

# The Role of Architectural Education in Creating Awareness on Conservation of Cultural Heritage

*Conservation of heritage buildings and their transmission are only possible if they have been owned and valued by the communities that they evolved in and by their owners and users. The appreciation of the value and significance of heritage buildings and appropriate way to preserve them can be achieved through education. Architecture is one of the disciplines that have the responsibility both to preserve heritage buildings and to educate the community through successful conservation projects. The aim of the study is to measure the awareness on cultural heritage and its conservation and also to question the impact of the conservation and restoration course through students' knowledge development. The subjects are being taught in courses that combine theory and practice and as well as in design studios. Architecture students are expected to learn; the significance of cultural heritage, the principles and methods of conservation and restoration, to prepare a restoration project for a heritage building and how to design in historic context, during their education. Questionnaire survey is used as the method of the study to understand how the awareness and knowledge related to the subjects changed. Additionally, students' projects are interpreted to understand the knowledge level and development.*

**Keywords:** conservation, restoration, cultural heritage, awareness, architectural education

## Introduction

Cultural heritage is the legacy that represents the past in present time and is valued to be transferred to future generations to sustain cultural sustainability. Heritage buildings are the built traces of civilizations. They are the solid historic evidences that one could learn from. Besides, they benefitted the communities in several ways, such as economic development through branding and tourism. Therefore, transferring heritage assets to next generations is obligatory in terms of cultural, social and economic sustainability. At this point, conservation and restoration comes fort as the tools that enable the preservation and transmission of cultural heritage.

Today, many cultural heritage assets in the world lack attention, appreciation and preservation. Many of them are at risk of demolition and some had already been lost (Embaby, 2014). In this respect, preservation of cultural heritage is a universal duty and it is crucial to create awareness on the conservation of cultural heritage as the first step.

Providing the continuity of the cultural heritage and its values is the responsibility of each person in the community. Also, one of the crucial components in the field of conservation of cultural heritage is creating awareness (Karadeniz, 2020).

Architectural education has an important role in creating awareness on the

subject. Architecture is one of the disciplines that have the responsibility both to preserve heritage buildings and to educate the community through successful conservation projects. Among all teaching fields, architectural education has a unique situation due to its content, methodology and the techniques. Architectural education requires knowledge and skills from different disciplines and deals with interrelated topics. Conservation and restoration education in architecture is a unique field requiring lifelong education. The conservation education in the architecture field is crucial. Thus, inappropriate and irreversible interventions during conservation projects may cause harm to historical monuments due to a lack of such technical skills and academic knowledge (Büyükmihci and Yücel, 2012). In this respect, raising the awareness of young people on the field of conservation of cultural heritage is becoming more important. Apart from the courses, student clubs, workshops seminars and conferences in universities are crucial activities that can be used to teach about cultural heritage to the students (Shankar & Swamy, 2013). Creating awareness should not only have aimed in the higher education. National education policies should be developed that supports cultural heritage education also in the primary and secondary education (Karadeniz, 2020).

The aim of the study is to measure the awareness on cultural heritage and its conservation and also to question the impact of the conservation and restoration course through students' knowledge development. The subjects are being taught in courses that combine theory and practice and as well as in design studios. Architecture students are expected to learn; the significance of cultural heritage, the principles and methods of conservation and restoration, to prepare a restoration project for a heritage building and how to design in historic context, during their education.

Cultural heritage includes monuments and sites that has historic, symbolic, aesthetic, social and scientific values (URL1). Conservation of cultural heritage through education and training has potential to contribute Sustainable Development Goals of Agenda 2030 (URL2) in terms of quality education, decent work and economic growth and sustainable cities and communities. Sustainable Development Goals aims strengthening efforts to preserve cultural and natural heritage as world's heritage. Heritage conservation education directly and indirectly contribute for sustainable development (Achille and Fiorillo, 2022).

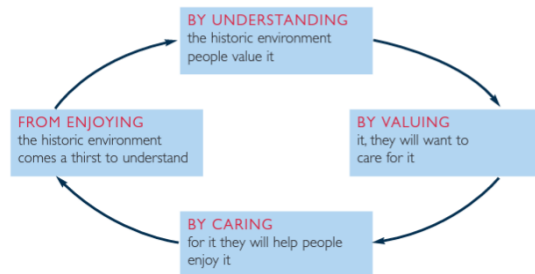
## **Architectural Education and Conservation of Cultural Heritage**

### *General approaches in conservation of cultural heritage in architectural education*

'Understanding' cultural heritage is one of the four pillars in the Heritage Cycle that is developed by Simon Thurley (2005). According to the Cycle, when people understand cultural heritage, they value it. There is no doubt that one of the most efficient ways to develop understanding is education. Besides, enjoyment from cultural heritage triggers desire to understand it, which indicates that the

appropriate use of the cultural heritage is important. It can be argued that; similar to ‘understanding’, appropriate use and proper care is related to education too.

