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Article

"Context" knowledge in architecture: A systematic literature review

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ABSTRACT

The goal of this research is to investigate the definition, development of techniques, and consequences of context, as well as to contribute to the growth of knowledge in the field of study. For this purpose, a full systematic literature review (SLR) was undertaken on the methods and approaches that have been used in the generation of architectural knowledge in recent years. The Google Scholar Web of Science and Scopus databases were searched for relevant studies as part of a directed SLR. The article describes the SLR methodology, which condensed the related studies to 79 publications using the preferred reporting items for systematic reviews and meta-analyses reporting procedure. The chosen publications were examined quantitatively. The second step of the inquiry was a qualitative analysis of the data, which was based on the results of the quantitative analysis. It has been found that current research on the context of architecture has concentrated on new designs, infill designs, Islamic architecture, and mosque designs in a historical and urban context, as opposed to studies that have concentrated on vernacular and sustainable architecture. Along with the conclusions drawn about the research domains for context knowledge in architecture, it is clear that the studies focus on specific topics such as physical context, sociocultural context, local context, and place identity.

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INTRODUCTION

With the aid of science and philosophy, architectural knowledge has been produced in a variety of ways throughout the evolution of architectural thought. Knowledge of "context" has also played a significant role in the field of architectural knowledge. While designers use environmental data from the context to take decisions in the architectural design process, theorists have handled context knowledge by developing theoretical and methodological approaches. By undertaking a comprehensive analysis of how "context" information has been discussed in the literature recently and what its scope is, the goal of this study is to create a framework for the distinguishing aspects of the context.

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Vitruvius, who introduced the ideas of climate and direction, is credited with introducing the concept of context as knowledge. Due to modern architectural critique, it rose to prominence in the realm of architectural theory in the 1950s and 1960s. In the second part of the 20th century, the notion of "context" knowledge in architecture was developed and started to become a paradigm. The philosophy of the Enlightenment held that knowledge could only be created through abstraction, as the positivism of the 19th century had predicted. The decisiveness of abstract design knowledge has grown stronger in the 20th century with modernism, and it has influenced the methods that knowledge has produced in the field of architecture. While laws of relationships such as form and esthetics or composition and geometry determined abstract design knowledge throughout this time, subjects such as space, time, function, and place became the standards of design and knowledge. Modern architecture thinks that production cannot adapt to the features of the age because of its fixation with historicism, despite criticism of its aim to abstract architectural knowledge with particular standards, notably in form. In this way, context has evolved into an unavoidable element in contemporary design. Once more, the appearance of historical centers in CIAM between 1945 and 1951 demonstrates that modern design does not entirely disregard the context. In the same years, Robert Venturi's master's thesis, "Context in Architectural Composition," was defended at Princeton University. It included analyses of historical structures using Gestalt principles and revealed the idea that context gives an architectural structure meaning. Ernesto Rogers' emphasis on the value of the environment is also demonstrated as one of the modern and contextualist approaches of the time (Isenstadt, 2005). Meeting the scientific standards for design and information production has undergone a significant revolution because of the new, universal, functionalist ideology of modern architecture, which rejects the past and tradition. However, at this time, discursive knowledge was created with the help of individual and group manifestos, and normative knowledge was transformed into speculative knowledge (Tanyeli, 2004).

In the second part of the 20th century, structuralist approaches to architecture began to demonstrate the discovery of context as architectural knowledge. "The Image of the City" by Kevin Lynch, published in 1960, is the earliest indication of the structuralist approach. Another noteworthy research is Christopher Alexander's book "Pattern Language: Towns, Buildings, Construction" published in 1977. During this time, structuralism manifested itself in architecture through the use of techniques from disciplines such as languages, semiotics, anthropology, psychology, and sociology. The syntactic method was used to analyze the city's grammar, while the semantic method was utilized to analyze its meaning.

During the same period as "The Image of the City," names like Rossi, Venturi, Rowe, Koetter, Leon, and Rob Krier developed novel ways to context awareness. The concept of context has been associated with the term "contextuality," which refers to a collection of techniques identified in Cornell's urban design graduate program, which began its studies in 1963 under the direction of Colin Rowe. In his book Collage City, which he co-authored with Fred Koetter and was released in 1978, Rowe later compiled his thoughts on contextual urban design. Contextualism became a vital idea in these years, and this method, which emphasized the connection between the entire city and architecture, was later broadened by adopting other perspectives in numerous studies. The first such studies that come to mind are those by Steven Peterson (1979), such as "Urban Design Tactics," "Space and Anti-Space," Colin Rowe's (1981) "The Present Urban Predicament," Thomas Schumacher's (1971) "Contextualism: Urban Ideals and Deformations," Stuart Cohen's (1974) "Physical Context/Cultural Context: Including it All," William Ellis's (1998) "Type and Context in Urbanism: Colin Rowe's Contextualism," and Steven Hurtt's (1983) "Conjectures on Urban Form."

Rossi, on the other hand, coined the term "locus" in his 1966 book Architecture of the City, which encompasses all history of architecture. Rossi used the idea of "locus" to analyze the typological and morphological traits of the city in a historical context (Rossi, 2006).

Alternatives to the traditional positivist strategies created by method and model thinking have emerged since the 1980s. Norberg-Schulz, Cooper Marcus, Dovey, Seoman, Mugerauer, Lerup, Moore, and Lyndon are just a few of the people who have recreated context knowledge using the phenomenological, hermeneutical, and post-structuralist schools of thought. Different viewpoints in the creation of contextual knowledge are illustrated by Norberg-Schulz's concept of "genius loci" for "place" (Norberg Schulz, 1980), Dovey's critique of the idea of authenticity (Dovey, 1995), Lerup's skewed perception of cities and metropolises (Zizek, 1999), and Moore and Lydon's descriptions of their experiences (Lydon, Moore, 1994).

Critical contextualist approaches have developed various perspectives on the concept of "place" in addition to challenging its meaning in context, such as Rossi's examination of the meaning through the concept of "locus" and Schulz's introduction of the concept of "genius loci,". This strategy, known as critical regionalism, was established by Alexander Tzonis and Liane Lefaivre, and supported by Kenneth Frampton's book "Towards a Critical Regionalism: Six Points for an Architecture of Resistance (1983)." By concentrating on issues like sustainability to local texture, place, and identity, it has evolved into an alternative in the production of context knowledge.

When the Second World War came to a close, the gaps

and destruction in the cities put the new building in historical environment phenomena at the forefront. The concept of contextual suitability has been used in the field of architecture to discuss the relationship between the old and the new. Historical context, or the information from historical buildings, has been an essential source of data for the design of new buildings in historical environments. Infill architecture, or the creation of modern buildings inside a historical environment, has been studied in the literature. Brolin's book "Architecture in Context," which was released in 1980 and contextually discusses the cohabitation of old and contemporary structures, is one of the earliest groundbreaking works on this subject (Brolin, 1980). The 1988 book "Contextual compatibility in architecture: a problem of personal taste?" by Linda Groat can be used as an illustration of how structuralist ideas were supported by environmental behavior research during this time. Her other publications on the subject include "Contextual compatibility: An issue of composition, not replication" (Groat, 1987), and "A study of the perception of contextual fit in architecture" (Groat, 1983), as well as "Measuring the fit of new to old: A checklist resulting from a study of contextualism" (Groat, 1983).

According to previous research on the application of context knowledge in architecture, context encompasses not only the geography and physical conditions of the present building site, but also the sociocultural, economic, legal, and historical conditions of the immediate environment. Consequently, the phenomena of architectural context have become an architectural ideology, as its content has evolved and transformed over time. The direction of future research endeavors can be determined by examining a general picture of the data in the multidimensional field of context knowledge during the past few years. An investigation into contextual architecture-related research methodologies was done to better understand the definition, development of technique, and effects of context.

RESEARCH METHODOLOGY: A SYSTEMATIC LITERATURE REVIEW (SLR)

In this study, the SLR approach was used to find, select, and analyze the research literature critically, as well as to generate fresh insights. It provided theoretical information and insight into contemporary trends relating to the research issue (Petticrew and Roberts, 2008). The systematic literature search was conducted according to the preferred reporting items for systematic reviews and meta-analyses (PRISMA) standards (Liberati et al., 2009) (Page et al., 2021). A SLR consisting of four phases was undertaken in accordance with these guidelines: (1) identifying the research topics, (2) describing the research strategy and criteria, (3) defining the data selection method, and (4) defining the data analysis techniques (Figure 1).

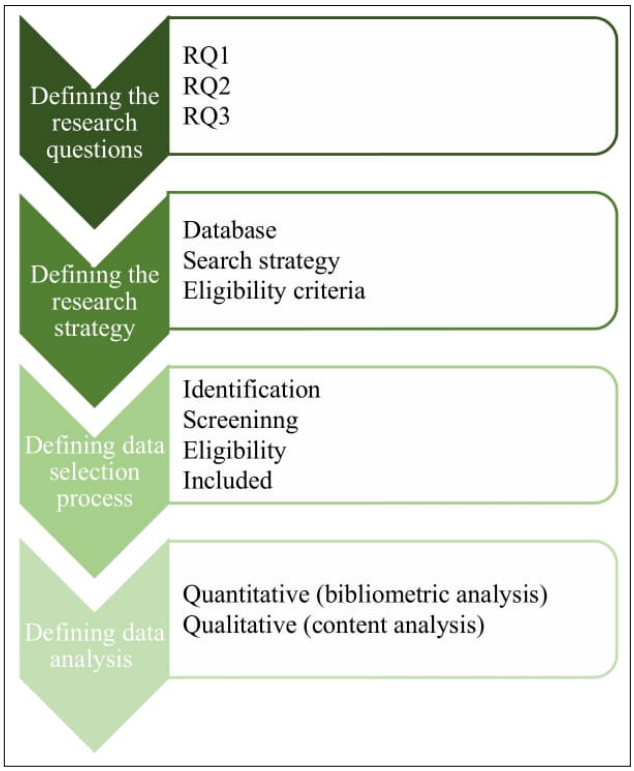

Figure 1. Systematic literature review method.

