, develops "sign" concept of structural semiotic which consists of "*signifier*" and "*signified*" (Shafik Ramzy, 2013). An object is perceived as a sign which has "form" (signified) and "meaning" (signifier).

The sign reading method (decoding) by the semiotic approach requires the researcher to determine the reference (referent) which will be used in the sign reading process. It is because the relation of signifier and signified is not personal but based on the social agreement or social convention that exists in the culture of community (Hoed, 2014). Therefore, society referent has a role in the architectural object sign reading process. The relation of *sign*, *signified*, *signifier* and *referent* can be clearly seen in image 1.

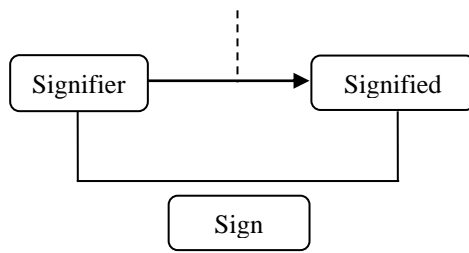


Figure 1. Sign-forming elements (sign) according to Saussure (Piliang, 2012; Putra and Ekomadyo, 2015b)

Architecture of *Rumoh Aceh* as the reference (*referent*) in the sign reading process

In this research, the sign reading process (decoding) is done towards the student design. The used referent is the *Rumoh Aceh* architectural character.



Figure 2. *Rumoh Aceh* in Lubok Sukon Village, Aceh Besar (Putra and Ekomadyo, 2015b)

Rumoh Aceh is a term used by Acehnese people to describe the place to live. *Rumoh*, that in *Bahasa* means house, is a dwelling for Acehnese. *Rumoh Aceh*, like any other traditional house, is a house with a stilted form, circular pillars, and a triangular shape that looks dominant on the roof (Nurkarismaya, Siahaan, and Eddy, 2020). *Rumoh Aceh* uses wood as the main material. The form of *Rumoh Aceh* is the result of the manifestation of the Acehnese people in responding to nature (relationship with nature) and their beliefs (relationship with God) (Mirsa, 2013).

The vertical structure of *Rumoh Aceh* consist of the leg which is pillar

elements which stilts the building body, the body which is the dwelling element, and the head which is the roof as the building cover element. The vertical structure illustration of *Rumoh Aceh* can be seen in image 3.

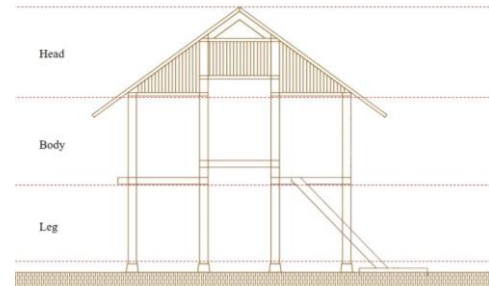


Figure 3. The vertical structure of *Rumoh Aceh* (Putra and Ekomadyo, 2015b)

The character of *Rumoh Aceh* are as follow:

Table 1. The character of *Rumoh Aceh* based on Putra and Ekomadyo's research (2015)

No.	(Signifier)	(Signified)
1.	Longitudinal east-west building orientation.	Islamic values manifestation in daily life.
2.	Three divisions of <i>Rumoh Aceh</i> plan.	Space restrictions between men and women.
3.	Space function is more dominant for women.	The element/form of feminism is more dominant.
4.	<i>Rumoh Aceh</i> is a stilted form and has a pit underneath the house.	As social control and public space.
5.	The higher level of middle division floor plan.	The respectful symbol to the house owner.
6.	Lower entrance door height.	The respectful symbol to the house owner.
7.	The use of odd numbers on stairs and the number of <i>ruweung</i> (space).	Islamic values manifestation in daily life.
8.	<i>Tulak angen</i>	A form to display

	(triangular translucent openwork ventilation).	the Acehese translucent crafted.
9.	The red textile and the white textile on the main pillar (<i>tameh raja dan putroe</i>)	Symbolizing bravery.
10.	Religious decoration	Islamic values manifestation in daily life.
11.	Floral decoration	Environment preservation effort.