In the initial phase of the investigation, the keyword technique was used to scan databases and collect relevant articles (Saade et al., 2020). The search results were then filtered to exclude irrelevant studies. First, terms from fields other than architecture, urban design, and building were removed. Second, the papers were reviewed based on their titles and abstracts, and the most relevant ones were chosen. Finally, the remaining articles were full-text scanned and irrelevant ones were eliminated. The created sample of literature was then submitted to quantitative and qualitative assessments considering the study questions posed.

Defining the Research Questions

We conducted a comprehensive SLR to capture the evolving subjects and emerging concepts in the theory of contextual architecture over the past few years. The review of relevant literature tackles the following principal research questions:

RQ1. What is the scope of "context" knowledge in architecture?

RQ2. How did methodologies and implications of context in architecture evolve?

RQ3. What are the changing, developing, and remaining ideas associated with "context" knowledge in architecture

Defining the Research Strategy and Criteria

SLRs are a strategy for making sense of vast amounts of information by surveying all published literature that addresses a certain research subject. SLR performs a

thorough search of selected literature based on meticulously chosen keyword strings (Saade et al., 2020). Simultaneously, SLR is a strategy for mapping unclear areas, identifying those with no or limited investigation among relevant studies (Petticrew and Roberts, 2008). Table 1 covers the principal search criteria for databases (according to the PRISMA checklist).

The data were collected by scanning the databases Web of Science, Scopus, and Google Scholar. Selected databases cover a vast array of research, including the most pertinent studies on the topic. Within the scope of the investigation, papers published between 2011 and the present were chosen. The purpose of this time frame is to evaluate how "context" information has evolved to be utilized in the 21st century. Finally, this analysis solely contains English language articles.

Utilizing the pioneering works in the literature, as stated in the study's introduction, the keyword strings were generated. Initially, the Google Scholar database was searched using the phrase "architecture and context," which is the subject's generic term. This initial search resulted in a number of 165 000 texts, which was questionable, as it included all research fields. Due to this ambiguity, the subject-related keyword strings "architecture and contextualism," "contextual architecture and architectural design," and "urban contextual architecture" were refined, and the number of results was decreased to 6,250. Later, a comparable technique was used to additional databases. Similar searches in the Web of Science database found 799 items. As a result of the Scopus database searches, 715 articles were discovered.

Defining the Data Selection Process

After conducting initial searches on the subject, the collected data were then further evaluated. As was mentioned in the previous section, basic searches were performed using the keyword method. The keywords of both abstracts and full-text articles were chosen as "architecture" and "context," which are most relevant to the research topic.

In addition to these terms, the keywords "architecture and contextualism," "contextual architecture and architectural design" or "urban contextual architecture" were also included, with the assumption that they encompass the majority of the research topic's primary aspects. After the initial searches, recurring trends were observed in all three databases and the terms "socio-cultural context and architecture," "infill architecture and historical context," "contextual architecture and sustainability" and "vernacular architecture and context" were added to the keywords.

Figure 2 provides a summary of the data selection procedure (PRISMA) and the number of selected publications at the conclusion of each procedure. Following the initial searches, the number of results in Google Scholar was reduced to 324, in Web of Science to 141, and in Scopus to 171. Thus, a total

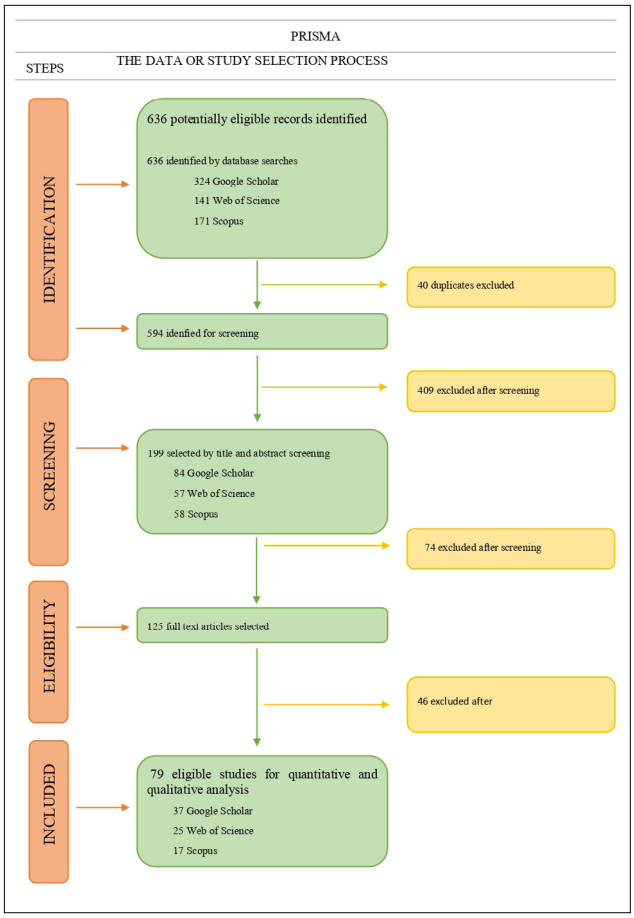

Figure 2. The data selection process (preferred reporting items for systematic reviews and meta-analyses).

Table 1. The research strategy and criteria

Database	**Google Scholar, Web of Science, Scopus**
Search strategy	Keyword method
	(Using keyword string: "Context and architecture" or "contextual architecture and architectural design" or "contextualism and architecture" or "urban contextual architecture")
Eligibility criteria	1. Document type: Journal papers.
	2. Search language: Title, abstract, keywords, and full text only in English.
	3. Data range: 2011-present

of 636 articles were collected. Later, 40 duplicate articles were deleted, leaving 596 items for further investigation. Before doing a deeper search, 409 papers with a tenuous relationship to the topic were deleted, reducing the number of abstracts to be studied to 199. Of the 199 publications whose abstracts were read, 74 were eliminated as irrelevant, and 125 were selected for full-text review. After evaluating 125 full-text papers, it was determined that 46 were of insufficient quality and were therefore eliminated from the study. Thus, 79 papers were considered to be necessary for a systematic literature evaluation.

Defining Data Analysis Methods

The chosen publications were analyzed using bibliometric analysis, a statistical and applied mathematical analysis technique (Broadus, 1987). In addition, network analysis, a major bibliometric tool, was employed to depict the intricate relationships between publications in this study (Soomro et al., 2022). Due to network analysis, the information-gathering process can be streamlined, and the relationship between articles can be clarified using networks and nodes (Soomro et al., 2022).

In the research, network analysis was conducted using the text-mining software Visualization of Similarities viewer (VOS viewer). VOS viewer is a software program used for displaying and navigating network-based maps. The VOS viewer can be used to build networks of scientific articles, scientific journals, researchers, research organizations, nations, keywords, and concepts. Simultaneously, VOS viewer displays three distinct maps: the network visualization, the overlay visualization, and the density visualization (Van Eck and Waltman, 2010). In this study, the literature sample produced by the bibliometric search was transferred to the VOS viewer for analysis, and keyword networks depicting the relationship between the articles in the area were built.

In the subsequent step of the research, qualitative analysis was undertaken based on the results of the quantitative (bibliometric) analysis-the network of keywords with clusters determined by their co-occurrence rate. While the quantitative study was done to assess how context information has been handled in architecture in past years, the qualitative study's objective was to classify the obtained data and analyze and organize the current research in greater depth.

RESEARCH FINDINGS

This section presents the findings of quantitative analysis and qualitative analysis organized in subsequent subheadings.

Quantitative Findings

Articles Publishing Trends

Figure 3 depicts the trend of the annual number of 79 articles selected from the papers published on the topic of context in architecture between 2011 and 2022, by year. As can be seen from the 79 selected publications, the number of available papers expanded substantially in 2015, 2016, 2017, 2020, and 2021. Although the number of publications on the subject reduces from time to time, it can be observed that a certain percentage of articles are ongoing and that there are not many significant differences. This demonstrates that the topic of context in architecture is constantly on the agenda.

While 2 articles published in 2011 constitute the least with %2.53 of the total number of articles, 12 papers published in 2016 and 2017 constitute the highest with %30.37 of the field.

Source Information

A sample of 79 papers published in 69 different publications constitutes the literature. The majority of the publications were published in architecture and buildings, architecture and urbanism, sustainability, Islamic architecture, arts and design studies, environmental sciences, social and behavioral sciences, design and culture, and arts journals. Due to the scope of the concept, there are no leading periodicals devoted to context in architecture (Table 2).

Figure 3. Number of filtered articles on contextual architecture per year.

Table 2. Relevant information on the journals included in the dataset

Source Journals	Journals Number	SCR (2021)	IF (2021)
Environment-Behaviour Proceedings	1	Q1	7.500
Journal International Journal of Applied Engineering Research	1	NA	NA
Techne Journal of Technology for Architecture and Environment	1	Q3	0.239
Journal of Islamic Architecture	2	NA	NA
Spring Journal of Arts, Humanities and Social Sciences	1	NA	NA
Space Ontology International Journal	1	NA	NA
Arts	1	NA	NA
The Journal of Architecture	2	Q1	0.255
The Turkish Online Journal of Design, Art, and Communication: TOJDAC	1	NA	NA
The quarterly journal of philosophical investigations	1	NA	NA
Armanshahr architecture and urban development	1	NA	NA
International journal of architectural research	1	Q1	0.968
International research journal of advanced engineering and science	1	NA	NA
Arts and design studies	1	NA	NA
Prosiding persidangan antarabangsa kelestarian insan	1	NA	NA
European online journal of natural and social sciences	2	NA	NA
Geography and territorial spatial arrangement	1	NA	NA
Global journal of arts education	1	NA	NA
Journal of faculty of architecture	1	NA	NA
Periodicals of engineering and natural sciences	1	Q2	1.098
International journal of education and social	1	NA	NA
Sciences journal of environment and earth	1	NA	NA
Science journal of sustainable development	1	NA	NA
International Journal of Innovative Research and Advanced Studies (IJIRAS)	1	Q4	0.068
International Journal of Engineering Research and Technology (IJERT)	1	NA	NA
An International Journal for Engineering and Information Sciences	1	NA	NA
Skills in Architectural Education: A New Paradigm	1	NA	NA
International Journal of Architecture and Urban Development	1	NA	NA
Journal of Applied Environmental and Biological Sciences	1	NA	NA
Fabrications	1	NA	NA
Studies in Sociology of Science	1	NA	NA
Journal of the Institute of Conservation	1	Q1	0.7104
Journal of Aesthetics and Culture	1	Q2	0.214
International Journal of Parallel, Emergent, and Distributed Systems	1	Q3	1.340
Urban planning	1	Q2	1.606
Architectural theory review	1	Q3	0.100
Urbanism	1	Q2	0.842
The Journal of Architecture	1	Q1	0.255
Urban Analytics and City Science	1	Q1	4.043
Nexus Network Journal	1	Q1	0.457
Journal of Architecture and Urbanism	1	Q2	0.389

Table 2. CONT.

Source Journals	Journals Number	SCR (2021)	IF (2021)
European Urban and Regional Studies	1	Q1	4.729
Journal of Urbanism	1	Q1	2.000
International Journal of Architectural Computing	1	Q3	1.038
Journal of Architectural and Planning Research	1	Q3	0.364
ACE Architecture, City and Environment	1	Q1	0.696
Architectural Research Quarterly	2	Q3	0.074
Architectural Science Review	1	Q1	3.000
Journal of Urban Technology	1	Q1	6.327
Journal of Asian Architecture and Building Engineering	1	Q1	1.212
International Journal of Urban Sciences	1	Q2	2.956
Journal of Cultural Geography	1	Q1	0.968
Journal of Fundamental and Applied Sciences	1	NA	NA
International Journal of Sustainable Development and Planning	1	Q3	1.566
Civil Engineering and Architecture	1	Q2	1.364
Open House International	1	Q3	0.559
Buildings	1	Q1	3.598
A|Z ITU Journal of Faculty of Architecture	3	Q1	0.338
Bagh-e Nazar	2	NA	NA
Procedia Engineering	1	NA	NA
Heliyon	1	Q1	3.918
World Applied Sciences Journal	1	NA	NA
Procedia Environmental Sciences	1	NA	NA
Frontiers of Architectural Research	2	Q1	2.562
Periodicals of Engineering and Natural Sciences	1	Q2	1.098
Journal of History Culture and Art Research	1	NA	NA
Design and Culture the Journal of the Design Studies Forum	1	Q1	1.000
Sustainability	1	Q1	4.166
Global Journal Al-Thagafah (GJAT)	1	Q2	0.101

A|Z ITU Journal of Faculty of Architecture (3 articles), Frontiers of Architectural Research (2 articles), Journal of Islamic Architecture (2 articles), The Journal of Architecture (2 articles), European Online Journal of Natural and Social Sciences (2 articles), Architectural Research Quarterly (2 articles), and Bagh-e Nazar (2 articles) have more context-related articles than the others, although the difference is not statistically significant (Table 2). Diverse concepts, such as infill design, sustainability, vernacular architecture, Islamic architecture, urban design, physical context, cultural context, social context, technology, as well as fields such as architectural design and theory, education, urban planning, environmental sciences, social and behavioral sciences, engineering, art, and philosophy, are presented in the publications.

Based on the SCImago Journal Ranking (SJR) algorithm and high impact factors (IF), 29 percent of journals with analyzed literature samples have a Q1 score. 26% of the analyzed literature sample consists of journals with Q2, Q3, and Q4 scores according to the SJR system.

Co-Occurrence Network Mapping: Keyword Analysis and Clustering

Keyword co-occurrence analysis allows for keyword clustering, defines the direction of progress, and summarizes research in an academic field. There are two sorts of counting techniques for keyword analysis: Binary and full. The binary method was not favored in this study since it does not calculate the repetition of words in an article; it just indicates if a word exists or not. In contrast,

in the full count approach, the location of each word is determined. To conduct a more exhaustive study, the full count approach was judged appropriate for this topic.

By analyzing the titles, keywords, and abstracts of every publication in the Web of Science and Scopus databases, repetitive keywords were identified. In contrast, they were chosen by scanning only the titles of Google Scholar databases due to a constraint in VOS Viewer. Word repetition is restricted to two or fewer instances to observe new research interests. Across all databases, 188 terms meet these criteria. Comparing the calculated occurrence values from three distinct datasets led to the selection of 33 common terms. Concurrently, keywords with identical meanings were grouped under a single keyword. Table 3 displays 33 selected terms with good connectivity.

Table 3. The occurrence and relevance of keywords in the analyzed literature sample

No	Cluster/theme	Keywords	No	Cluster/theme	Keywords
1	Infill Architecture and Design	Infill architecture	5	Contemporary Architecture and New Design	Heritage
		Urban design			Urban context
		Compatibility			Historical context
		Historic context			Modern architecture
		Contextual design			
		Contextualism			
2	Islamic architecture and design	Historic context	6	Architectural Design and Urban Environment	Urban environment
		Mosque design			Historical context
		Social context			Culture
		Urban context			Traditions
		Cultural environment			Architectural identity
		Islamic context			Place identity
		Climate			Meaning
		Contextualism			Conservation
					Technology
					Typology
					Shape grammar
					Neighborhood
3	Vernacular Architecture	Sustainability	7	Architectural design	Design approaches
		Climatic			Discourse
		Cultural context			Architectural theory
		Urban morphology			Modernism
		Vernacular architecture			Esthetic
		Space-syntax			Conceptual context
		Traditional houses			Museum image
		House typologies			Technology
4	Sustainable Architecture	Urban planning/design	8	Architectural Design and Education	Design education
		Contextualism			Environmental context
		Socio-cultural context			Design concept
		Sustainable development			Architectural education
		Urbanism			Site analysis
		City			Socio-cultural aspects
		Well-Being			
		Politics			

Co-occurrence network mappings produced by VOS viewer for three distinct databases depict keywords with distinct hues and groupings (Figures 4-6). Due to these discrepancies, clusters and themes were selected by evaluating the study as a whole, and colors were disregarded to minimize confusion. Therefore, VOS

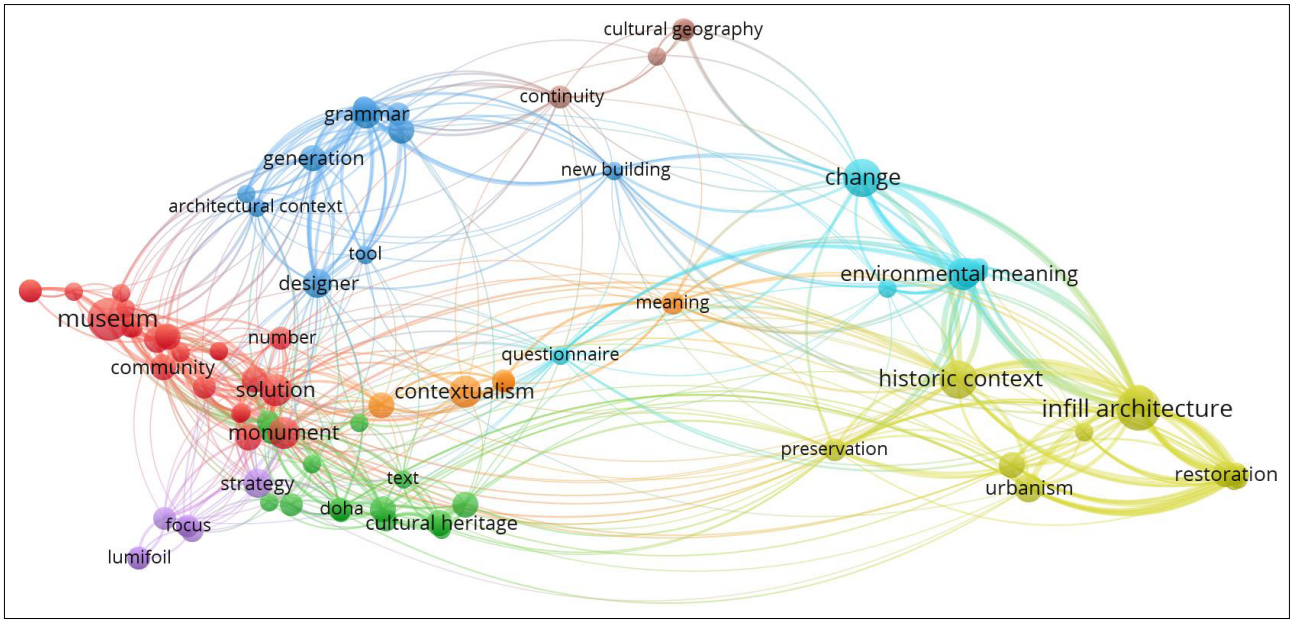

Figure 4. Co-occurrence network mapping for web of science database.

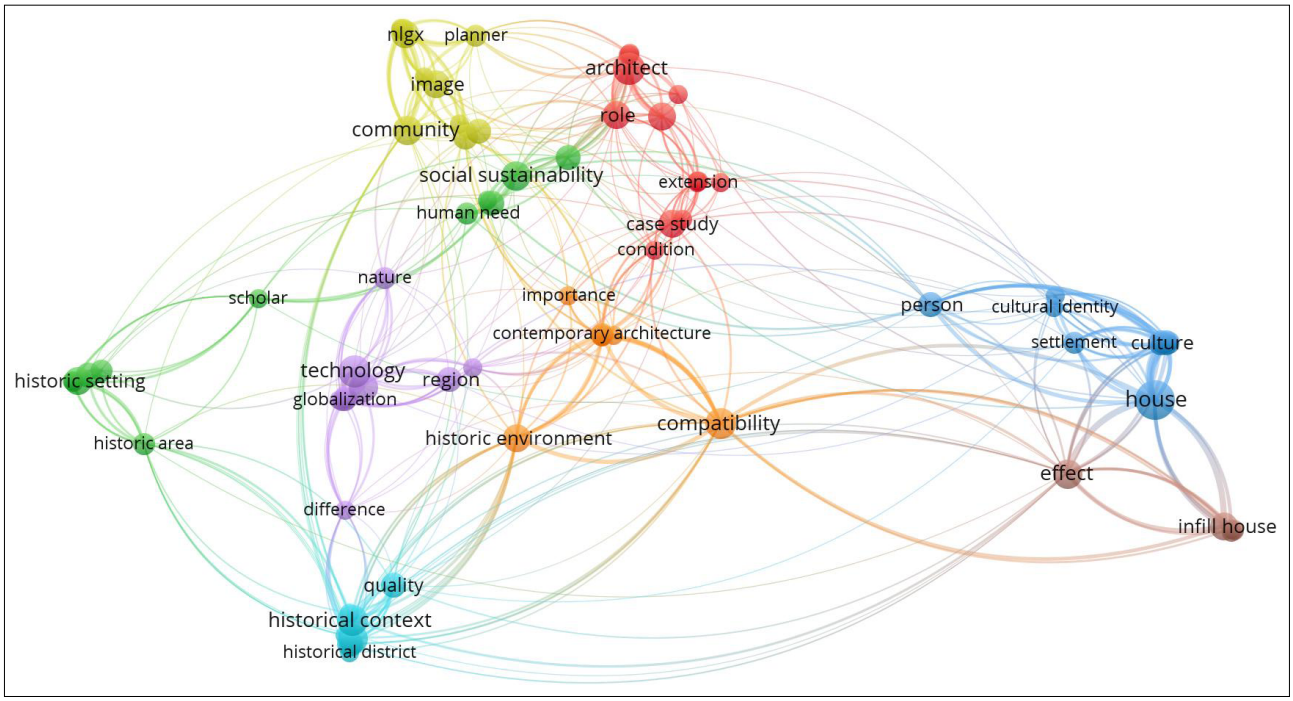

Figure 5. Co-occurrence network mapping for scopus database.