Source: (Putra and Ekomadyo, 2015b)

METHODS

In this research, descriptive qualitative is used as the research method. The research result is described narratively along with the discussion. Fifteen architecture students of UIN Ar-Raniry Banda Aceh participate in this study. The student enrolls in ADS 5 course during the 2018/2019 semester, start from February 2019 to July 2019. There are several processes in this research. The researchers are the lecturers of this subject.

The data is collected through observation during the course of ADS 5, starting from the beginning until the end of semester. There are 15 student's design project observed in this research. The design objects are The Museum, The Library, The Islamic Center, and The Acehese Cultural Center that implement Cultural Interpretation as the design theme. The design results are analyzed by the researchers to find out the quality of theme interpretation on the design. The reading sign tool uses semiotic method.

Using the semiotic method as a sign reading method requires a reference. In this study, *Rumoh Aceh* was used as a reference in reading student designs. It is because *Rumoh Aceh* is one of Aceh's

characteristics which contains strong local cultural characters. Besides that, *Rumoh Aceh* as an architectural product is easy to be adapted into a new modern architectural object while promoting local culture.

RESULTS AND DISCUSSION

Based on the sign reading process (decoding), it can be seen that the student ability varies in terms of exploring the local cultural values and character of Acehese architecture to be implemented in their design. The most frequently applied character of *Rumoh Aceh* is the stilted building character. The student philosophy is also similar to the *Rumoh Aceh* architecture which functions on the ground floor as a public space that accommodates various activities. In this kind of function, the ground floor is designed as an open space which accessible and used as a gathering space (social space).



Figure 4. The ground floor of Museum Design by Rizki Ambiya (Ambiya, 2018)



Figure 5. The ground floor of Cultural Center Design by Nailul Muna (Muna, 2018)



Figure 6. The ground floor of Aceh Museum Design by Muhammad Yusran (Yusran, 2018)

Another frequently applied characteristic of *Rumoh Aceh* is the dominance of the triangular line element. The researchers see this implementation as the student interpretation of the dominant triangular-shaped roof of *Rumoh Aceh*. *Rumoh Aceh* is identical with the triangular shape or often known as *tulak angen* (ventilation) in the attic which serves as a component of air circulation as natural ventilation. However, in its transformation, some of the students take only the shape of a triangle without implementing its function as an air circulation element. The implementation of the triangular line in the student design can be seen in images 7 and 8.



Figure 7. Triangular line on the design façade (Firmansyah, 2018)



Figure 8. Triangular line on the design façade (Afandi, 2018)

In the two designs above, there are significant differences related to students' efforts to present triangular line shapes or elements in the building facade design. Firmansyah in his design as shown in figure 7, presents triangular line elements clearly and in contrast to the building facade so that it becomes a focal point and is visible so that it can be read directly by anyone who sees this design work. Meanwhile, Afandi as shown in figure 8, shows the triangular line element on the building façade by a more subtle approach. His effort without directly highlighting the elements of triangular line, yet still clearly visible, makes the design look more monumental. Besides that, the triangular line elements presented by Afandi not only functions as a facade element but as a structural element of the building also.

The implementation of triangular line character is found not only on the design façade but on other aspects such as layout landscape design and interior design. In Firmansyah design, the triangle element is the main concept in layout design. The building form takes the basic shape of a triangle which undergoes a repetition process with scale reduction. The landscape part also implements the triangular line component. He also presents the element of triangular line in the building interior (figure 10).



Figure 9. Triangular line element on layout (Firmansyah, 2018)



Figure 10. Triangular line element on interior design (Firmansyah, 2018)

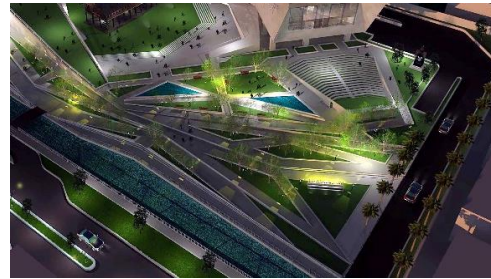







Figure 11. Triangular line element on landscape design (Ambiya, 2018)

Unlike the previous student design, Ambiya (figure 11) implements triangular line characters only in the landscape design. Almost all parts of the landscape design use rigid triangular lines, especially in the plaza in front of the building. Besides the mentioned character above, some other characteristics are also found in student design both from the architecture of *Rumoh Aceh* and other characteristics such as Islamic architecture and the implementation of ornaments. The detailed analysis of decoding toward student design can be seen in table 2.