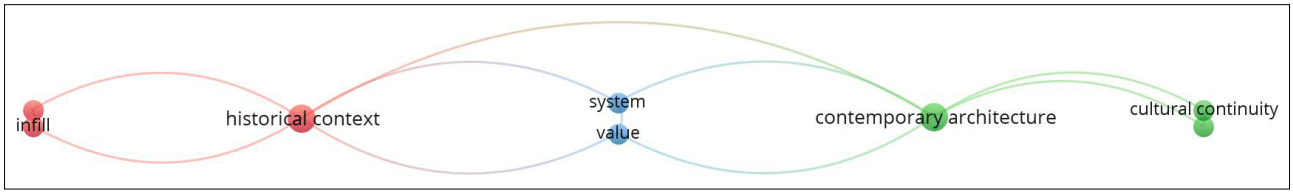

Figure 6. Co-occurrence network mapping for Google scholar database.

viewer has served as a source of early data for the study's themes.

Qualitative Findings

Creating Theme

Cluster 1/Theme 1: Infill Architecture and Design

The first cluster's focus is on infill architecture and design. The majority of the works on this subject concentrate on new architecture as an infill in a historical setting. According to studies (Sotoudeh, 2012; Parvizi, 2020; Stamps, 2011), and (Sotoudeh and Abdullah, 2013), understanding the contextual preferences of experts and residents/users regarding the issue of compatibility for new infill design in a historical context can help formulate the frameworks toward establishing the design guidelines for architectural intervention in such urban historical environments (Sotoudeh, 2013). On the other hand, some studies have shown that evaluating the design's suitability in an urban historical context using contrasting methods (Demiri, 2013) and establishing a model method (Gharehbaglou and Ardabilchi, 2019; Gharehbaglou and Ardabilchi, 2021), can offer useful knowledge in identifying the place identity and the effects of meanings on users' perceptions. The findings of the research might provide designers new views because it is up to the architect's point of view on how he approaches the historical material as a source of meaning and inspiration.

Cluster 2/Theme 2: Islamic Architecture and Design

The second cluster focuses on Islamic architecture in connection with the structural and societal elements of mosque design. Based on several design techniques, the findings of the studies in this cluster show that an inclusive mosque architecture may be improved (Samsudin et al., 2021; Kanesh et al., 2017; Rasdi, 2017; Saiful Hasan and Mahbuba Afroz, 2013). Iranian Islamic art can be seen in a comparison of the geometric motifs used in two separate mosques (Karim et al., 2020). The other research on Islamic architecture assesses mosques in relation to climatic variations and traditional Islamic homes as an example of sustainable architecture (Tabarsa and Naseri, 2017; Attia, 2021).

Cluster 3/Theme 3: Vernacular Architecture

The third cluster's focus is the context-specific vernacular architecture. Studies have shown that vernacular architecture is created based on the climatic context of the area and takes into account a variety of factors, including building types, urban texture, the types of materials used, their colors, and the way that building details are designed, as well as sustainable design principles (Ozorhon and Ozorhon, 2014; Mehrabi, 2016; Afsari and Yousefi, 2020). These studies focus on traditional residential architecture. According to the results, considering climatic conditions in the design process of houses can provide a basic understanding of the design of native homes, as well as the use of patterns of the functional spaces of native homes in the design of contemporary architecture. Alternatively, several studies in this cluster concentrate on cultural aspects (Asif et al., 2018; Oranratmanee, 2020; Costa and Rosado, 2021).

Cluster 4/Theme 4: Sustainable Architecture

The fourth cluster's topic of sustainable architecture and the third cluster's topic of vernacular architecture share comparable keywords in terms of sociocultural context. Sustainable development in the built environment, often known as sustainable architecture, is guided by three fundamental concepts: Ecological, socio-cultural, and economic. A number of studies have demonstrated the importance of social sustainability for sustainable urban development in the fields of architectural design and urban planning (Bahrami, 2016; Peters, 2016; Andersen and Røe, 2017; Filep and Thompson-Fawcett, 2020; Aurigi and Odendaal, 2021; Zoranić, 2021). The results of the other two studies indicate that culture demonstrates change and sustainability as a result of the differentiation of the aspects that make up the culture; and architecture, which reflects the culture (Memmott and Keys, 2015; Ertaş and Taş, 2017). In contrast, the important literature focuses on the interaction between contextual design standards and sustainability principles (Farmer, 2013; Lee and Lee, 2014; Zhou and Zhang, 2015; Bahrami, 2016; Saradj, 2016; Ghahremani et al., 2017; Filep and Thompson-Fawcett, 2020; Shahbazi, 2016; Malek and Grierson, 2016).

Cluster 5/ Theme 5: Contemporary Architecture and New Design

In terms of new design in a historical context, there is a substantial overlap between the works in this and the preceding cluster. The works in this cluster examine the interaction between new construction in an old context with an emphasis on the value recognition of contemporary buildings (Franco, 2016; Cetin, 2017; Mısırlısoy, 2017; Jagxhiu, 2020; Zoranić, 2021; Rıza and Doraltı, 2015; Choi and Park, 2021).

Cluster 6/ Theme 6: Architectural Design and Urban Environment

The sixth cluster contains the greatest number of keywords. Based on the frequency of occurrence and link strength, the most prevalent words in this cluster are "place identity," "shape grammar," "meaning," "urban environment," "neighborhood," "culture," "Historical context," "technology," "typology," and "conservation," indicating the presence of multiple topics. The majority of authors in this

cluster focus their research on "culture continuity," "place identification," and also "architectural identity" in diverse urban environments, such as scale of building, scale of street, scale of historical axes, or scale of neighborhood, in different cities (Salama, 2014; Lambe and Dongre, 2016; Abedi and Iravani, 2015; Abuorf and Wafi, 2020; Skaboni and Pourjafar, 2017; Rahimi et al., 2021). On the other hand, the two studies, unlike the other studies that address contextual design in urban environments using a shape grammar approach to evaluate conventional architectural style, have concluded that the contextual design approach greatly influences a designer's decision-making process (Lambe and Dongre, 2019; AlFadalat and Al-Azhari, 2022). The one study contends that if the original context is lost, the situation can be remedied by gathering, compiling, and making available all existing information about the place, and the research seeks to preserve tangible cultural heritage (Tamborrino and Wendrich, 2017). One study examined typology in the context of three distinct initiatives (Moneo, 2015).

Cluster 7/ Theme 7: Architectural Design

The majority of authors in this cluster focus their research on architectural theory and design methodologies. Some studies concentrate on the emergence and evolution of contextual theories and design methodologies (Komez Daglioglu, 2015; Zavoleas and Taylor, 2021; Saad, 2022; Miao, 2012; Naghavi and Mazaherian, 2019, Abrar, 2021; Saadlounia et al., 2021). On the other hand, some studies evaluate contextualism in relation to certain building types, such as hotels and museums (Jakobsen, 2012; Ozorhon and Ozorhon, 2015; Ukabi, 2016; Tabarsa and Naseri, 2017). In one study, contextual design was discussed in the context of technology and science (Neumann, 2014). In the other two studies, the architectural designs of well-known designers including Mies, Lumifoil, and Tschumi were used to study the context (Aitchison, 2012; Bieg and Odom, 2017).

Cluster 8/ Theme 8: Architectural Design and Education

The final cluster's focus is on architectural design and contextual design education. The majority of the studies in this cluster focus on the influence of the current surrounding context's traits and qualities on the educational design process for architecture. According to studies, some pupils are skilled at creating projects that blend in with their surroundings and demonstrate contextual fitting. However, several students struggled with adopting urban fabric (Molaee and Mahdavinejad, 2011; Dessouky, 2016; Tarboush and Gürdallı, 2022). One paper stands out from the rest because it offers instructions on how to perform contextual studio, including its elements and significance (Bhagyajit Raval et al., 2020).

Creating Category Based on Method

Case Studies

The majority of studies in this group use a qualitative case study technique that includes tools from environmental behavior studies such as observation, interviewing, surveys, and descriptive analysis (Stamps, 2011; Sotoudeh, 2012, 2013; Sotoudeh and Abdullah, 2013; Salama, 2014; Zhou and Zhang, 2015; Lambe and Dongre, 2016; Peters, 2016; Saradj, 2016; AboWardah, 2017; Kanesh et al., 2017; Kanesh et al., 2018; Filep and Thompson-Fawcett, 2020; Oranratmanee, 2020; Parvizi, 2020; Gharehbaglou and Ardabilchi, 2021; Kaboli et al., 2021; Samsudin et al., 2021; AlFadalat and Al-Azhari, 2022; Saad, 2022; Abedi and Iravani, 2015; Skaboni and Pourjafar, 2017; Rahimi et al., 2021; Choi and Park, 2021). In a different way, some case studies use a qualitative content-based strategy for understanding data, as well as a descriptive analytical method and a systematic analysis approach (Lee and Lee, 2014; Ozorhon and Ozorhon, 2014, 2015; Laurens and Salura, 2015; Rıza and Doraltı, 2015; Bahrami, 2016; Cetin, 2017; Bhagyajit Raval et al., 2020; Jagxhiu, 2020; Costa and Rosado, 2021; Gharehbaglou et al., 2019; Seyedeh Masoumeh Fotokian, 2022; Abuorf and Wafi, 2020; Afsari and Yousefi, 2020; Karrimi, et al., 2020). On the other hand, case studies analyze student projects in architectural design studios (Molaee and Mahdavinejad, 2011; Farmer, 2013; Dessouky, 2016; Tarboush and Gürdallı, 2022). Several case studies that analyze spatial change in the built environment employ the space syntax method and the shape grammar methodology (Ertaş and Taş, 2017; Asif et al., 2018; Lambe and Dongre, 2019). Further studies use a qualitative method to compare a series of case studies (Moneo, 2015; Ukabi, 2016; Mısırlısoy, 2017; Attia, 2021; Fabbri, 2022).

Theoretical Studies

This collection of research dealt with the issue theoretically. The scholars conducted their theoretical research using a historical, critical, and descriptive approach (Aitchison, 2012; Miao, 2012; Jakobsen, 2012; Demiri, 2013; Saiful Hasan and Mahbuba Afroz, 2013; Neumann, 2014; Komez Daglioglu, 2015; Memmott and Keys, 2015; Franco, 2016; Andersen and Røe, 2017; Bieg and Odom, 2017; Ghahremani et al., 2017; Rasdi, 2017; Tabarsa and Naseri, 2017; Tamborrino and Wendrich, 2017; Jon-Nwakalo, 2018; Naghavi and Mazaherian, 2019; Abrar, 2021; Aurigi and Odendaal, 2021; Zavoleas and Taylor, 2021; Zoranić, 2021; Saadlounia et al., 2021; Shahbazi, 2016). Several studies have been carried out to establish a model (Lejano and Kan, 2015; Mehrabi, 2016; Malek and Grierson, 2016; Mehan, 2017; Zoranić, 2021; Abuorf and Wafi, 2020).

Literature Review Summary

Table 4 provides a comprehensive summary of all papers included in this review. It maps each article according to the year of publication, clusters, and main method.

Table 4. Literature review summary

Year	Theme								Method		Author
	Cluster 1	Cluster 2	Cluster 3	Cluster 4	Cluster 5	Cluster 6	Cluster 7	Cluster 8	Case study	Theoretical study	
2011								•	•		Molaee and Mahdavinejad, 2011
	•								•		Stamps, 2011
2012	•								•		Sotoudeh, 2012
							•			•	Aitchison, 2012
							•			•	Miao, 2012
							•			•	Jakobsen, 2012
2013	•									•	Demiri, 2013
	•								•		Sotoudeh, 2013
	•								•		Sotoudeh and Abdullah, 2013
		•								•	Saiful Hasan and Mahbuba Afroz, 2013
				•					•		Farmer, 2013
2014			•						•		Ozorhon and Ozorhon, 2014
							•			•	Neumann, 2014
				•					•		Lee and Lee, 2014
						•			•		Salama, 2014
2015						•			•		Abedi and Iravani, 2015
						•			•		Aurens and Salura, 2015
							•			•	Komez Daglioglu, 2015
						•			•		Moneo, 2015
							•		•		Ozorhon and Ozorhon, 2015
					•				•		Riza and Doratli, 2015
				•						•	Memmott and Keys, 2015
				•						•	Lejano and Kan, 2015
			•						•		Zhou and Zhang, 2015
2016					•					•	Franco, 2016
			•							•	Mehrabi, 2016
							•		•		Ukabi, 2016
						•			•		Lambe and Dongre, 2016

Table 4. Literature review summary (cont.)

Year	Theme								Method		Author
	Cluster 1	Cluster 2	Cluster 3	Cluster 4	Cluster 5	Cluster 6	Cluster 7	Cluster 8	Case study	Theoretical study	
				•						•	Shahbazi, 2016
				•					•		Saradj, 2016
				•					•		Peters, 2016
				•					•		Bahrami, 2016
				•						•	Malek and Grierson, 2016
								•	•		Dessouky, 2016
2017								•	•		AboWardah, 2017
						•			•		Skaboni and Pourjafar, 2017
		•								•	Rasdi, 2017
				•						•	Ghahremani et al., 2017
						•				•	Tamborrino and Wendrich, 2017
							•			•	Bieg and Odom, 2017
				•						•	Andersen and Røe, 2017
					•				•		Mısırlısoy, 2017
				•					•		Ertaş and Taş, 2017
					•				•		Cetin, 2017
							•			•	Tabarsa and Naseri, 2017
		•							•		Kanesh et al., 2017
				•						•	Mehan, 2017
2018							•			•	Jon-Nwakalo, 2018
			•						•		Asif et al., 2018
		•							•		Kanesh et al., 2018
2019						•			•		Lambe and Dongre, 2019
							•			•	Naghavi and Mazaherian, 2019
	•								•		Gharebaglou et al., 2019
2020		•							•		Karimi, et al, 2020

Table 4. Literature review summary (cont.)

Year	Theme								Method		Author
	Cluster 1	Cluster 2	Cluster 3	Cluster 4	Cluster 5	Cluster 6	Cluster 7	Cluster 8	Case study	Theoretical study	
						•			•		Abuorf and Wafi, 2020
			•						•		Afsari and Yousefi, 2020
								•	•		Bhagyajit Raval et al., 2020
						•			•		Kaboli et al., 2020
	•								•		Parvizi, 2020)
				•					•		Filep and Thompson-Fawcett, 2020
					•				•		Jagxhiu, 2020
			•						•		Oranratmanee, 2020
2021		•							•		Samsudin et al., 2021
						•				•	Saadlounia et al., 2021
						•			•		Rahimi et al., 2021
				•						•	Zoranić, 2021
						•				•	Abrar, 2021
							•			•	Zavoleas and Taylor, 2021
	•								•		Gharehbaglou and Ardabilchi, 2021
		•							•		Attia, 2021
					•				•		Choi and Park, 2021
			•						•		Costa and Rosado, 2021
					•					•	Zoranić, 2021
				•						•	Aurigi and Odendaal, 2021
2022		•							•		Seyedeh Masoumeh Fotokian, 2022
							•		•		Fabbri, 2022
								•	•		Tarboush and Gürdallı, 2022
						•			•		AlFadalat and Al-Azhari, 2022
							•		•		Saad, 2022

DISCUSSION

After evaluating the findings of the papers chosen for the SLR, it was determined that context knowledge could be explored under four major topics.

Historical and Urban Context

Studies on the topic of contextual design tend to focus on new design, contemporary design, and infill design in historical and urban contexts. According to these scholars, contextual design may be achieved in modern architecture by creating new designs that are respectful of and compatible with existing architecture (Zhou and Zhang, 2015) and the traditional principles and rules (Sotoudeh and Abdullah, 2012). In the studies done in the residential areas, it was believed that new neighborhoods should be established while maintaining the natural appearance of the neighborhoods and fusing them with the historical texture (Zhou and Zhang, 2015; Abedi and Iravani, 2015). To put it another way, it is critical to comprehend and preserve a place's spatial character (Zhou and Zhang, 2015), historical texture (Saradj, 2016), and regional features (Salama, 2014).

Architecture's context-awareness makes it simpler to establish a connection between the past and the present. In contemporary designs for the urban environment, architects have addressed the link between old and new structures through the concept of "compatibility" or "fitting," particularly in infill designs (Stamps, 2011; Sotoudeh, 2012; Sotoudeh and Abdullah, 2013; Saradj, 2016; Choi and Park, 2021). The majority of research has determined that the harmony between the old and the new is essential for urban continuity and that it should be avoided to replicate the past (Zhou and Zhang, 2015; Saradj, 2016). Similarly, research in the field of architectural design and education has examined the projects developed by students in the architectural design studio and focused on contextual compatibility. Some students are able to develop projects that are suitable for the surrounding environment and reflect the nature of contextual fitting, according to the research. However, some students failed the urban fabric fitting criteria (Molaee and Mahdavinejad, 2011; Dessouky, 2016; Tarboush and Gürdallı, 2022).

Studies conducted in historical environments have incorporated cultural heritage values as one of the significant factors (Franco, 2016; Mısırlısoy, 2017; Jagxhiu, 2020). Similarly, cultural heritage values have been included as one of the important issues in studies conducted in historical environments. The samples selected in the studies were critically evaluated according to the defined conservation principles (Gharehbaglou and Ardabilchi, 2021).

Physical, Social, and Cultural Context

Some of the studies in this group focused either on the physical context or the cultural context, while others examined both settings simultaneously. Studies addressing contextual knowledge from a physical perspective have typically evaluated new buildings in terms of "visual quality" (Salama, 2014), "aesthetic quality," "aesthetic fitness" (Sotoudeh and Abdullah, 2013), "visual compatibility," "visual diversity" (Stamps, 2011), "design quality" (Sotoudeh, 2012), and "design compatibility" (Sotoudeh and Abdullah, 2013). Physical and cultural environments were analyzed using the space syntax method and shape grammar approach to analyze the spatial change in the built environment (Ertaş and Taş, 2017; Asif et al., 2018; Lambe and Dongre, 2019).

While vernacular architecture focuses mostly on the physical impact of the region's climatic conditions on the design (Ozorhon and Ozorhon, 2014; Mehrabi, 2016; Afsari and Yousefi, 2020), other studies have emphasized the cultural context (Asif et al., 2018; Oranratmanee, 2020; Costa and Rosado, 2021). In addition, one study approached the cultural context through the concepts of "culture continuity" and "place identity" and underlined the need for designs that are consistent with historic locations (Abuorf and Wafi, 2020).

In a way of comparison, Islamic architecture has investigated the physical and social impacts of mosque design. (Kanesh et al., 2017; Rasdi, 2017; Samsudin et al., 2021). The findings of studies in Islamic architecture indicate that inclusive mosque architecture can be improved via the use of diverse design techniques (Saiful Hasan and Mahbuba Afroz, 2013; Samsudin et al., 2021). Islamic art in Iran was exemplified by a comparison of the geometric patterns of two mosques (Karim et al., 2020). Other research on Islamic architecture assesses mosques in relation to climatic variations (Tabarsa and Naseri, 2017), and traditional Islamic households as an example of sustainable architecture (Attia, 2021).