Table 2. The summary of student design and the analysis of signifier and signified

No.	Student Design (Sign)	Signifier	Signified
1.		-Dynamic and masculine building character by presenting a firm line. -Stilted building, <i>ground floor</i> as public space.	-Reflecting the Acehese character who is tough, passionate, and never gives up. -Manifestation of social values in Acehese society.
2.		-Masculine building character by implementing a strict and rigid lines. -Floral ornamentation on building façade.	-Describing the character of tough, passionate, and never give up as Acehese character. -Manifestation of cultural values and nature preservation.
3.		-Middle East architecture character. -The use of dome minaret and Islamic ornament.	-Manifestation of Islamic values in daily life.
4.		-Dynamic building character by presenting a firm line. -Triangular lines.	-Describing the character of tough, passionate, and never give up as Acehese character.

5.		<ul style="list-style-type: none"> -Middle East architecture character. -The use of dome, Islamic ornaments, and water feature. 	<ul style="list-style-type: none"> -Manifestation of Islamic values in daily life.
6.		<ul style="list-style-type: none"> -The Middle East architecture character by cube-shaped and symmetrical building. -Stilted building, <i>ground floor</i> as public space. -Floral ornamentation on building façade. 	<ul style="list-style-type: none"> -Manifestation of Islamic values in daily life. -Manifestation of social values in Acehese society. -Manifestation of cultural values and nature preservation.
7.		<ul style="list-style-type: none"> -The symmetrical building character by Acehese ornament metaphor form. -Stilted building, <i>ground floor</i> as public space. 	<ul style="list-style-type: none"> -Manifestation of cultural values and nature preservation. -Manifestation of social values in Acehese society.
8.		<ul style="list-style-type: none"> -The curve-shaped dynamic building. -Multiple masses concept with plaza as a center point. 	<ul style="list-style-type: none"> -The manifestation of feminism values in <i>Rumoh Aceh</i>. -Manifestation of social values in Acehese society.
9.		<ul style="list-style-type: none"> -The cube and asymmetrical building character. -Stilted building, <i>ground floor</i> as public space. -Floral ornamentation on building façade. 	<ul style="list-style-type: none"> -Manifestation of social values in Acehese society. -Manifestation of cultural values and nature preservation.
10.		<ul style="list-style-type: none"> -Dynamic building character by using curve-shapes. -Stilted building, <i>ground floor</i> as public space. -The ornamentation on the building façade. 	<ul style="list-style-type: none"> -The manifestation of feminism values in <i>Rumoh Aceh</i>. -Manifestation of social values in Acehese society.
11.		<ul style="list-style-type: none"> -Dynamic building character and using curve-shapes. 	<ul style="list-style-type: none"> -The manifestation of feminism values in <i>Rumoh Aceh</i>.

12.		<ul style="list-style-type: none"> -Dynamic building character by using curve-shapes and asymmetrical. -The use of modern image material. 	<ul style="list-style-type: none"> -The manifestation of feminism values in <i>Rumoh Aceh</i>. -The manifestation of Acehnese expressionism.
13.		<ul style="list-style-type: none"> -Dynamic building character by using curve-shapes and asymmetrical. 	<ul style="list-style-type: none"> -The manifestation of feminism values in <i>Rumoh Aceh</i>.
14.		<ul style="list-style-type: none"> -Multiple building -The implementation of repetition triangular element on the roof. -The use of minaret and wide plaza. 	<ul style="list-style-type: none"> -Manifestation of Islamic values in daily life. -Manifestation of social values in Acehnese society.
15.		<ul style="list-style-type: none"> -Masculine building character by implementing strict and rigid lines. -Floral ornamentation on building façade. -Triangular element on the building façade. 	<ul style="list-style-type: none"> -Describing the character of tough, passionate, and never give up as Acehnese character. -Manifestation of cultural values and nature preservation.