Several studies have shown that social sustainability is significant for sustainable urban development in the field of architectural design and urban planning (Bahrami, 2016; Peters, 2016; Andersen and Røe, 2017; Filep and Thompson-Fawcett, 2020; Aurigi and Odendaal, 2021; Zoranić, 2021). The other two studies have demonstrated that culture exhibits change and continuity due to the diversity of its constituent aspects and that one significant factor representing culture is architecture (Memmott and Keys, 2015; Ertaş and Taş, 2017). Important publications also emphasize how sustainability concepts relate to contextual design factors (Farmer, 2013; Lee and Lee, 2014; Zhou and Zhang, 2015; Bahrami, 2016; Saradj, 2016; Ghahremani et al., 2017; Filep and Thompson-Fawcett, 2020; Shahbazi, 2016; Malek and Grierson, 2016).

Local context, Place, Identity, and Meaning

A critical regionalist approach that focused on local texture, place, and identity was created by Alexander Tzonis and

Liane Lefaivre and supported by Kenneth Frampton's book "Towards a Critical Regionalism: Six Points for an Architecture of Resistance (1983)." This approach eventually evolved into a vernacular architecture approach in contemporary studies. However, the subjects covered are still pertinent and do not significantly diverge from the groundbreaking investigations. In the subject of vernacular architecture, contextual designs put an emphasis on the geographical features and cultural traditions of the area and consider how the climate may affect them (Mehrabi, 2016; Ozorhon and Ozorhon, 2014; Afsari and Yousefi, 2020; Zoranić, 2021).

Recent research on identity, however, contends that contextualism is about conforming to "place identity" (Lambe and Dongre, 2019), "identity" (Demiri, 2013), "architectural identity" (Salama, 2014; Parvizi, 2020) "unique identity "of a place (Abuorf and Wafi, 2020) "sense of place" (Riza and Doratli, 2015) "collective memory," (Parvizi, 2020), "place attachment" (Rahimi et al., 2021). In terms of sense of place, contextualism emphasizes architectural spatial character, behavioral patterns, and image-making (Salama, 2014; Lambe and Dongre, 2016). In addition, a sense of place can be created by reproducing the natural, physical, and atmospheric characteristics of the region (Zhou and Zhang, 2015; Komez-Daglioglu, 2015) or the quality of place (Sotoudeh and Abdullah, 2012). Two of the studies concentrate on how users perceive infill design in a historical context (Sotoudeh and Abdullah, 2013; Gharehbaglou and Ardabilchi, 2021). They also discuss the replication and differentiation of new infill designs and come to the conclusion that users prefer harmonious but distinctive architectural styles.

CONCLUSION

It has been determined that current research on contextual knowledge in architecture focuses on new designs, infill designs, Islamic architecture, and mosque designs in historical and urban contexts, in contrast to studies focusing on local and sustainable architecture. The majority of theoretical studies, on the other hand, evaluated the discussions on the concept of context in architecture by placing them in the context of historical processes. Less research has been conducted in the fields of architectural design and education compared to other fields. Together with the conclusions drawn about the areas of research on contextual knowledge in architecture, it is clear that studies focus on specific topics such as physical context, sociocultural context, local context, and place identity On the other hand, the keywords of the topics focus on words such as infill architecture, historical context, compatibility, contextualism, socio-cultural context, physical context, identity, sustainability, and vernacular architecture (Figure 7).

The findings reveal ongoing diversity in the understanding of contextuality, with studies showing consensus and disagreement on the three issues identified. In discussions of place identity, studies show a consensus on linking contextuality to the preservation of local character and identity. In contrast, discussions on physical and cultural aspects show that there is considerable inconsistency in defining contextuality as physical or cultural, with limited consensus between them. Finally, discussions of traditional and contemporary architecture, where new designs are evaluated in historical and urban contexts, tend to associate contextuality with traditional and historical patterns rather than modern ones. Especially in "infill" designs, compatibility with the historic fabric was considered an important issue.

According to the studies, it has been revealed that field studies are important for obtaining contextual knowledge. On the other hand, it is evident that contextualism is treated similarly in studies that deal with the topic within a theoretical framework. All studies maintain their consistency after undergoing some current transformations in the light of pioneering studies. The approach in Linda Groat's research, used as an example of how constructivist ideas are supported by environmental behavior studies, is methodologically used in current "infill" design case studies. Similarly, Brolin's formal approach to adapting new designs to the historic environment remains relevant as a methodology in research on infill design and contemporary design.

Through various methodologies, the study offers new definitions of contextual knowledge, which is still essential in the field of architectural knowledge. As recent research suggests, there is a lack of a holistic approach to the use of contextual knowledge in architectural design. According to the study, contextuality should be redefined for new designs realized in urban and historical contexts and should not be considered only in the framework of old or new based on the concept of convenience. By redefining these two concepts, theorists and practitioners will be able to better understand how local characters and traditional or historical patterns interact with the environment in new designs.

This research has revealed the theoretical gaps for future design by identifying how "context" knowledge is used in existing studies in the field of architectural knowledge and what its scope is. Further research is needed to fill these theoretical gaps by exploring innovative approaches to the use of contextual knowledge in architectural design. At the same time, the multidimensional and complex nature of contextual knowledge places it in a special position within architectural knowledge. Therefore, a multidimensional assessment of the issues raised for the production of contextual knowledge, especially in architectural practice, is deemed necessary.

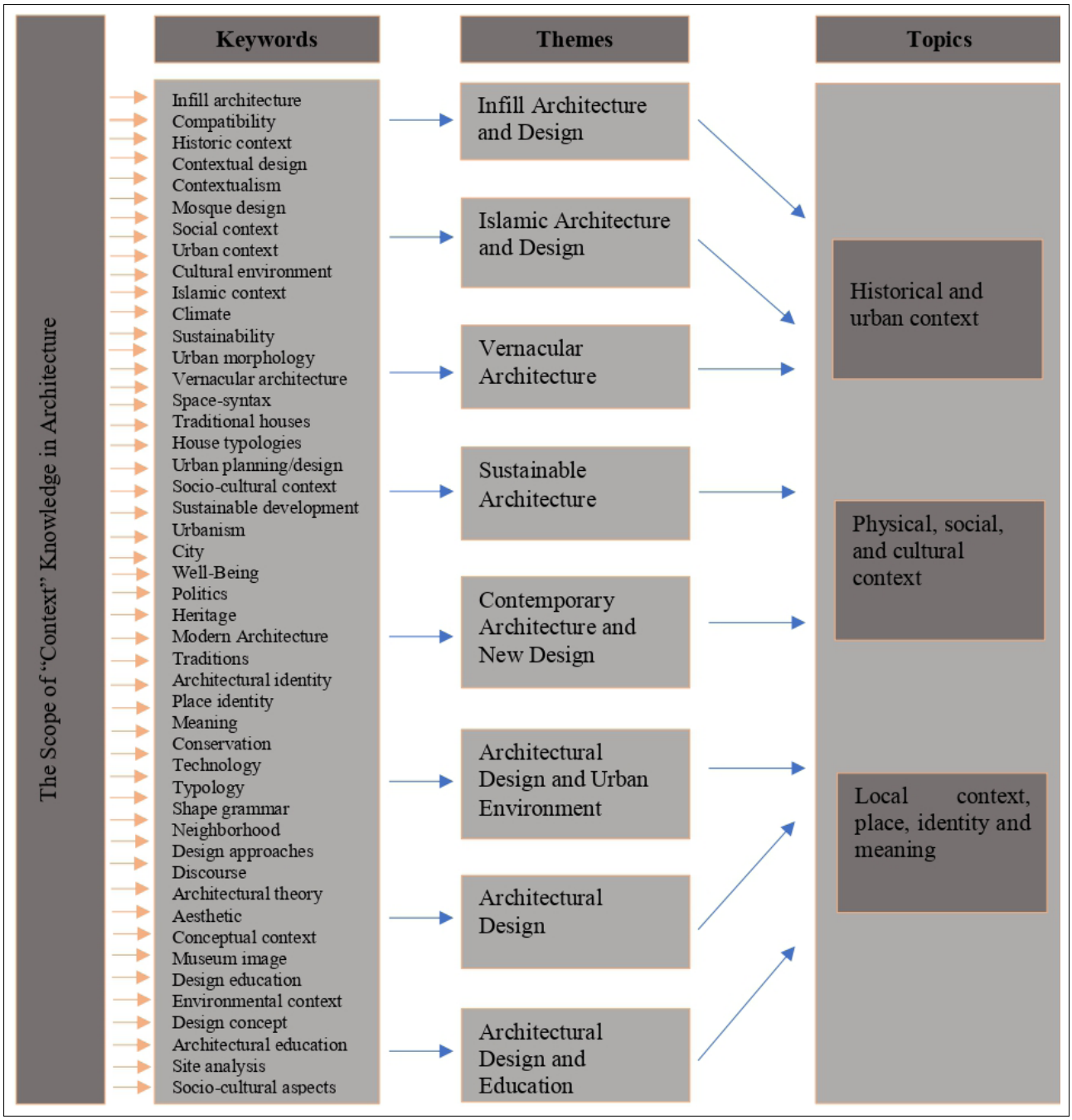

Figure 7. Scope of current research on context in architecture.

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REFERENCES

Abbaszadegan, M., Ghahremani, H., & Hashemi, N. (2017). A review of the contextual adaptability of three contemporary urban paradigms: New urbanism, urban village and urban renaissance. Armanshahr Architecture & Urban Development, 10(18), 71–82.

Abdullah, W. M. Z. W. & Sotoudeh, H. (2013). Evaluation of fitness of design in urban historical context: From the perspectives of residents. Frontiers of Architectural Research, 2(1), 85–93. https://doi.

org/10.1016/j.foar.2012.10.007

Abdullah, W. M. Z. W., & Sotoudeh, H. (2012). Affected Variables on Successful Infill Design in Urban Historic Context. Arts and Design Studies, 3(1), 7–11.

Abdullah, W. M. Z. W., & Sotoudeh, H. (2013). Contextual preferences of experts and residents: Issue of replication and differentiation for new infill design in urban historical context. World Applied Sciences Journal, 21(9), 1276–1282.

Abedi, S. & Iravani, H. (2015). Analysis of the contextual architecture and its effect on the structure of the residential places in dardasht neighborhood of Isfahan. Civil Engineering, 4(3), 158–168.

AboWardah, D. E. S. (2017). Addressing the urban contextual envelope: An analytical study in architectural design studio. International Journal of Applied Engineering Research, 12(18), 743–751.

Abrar, N. (2021). Contextuality and Design Approaches in Architecture. International Journal of Education, 2(11), 7043–7051.

Abuorf, H. & Wafi, S. (2020). A continuity of the past in contemporary architecture: Investigating a cultural continuity. International Research Journal of Advanced Engineering and Science, 5(1), 288–294.

Afsari, M. & Yousefi, R. (2020). Investigating the effect of climate on warm and humid architecture: A review of the contextualism approach in native architecture of Bandar Abbas and Bushehr regions. International journal of engineering research, 9(12), 31–36.

Aitchison, M. (2012). Finding the context in Mies. Fabrications, 22(2), 186–207. https://doi.org/10.1080/10331867.2012.734434

Akl, E. A., Bossuyt, P. M., Boutron, I., Brennan, S. E., Chou, R., Glanville, J., Grimshaw, J. M., Hoffmann, T. C., Hróbjartsson, A., Lalu, M. M., Li, T., Loder, E. W., Mayo-Wilson, E., McDonald, S., McGuinness, L. A., McKenzie, J. E., Moher, D., Mulrow, C. D., Page, M. J., . . . Whiting, P. (2021) The PRISMA 2020 Statement: An Updated Guideline for Reporting Systematic Reviews. BMJ, 372(n71), 1–7.

Al-Darah, H., Jean L. M., Kanesh, K., & Rasdi Mohd T. M. (2017). An evaluation of the Abu Bakar Mosque in Bangsar from the perspective of architectural contextualism and social inclusion. Journal of Islamic Architecture 6(2), 93–102.

Al-Darahirst, H., Jean, L. M., Kanesh, K., Rasdi Mohd T. M., (2018). Contextualism of mosque architecture in the city: Case study of the Abu Bakar Mosque in Bangsar. Journal of Techno Social, 10(2), 1–10.

AlFadalat, M. & Al-Azhari, W. (2022). An integrating contextual approach using architectural procedural modeling and augmented reality in residential buildings: The case of Amman City. Heliyon, 8(8), e10040. https://doi.org/10.1016/j.heliyon.2022.e10040

Altman, D. G., Clarke, M., Devereaux, P. J., Ioannidis, J. P., Gøtzsche, P.C., Kleijnen, J., Mulrow, C., Liberati, A., Moher, D. & Tetzlaff, J. (2009). The PRISMA statement for reporting systematic reviews and meta-analyses of studies that evaluate health care interventions: Explanation and elaboration. J Clin Epidemiol, 62(10):e1–34.

Amor, B., Saade, M. R. M., & Yahia, A. (2020). How has lca been applied to 3d printing? A systematic literature review and recommendations for future studies. Journal of Cleaner Production, 244(11), 118803.

Andersen, B. & Røe, P. G. (2017). The social context and politics of large-scale urban architecture: Investigating the design of barcode, Oslo. European Urban and Regional Studies, 24(3), 304–317. https://doi.org/10.1177/0969776416643751

Ardabilchi, I., & Gharehbaglou, M. (2021). The impact of changes in environmental meanings on users' perceptions: A case study of infill architecture in the historic bazaar of Tabriz. ACE: Architecture, City and Environment, 16(47), 9638. https://doi.org/10.5821/ace.16.47.9638

Ardabilchi, I., Ebrahimi, A. N., & Gharebaglou, M. (2019). Infill architecture: An interdisciplinary approach to the design of historic context case study: Mashruteh complex in the historic bazaar of Tabriz, İran. Bagh-e Nazar, 16(76), 65–78.

Aref, M., Bahmani, P., Goodarzparvari, P., & Karimi, S. (2020). A comparative study of the geometric motifs of the Ateeq Mosque (Shiraz) and The Cordoba Mosque (Cordoba) with a contextual approach. Journal of Islamic Architecture, 6(2), 93–102.

Attia, A. S. (2021). Traditional Islamic house (Ottoman house) architecture, in old Fatimid Cairo and Rosetta cities, Egypt - an example of sustainable architecture. International Journal of Sustainable Development and Planning, 16(8), 1509–1517. https://doi.org/10.18280/ijsdp.160812

Aurigi, A. & Odendaal, N. (2021). From "Smart in the Box" to "Smart in the City": Rethinking the socially sustainable smart city in context. Journal of Urban Technology, 28(1–2), 55–70. https://doi.org/10.1080/10630732.2019.1704203

Azmal, S. B., Nangkula, U., Nayeem, A., & Sumarni, I. (2018). Reflection of cultural practices on syntactical values: An introduction to the application of space syntax to vernacular Malay architecture. Frontiers of Architectural Research, 7(4), 521–529. https://doi.org/10.1016/j.foar.2018.08.005

Bahrami, A. (2016). Indigenous architecture as a context-oriented architecture, a look at indigenous architecture of Shushtar. Journal of Fundamental and Applied Sciences, 8(2), 380–297. https://doi.

org/10.4314/jfas.8vi2s.52

Bieg, K. & Odom, C. (2017). Lumifoil and Tschumi: The generative content of context. International Journal of Parallel, Emergent and Distributed Systems, 32(1), 133–146. https://doi.org/10.1080/17445760.2017.1390107

Broadus, R. N. (1987). Toward a definition of "Bibliometrics". Scientometrics 12(6), 373–372.

Brolin, B. (1980). Architecture in context. Van Nostrand Reinhold Book Company.

Casakin, H., Georgiev, G. V. & Soomro, S. A. (2022). A systematic review on fablab environments and creativity: Implications for design. Buildings, 12(6), 804.

Cetin, M. (2017). Filling an urban void as a "Public Interior" in Balıkesir; Contemporary intervention into historic context through interior space. A/Z ITU journal of Faculty of Architecture, 14(1), 127–135. https://doi.org/10.5505/itujfa.2017.19870

Chianeh, R. H., Saadlounia, H., & Zarei, G. (2021). Philosophical and epistemological foundations of contextualism in postmodern urban design and architecture. Journal of Philosophical Investigations, 15(36), 328–343.

Choi, J. & Park, S. (2021). Understanding the operation of contextual compatibility through the relationships among heritage intensity, context density, and regulation degree. Buildings 11(1), 25.

Cohen, S. (1974) Physical context/cultural context: Including it all. Oppositions, 2(1), 1–40.

Costa, M. R. & Rosado, A. C. (2021). Vernacular architecture in the south of Portugal: The history of Mértola's houses from a rural to an urban landscape. A/Z : ITU journal of Faculty of Architecture, 18(2), 413–428. https://doi.org/10.5505/itujfa.2021.21703

Demiri, K. (2013). New architecture as infill in historical context. Architecture and Urban Planning, 7(1), 44–49.

Dessouky, N. (2016) Architecture and urban education in Egypt: Producing designers that are ready to respond to the social and environmental circumstances of the Egyptian context. Procedia Environmental Sciences, 34(1), 401–410. https://doi.org/10.1016/j.proenv.2016.04.035

Dodo, Y. A., Mazlan, I. M., Rabu, Z.M., & Samsudin, I. L. (2021). Architecture and contextualism in mosque design as a multi-faith and community friendly place. Environment-Behaviour Proceedings Journal, 6(18), 21–27. https://doi.org/10.21834/ebpj.v6i18.2972

Dongre, A. R., & Lambe, N. R. (2019) A shape grammar approach to contextual design: A case study of the Pol houses of Ahmedabad, India. Environment and Planning B: Urban Analytics and City Science, 46(5), 845–861. https://doi.org/10.1177/2399808317734207

Dongre, A., & Lambe, N. (2016). Contextualism: An approach to achieve architectural identity And Continuity. International Journal of Innovative Research and Advanced Studies 3(2), 33–42.

Doraltı, N. & Rıza, M. (2015). The critical lacuna between new contextually juxtaposed and freestyle buildings in historic settings. Journal of Architectural and Planning Research, 32(3), 234–257.

Dovey, K. (1995). Place/Power. Architectural Design, 65(3–4), 36–41.

Ellis, W. (1998). Type and context in urbanism: Colin Rowe's contextualism, oppositions reader: Selected readings from a journal for ideas and criticism in architecture, 1973-1984. Princeton Architectural Press.

Ertaş, Ş. & Taş, A. (2017). The effect of change of place on frontage in the context of cultural sustainability. A/Z : ITU journal of Faculty of Architecture, 14(1), 71–89. https://doi.org/10.5505/itujfa.2017.09797

Fabbri, R. (2022) The contextual linkage: Visual metaphors and analogies in recent Gulf museums' architecture. The Journal of Architecture, 27(2–3), 372–397. https://doi.org/10.1080/13602365.2021.2018479

Farmer, G. (2013). Re-contextualising design: Three ways of practising sustainable architecture. Architectural Research Quarterly, 17(2), 106–119. https://doi.org/10.1017/S1359135513000468

Filep, C. & Thompson-Fawcett, M. (2020). New urbanism and contextual relativity: Insights from Sweden. Urban Planning, 5(4), 404–416. https://doi.org/10.17645/up.v5i4.3514

Fotokian S. M. (2022). The role of the context in the internal form of the roof of Akbari Mosque. Sprin Journal of Arts, Humanities and Social Sciences, 1(2), 98–107. https://doi.org/10.5281/ZENODO.6290661

Frampton, K. (1983). Towards a critical regionalism: Six points for an architecture of resistance. The Anti-Aesthetic: Essays on Postmodern Culture, Bay Press.

Franco, G. (2016). Contemporary architecture in historical contexts: For a system of values. TECHNE - Journal of Technology for Architecture and Environment, 12, 182–189. https://doi.org/10.13128/TECHNE-19351

Groat, L. (1983). A study of the perception of contextual fit in architecture. Symposium organizer and presenter: Environmental Meaning: The Problem of Contextual Fit. Environmental Design Research Association Annual Conference, Lincoln, NE.

Groat, L. (1983). Measuring the fit of new to old: A checklist resulting from a study of contextualism. Architecture: The AIA Journal, 72(11), 58–61.

Groat, L. (1987). Contextual compatibility: an issue of com-

position, not replication. In: T. Beeby and A. Plattus (editors) Architecture and Urbanism: The Proceedings of the Association of Collegiate Schools of Architecture. Association of Collegiate Schools of Architecture.