Source: Analysis

CONCLUSION

Based on the analysis above, it can be concluded that: First, in this research, compared to the structural aspects, the students mainly implement the local cultural values in the architectural aspect. It is because architectural aspects are easily transformed. The architectural transformation generally improves the aesthetic of student design.

Second, the implementation of cultural value in this course (ADS 5) requires a comprehensive understanding related to the local culture reference (referent). This will affect the design output. In this study, the students only use the physical characteristic of *Rumoh Aceh*. It happens because the physical aspect (tangible) can be seen easily compares to the non-physical one (intangible) which requires deeper understanding and exploration. Furthermore, the tangible features is easier to be adopted, adapted, or transformed into a new design.

Third, the transformation process also has an important role in design production. The student's ability in translating cultural values into architectural form is a key part of this process. The higher the student's ability, the better the design will be. Student creativity also holds an important role. It helps the student in producing a qualified design that contains the local cultural character. The architecture department involves unique processes which are research, design, and implementation (Park and Lee, 2022). To do all those processes and produce a competent design, the student needs to be creative. Rather than theoretical knowledge, architectural education is a more practical subject that requires creativity in transforming ideas to a design (Park and Lee, 2022).

The last one, the semiotic method which is used as a sign reading method in this research offers a wider opportunity to read the signs or expressions in architectural design. It is possible by adding reference (referent) as the basis in sign reading (sign) or architectural expression.

References

- Abdullah, N. A.G., S. C. Beh, M. M. Tahir, A. I. Che Ani, and N. M. Tawil. 2011. "Architecture Design Studio Culture and Learning Spaces: A Holistic Approach to the Design and Planning of Learning Facilities." *Procedia - Social and Behavioral Sciences* 15: 27–32. <https://doi.org/10.1016/j.sbspro.2011.03.044>.
- Abu-Ghazze, Tawfiq M. 1997. "Vernacular Architecture Education in the Islamic Society of Saudi Arabia: Towards the Development of an Authentic Contemporary Built Environment." *Habitat International* 21 (2): 229–53. [https://doi.org/10.1016/S0197-3975\(96\)00056-2](https://doi.org/10.1016/S0197-3975(96)00056-2).
- Alguburi, Omar, and Figen Beyhan. 2019. "Climate-Responsive Strategies in Vernacular Architecture of Erbil City." *International Journal of Environmental Studies* 76 (5): 745–63. <https://doi.org/10.1080/00207233.2019.1619324>.
- Arif, Kamal A. 2008. *Ragam Citra Kota Banda Aceh*. Bandung: Pustaka Bustanussalatin.
- Bakri, Maysarah. 2018. "Sustainable Architecture Implementation of Vernacular Mosque in Aceh, Indonesia." *Journal of Islamic Architecture* 5 (2): 83. <https://doi.org/10.18860/jia.v5i2.4812>.
- Ekomadyo, Agus S. 1999. "Pendekatan Semiotika Dalam Kajian Terhadap Arsitektur Tradisional Di Indonesia Kasus: Sengkalan Memet Dalam Arsitektur Jawa." *Seminar Nasional Naskah Arsitektur Nusantara: Jelajah Penalaran Arsitektural Institut Teknologi Sepuluh November Surabaya 9 September 1999*, 1–17.
- Hoed, Benny H. 2014. *Semiotik Dan Dinamika Sosial Budaya*. Depok: Komunitas Bambu.
- Ikaputra, Ikaputra. 2019. "Linear Settlement As the Identity of Kotagede Heritage City." *DIMENSI (Journal of Architecture and Built Environment)* 46 (1): 43–50. <https://doi.org/10.9744/dimensi.46.1.43-50>.
- Mahgoub, Yasser. 2007. "Architecture and the Expression of Cultural Identity in Kuwait." *Journal of Architecture* 12 (2): 165–82. <https://doi.org/10.1080/13602360701363>