Gürdallı, H. & Tarboush, R. (2022). Context and concept in architectural design studio: Design studio IV. NEU Journal of Faculty of Architecture, 4(1), 51–72. https://doi.org/10.32955/neujfa202241527

Hajarnis, M., Patel, C. & Raval, B. (2020). Significance of contextual imprints in shaping architecture: Settlement study of Dungrabhint, Lunawada, Gujarat. Skills in architectural education: A new paradigm (1st Ed.). Chetak Books. https://doi.org/10.13140/RG.2.2.19982.38727

Hurtt, S. (1983) Conjectures on urban form: The cornell urban design studio (1963-1982). The Cornell Journal of Architecture 2, 54–143.

Isenstadt, S. (2005). Contested Contexts. Site Matters: Design Concepts, Histories, and Strategies. Routledge.

Jagxhiu, B. (2020). New structure in the historical context case study: Contemporary shopping mall in the historic center of Prizren. Pollack Periodica, 15(1), 233–240. https://doi.org/10.1556/606.2020.15.1.22

Jakobsen, A. (2012). Experience in-between architecture and context: The New Acropolis Museum, Athens. Journal of Aesthetics & Culture, 4(1), 18158. https://doi.org/10.3402/jac.v4i0.18158

Jon-Nwakalo, C. C. (2018). Discourse on contextualism in architecture and design: The French hotels and the African paradigm. Journal of environment and earth science, 8, 8–22.

Kaboli, A., Karimi, B., & Mahdinejad, J. D. (2021). The assessment of some contextual architecture factors with an approach to culture and identity in the state and public buildings of Pahlavi era (Case study: Oil Cinema, Oil Industry College and National Bank). International Journal of Architecture and Urban Development, 11(2), 21–30. https://doi.org/10.30495/ijaud.2021.17308

Kan, W. S., & Lejano, R. P. (2015). Seeing urban regeneration through an institutional lens: Toward a new contextualism. International Journal of Urban Sciences, 19(3), 257–268. https://doi.org/10.1080/12265934.2015.1043328

Keys, C., & Memmott, P. (2015). Redefining architecture to accommodate cultural difference: Designing for cultural sustainability. Architectural Science Review, 58(4), 278–289. https://doi.org/10.1080/00038628.2015.1032210

Koetter, F & Rowe, C. (1978). Collage City. The MIT Press.

Komez Daglioglu, E. (2015). The context debate: An archaeology. Architectural Theory Review, 20(2), 266–279. https://doi.org/10.1080/13264826.2016.1170058

Laurens, J. & Salura, P. (2015). Contextual relationship of form and meaning in architectural inculturation. J Appl Environ Biol Sci, 5(12), 1–7.

Lee, D. E., & Lee, M. J. (2014). Questioning beliefs surrounding urban sustainability: The need for a contextual urban model. Journal of Asian Architecture and Building Engineering, 13(1), 163–170. https://doi.org/10.3130/jaabe.13.163

Lynch, K. (1960). The Image of the City (1st ed.). The MIT Press.

Lyndon, D. & Moore, C. W. (1994). Chambers for a memory palace. The MIT Press.

Mahbuba Afroz, J. & Saiful Hasan, T. (2013). The contextual issues in the Islamic architecture of Bengal mosques. Global Journal Al Thaqafah, 3(1), 41–49. https://doi.org/10.7187/GJAT322013.03.01

Mahdavinejad, M., & Molaee, M. (2011). Architecture in context - inspiration of contextualism in architectural designing. Computer Science, 1(1), 21–34.

Malek, S. & Grierson, D. (2016). A contextual framework for the development of a building sustainability assessment method for İran. Open House International, 41(2), 64–73.

Mazaherian, H., &. Naghavi, P. (2019). Analysis of contemporary theories when encountering the context in architectural design. Bagh-e Nazar, 16(74):79–94.

Mehan, A. (2017). An integrated model of achieving social sustainability in urban context through theory of affordance. Procedia Engineering, 198(1), 17–25. https://doi.org/10.1016/j.proeng.2017.07.070

Mehrabi, M. (2016). Consideration of climate impact on contextual architecture in arid regions. The Turkish Online Journal of Design, Art and Communication, 6(AGSE), 2011–2018. https://doi.org/10.7456/1060AGSE/079

Miao, L. (2012). Exploration of architectural context from aesthetics view. Studies in Sociology of Science, 3(4), 75–79.

Mısırlısoy, D. (2017). New designs in historic context: Starchitecture vs architectural conservation principles. Civil Engineering and Architecture, 5(6), 207–214. https://doi.org/10.13189/cea.2017.050602

Moneo, R. (2015). Typology in the context of three projects: San Sebastian, Lacua, Aranjuez. The Journal of Architecture, 20(6), 1067–1087. https://doi.org/10.1080/13602365.2015.1116347

Naseri, Y. & Tabarsa, M. A. (2017). The role of contextualism in architectural design of museums. Journal of History Culture and Art Research, 6(1), 354–364. https://doi.org/10.7596/taksad.v6i1.747

Neumann, O. (2014). Technology, context and science in architecture. International Journal of Architectural Computing, 12(2), 179–197. https://doi.org/10.1260/1475-472X.12.2.179

Norberg-Schulz, C. (1980). Genius Loci: Towards a phenomenology of architecture. Rizzoli.

Oranratmanee, R. (2020). Cultural geography of vernacular architecture in a cross-cultural context: Houses of the Dai ethnic minority in South China. Journal of Cultural Geography, 37(1), 67–87. https://doi.org/10.1080/08873631.2019.1658441

Ozorhon, G. & Ozorhon, I. (2014). Learning from Mardin and Cumalıkızık: Turkish vernacular architecture in the context of sustainability. Arts, 3(1), 175–189. https://doi.org/10.3390/arts3010175

Ozorhon, G., & Ozorhon, I. F. (2015). Investigation of the relationship between museums and cities in the context of image: Cases from İstanbul. Journal of Architecture and Urbanism, 39(3), 208–217. https://doi.org/10.3846/20297955.2015.1088418

Parvizi, E. (2020). Collective memory as a measure to evaluate the infill architecture innovations in historic contexts (Case study: Historic context of İmamzadeh Yahya in Tehran. International Journal of Architectural Engineering & Urban Planning, 30(1), 66–75. https://doi.org/10.22068/ijaup.30.1.66

Peters, T. (2016). Social sustainability in context: Rediscovering Ingrid Gehl's Bo-miljø. Architectural Research Quarterly, 20(4), 371–380. https://doi.org/10.1017/S1359135516000488

Peterson, S. (1979). Urban Design Tactics. Architectural Design, 49(3–4), 76–81.

Petticrew, M. & Roberts, H. (2008) Systematic Reviews in the Social Sciences: A Practical Guide; Blackwell Publishing.

Pourjafar, M. R. & Skaboni, M. K. (2017). Organizing the cultural, historical axes of Qazvin City with contextualism approach (Case study: Street Peighambarieh). Space Ontology International Journal, 6(3), 1–16.

Rahimi et al. (2021). Analyzing the impact of contextualism on place attachment in historical neighborhoods (Case study: Sorkhab and Davehchi - Tabriz). Geography and Territorial Spatial Arrangement, 11(40), 1–28.

Rasdi, M.T.M. (2017). Contextualism in mosque architecture: Bridging the social and political divide. Journal of Islamic Architecture, 4(4), 181. https://doi.org/10.18860/jia.v4i4.4469

Rossi, A. (2006). Şehrin Mimarisi. Kanat Yayın.

Rowe, C. (1981). The present urban predicament. The Cornell Journal of Architecture, 1(1), 16–33.

Saad, Q. (2022). Design in Iraq: Discourse and its contextual transformation. Design and Culture, 14(1), 31–49. https://doi.org/10.1080/17547075.2021.2012006

Salama, A. M. (2014). Interrogating the practice of image making in a budding context. International Journal of Architectural Research: ArchNet-IJAR, 8(3), 74–94. https://doi.org/10.26687/archnet-ijar.v8i3.549

Saradj, F. M. (2016). Compatible development solutions in the context of historical settings in İran, Urbanism Arhitectura Constructii, 7(4), 285–298.

Schumacher, T. (1971). Contextualism: Urban Ideals + Deformations. Casabella, 359–360, 79–86.

Shahbazi, S. (2016). Contextualism: A Strategy for Achieving Sustainable Architecture. European Online Journal of Natural and Social Sciences, 5(3), 306–314.

Stamps, A. E. (2011). Parameters of contextual infill design: style, matching, diversity, distance, responses. Journal of Urbanism: International Research on Placemaking and Urban Sustainability, 4(1), 7–24. https://doi.org/10.1080/17549175.2011.559943

Tamborrino, R., & Wendrich, W. (2017). Cultural heritage in context: The temples of Nubia, digital technologies and the future of conservation. Journal of the Institute of Conservation, 40(2), 168–182. https://doi.org/10.1080/19455224.2017.1321562

Tanyeli, U. (2004). Mimarlik, modernizm, modernite: Aykırı rotalar. Sanat Dünyamız, 92(1), 135–149.

Taylor, M. & Zavoleas, Y. (2021). New relevancies between cultural context and spatial discourse: An evolution of patterns through methods, models and techniques. Nexus Network Journal, 23(1), 5–19. https://doi.org/10.1007/s00004-020-00545-6

Ukabi, E. B. (2016). Harnessing the tension from context-duality in historic urban environment. Journal of Sustainable Development, 9(1), 77. https://doi.org/10.5539/jsd.v9n1p77

Van Eck, N. J., & Waltman, L. (2014). Visualizing Bibliometric Networks. In Ding, Y., Rousseau, R., & Wolfram, D. (Eds.) Measuring Scholarly Impact. Springer International Publishing. Cham, Switzerland.

Zhang, S. & Zhou, S. (2015). Contextualism and sustainability: A community renewal in old city of Beijing. Sustainability, 7(1), 747–766. https://doi.org/10.3390/su7010747

Zizek, S. (1999). Yamuk Bakmak (T. Birkan, Trans.) Metis.

Zoranić, A. (2021). Contextual parameters of contemporary modernist house in the mediterranean. Periodicals of Engineering and Natural Sciences (PEN), 9(3), 122–131. https://doi.org/10.21533/pen.v9i3.1825