- 486.
- Mirsa, Rinaldi. 2013. *Rumoh Aceh*. Yogyakarta: Graha Ilmu.
- Nie, Qian, Shichen Zhao, Qun Zhang, Peng Liu, and Zhuoyu Yu. 2019. "An Investigation on the Climate-Responsive Design Strategies of Vernacular Dwellings in Khams." *Building and Environment* 161 (April): 106248. <https://doi.org/10.1016/j.buildenv.2019.106248>.
- Nurkarismaya, N. M. Siahaan, and F. Eddy. 2020. "The Influence of Acehese Traditional Architecture on Government Building (Case Study: Mayor Office Architecture, Lhokseumawe)." *IOP Conference Series: Earth and Environmental Science* 452 (1). <https://doi.org/10.1088/1755-1315/452/1/012001>.
- Park, Eun Joo, and Sanghee Lee. 2022. "Creative Thinking in the Architecture Design Studio: Bibliometric Analysis and Literature Review."
- Piliang, Yasraf A. 2012. *Semiotika Dan Hipersemiotika: Gaya, Kode Dan Matinya Makna*. Bandung: Matahari.
- Piliang, Yasraf A, and Jejen Jaelani. 2018. *Teori Budaya Kontemporer "Penjelajahan Tanda Dan Makna."* Edited by Ulfatur Rahmah. Yogyakarta: Aurora.
- Purnomo, Adityo, and Bachtiar Fauzy. 2020. "Akulturasi Arsitektur Lokal Dan Modern Pada Bangunan P-House, Salatiga." *ARTEKS: Jurnal Teknik Arsitektur* 5 (2): 153–64. <https://doi.org/10.30822/arteks.v5i2.112>.
- Putra, Riza Aulia, and Agus S. Ekomadyo. 2015a. "Interpretasi Makna Pada Warung Kopi Aceh Studi Kasus: Warung Kopi Solong Di Banda Aceh." *ATRIUM - Jurnal Arsitektur* 1 (1). <https://doi.org/10.21460/atvm.2015.11.1>.
- . 2015b. "Penguraian Tanda (Decoding) Pada Rumoh Aceh Dengan Pendekatan Semiotika (Elaboration of Sign (Decoding) of Rumoh Aceh Using Semiotics Approach)." *Tesa Arsitektur, Journal of Architectural Discourses* 13 (1): 1–14. <https://doi.org/10.24167/TESA.V13I1.354>.
- Ramdan, Anwar Subhi, Shaimaa M. Hamza, and Nabil T. Ismael. 2020. "Role of Architectural Schools' Trends in Enhancing Identity of Architecture between Local and International: The Department of Architecture at Baghdad University and Universities of Technology as Case Studies." *IOP Conference Series: Materials Science and Engineering* 870 (1). <https://doi.org/10.1088/1757-899X/870/1/012001>.
- Sari, Laina Hilma, Izziah, and Erna Meutia. 2020. "Adaptation of Local Wisdom in Contemporary Mosque Design for Achieving Good Building Physics and Earthquake Resistance." *IOP Conference Series: Materials Science and Engineering* 737 (1). <https://doi.org/10.1088/1757-899X/737/1/012021>.
- Setyowati, Dewi Liesnoor, Hairumini Hairumini, Tjaturahono Budi Sanjoto, and Muhammad Rais. 2019. "Perception and Local Initiation of Communities in Maintaining the Traditional Acehese Houses." *KnE Social Sciences* 2019: 67–76. <https://doi.org/10.18502/kss.v3i18.4699>.
- Shafik Ramzy, Nelly. 2013. "Visual Language in Mamluk Architecture: A Semiotic Analysis of the Funerary Complex of Sultan Qaitbay in Cairo." *Frontiers of Architectural Research* 2 (3): 338–53. <https://doi.org/10.1016/j.foar.2013.05.003>.
- Sibarani, Robert. 2020. "Developing Friendly City and Friendly Village Based on Local Culture: An Anthropological Study." *IOP Conference Series: Earth and Environmental Science* 452 (1). <https://doi.org/10.1088/1755-1315/452/1/012062>.
- Sukada, Nabila Qirala, and Purnama Salura. 2020. "Ekspresi-Dasar Arsitektural Pada Bangunan Pusat Kebudayaan Objek Studi: Volkstheater Sobokartti Di Semarang, Indonesia," 17–26.
- Wazir, Zuber Angkasa. 2019. "Arsitektur Vernakular Tanggap Bencana Indonesia." *Arsir* 3 (1): 24. <https://doi.org/10.32502/arsir.v3i1.1535>.