**Figure 1.** *The Heritage Cycle by Simon Thurley, 2005*



Universities are recognized platforms, which they gained reputation as students, academics and staff. They have international recognition through accreditations and collaborations between international organizations (Saifi, 2021). Also, universities are spaces of diverse multicultural and may influence young minds in terms of the culture and history (Jokilehto, 2006). That means during a conservation works and interventions, universities have right for negotiations and follow-up. They have different experts in diverse field so it may lead to a more inclusive approach to problem solving.

In the mid-nineteenth century, with the introduction of formal architectural education, teaching conservation of the built heritage has been an important part of it (Ozorhon and Ozorhon, 2020, p.555). In the last 40 years an international support has been given to teaching conservation of the built heritage by the United Nations Educational, Scientific and Cultural Organization (UNESCO), International Council on Monuments and Sites (ICOMOS), The International Centre for the Study of the Preservation and Restoration of Cultural Property (ICCROM) and other international organizations (Embaby, 2014, p.340).

UNESCO-UIA Charter for Architectural Education specifies one of the special points to be considered in teaching architecture as ‘**Awareness of responsibilities toward human, social, cultural, urban, architectural, and environmental values, as well as architectural heritage**’ (Tochtermann, et al.). In line with this, qualifications that are expected to be achieved by the architecture students during their education are identified as:

- Ability to act with knowledge of historical and cultural precedents in local and world architecture.
- Understanding of heritage issues in the built environment.

In short, architectural education is expected to give particular importance to heritage issues. It is explained in Morgan’s translation of Vitruvius that ‘The architect should be equipped with knowledge of many branches ... This knowledge is the child of practice and theory’ (Morgan, 1914, p.5). With this perspective, UNESCO-UIA Charter for Architectural Education highlights the necessity of ‘teaching based on project realization’ as:

*Realised individually and in teams, under the personal guidance of teachers, these projects should be the principle teaching method and are to be viewed as a synthesis of knowledge, aptitudes, and attitudes. (Tochtermann, et al., 2002)*

In line with the education of architecture in general, teaching conservation of cultural heritage necessitates both theoretical knowledge and application practice. Experiential hands-on learning has a positive impact on quality of design when working with built heritage since it integrates theory and practice (Djabarouti & O’Flaherty, 2019). Therefore, active learning which comprises any teaching technique that includes students in the process of learning through activities (Prince, 2004) can be a method in cultural heritage education.

Courses and projects related to cultural heritage increase the awareness of the students and enable knowledge transfer (Benkari, 2022; Ozorhon and Ozorhon, 2020). Cultural heritage is a crucial component for social identity. Cultural heritage has no boundaries such as countries and continents, it needs to be accepted as World Heritage assets. Cultural identities are formed at early ages so teaching cultural values and conservation should start in early ages in primary school. Cultural heritage awareness may help students to develop a more positive self-image (Çiftçi, 2020).

#### *How to teach: Structure of the course*

Conservation and Restoration is the principal course that focuses on heritage conservation in the curriculum of architectural education in the European University of Lefke, Faculty of Architecture and Design. It was designed as a three-hour course for third undergraduate students of Department of Architecture and Department of Interior Architecture and Environmental Design. It is a course that combines theoretical study with practical work. This course equips students with the understanding of the significance of cultural heritage, the principles and methods of conservation and restoration and ability to prepare a restoration project for a heritage building.

Both Architecture and Interior Architecture students also take 1 studio course which teaches how to design in historic context. These studio courses, which are in the first semester of the third year, also educate students in conservation of cultural heritage and contribute to create awareness on the subject. Architecture students take “Architectural Design Studio III” that they work in a site with a historic significance and features and learn designing in historic context. Similar to this, Interior Architecture students take “Interior Design Studio IV” that they are expected to design an adaptive reuse project for a historic building.

Besides these courses, there is another course named “Measuring and Renovation” in the Department of Interior Architecture and Environmental Design’s curriculum. The course aims to teach students how to measure a historic building and prepare technical drawings and renovation project. It is not a conservation course; however, it contributes to create awareness on the conservation of cultural heritage since there is a theoretical part of the course.

Theoretical section of Conservation and Restoration course starts with

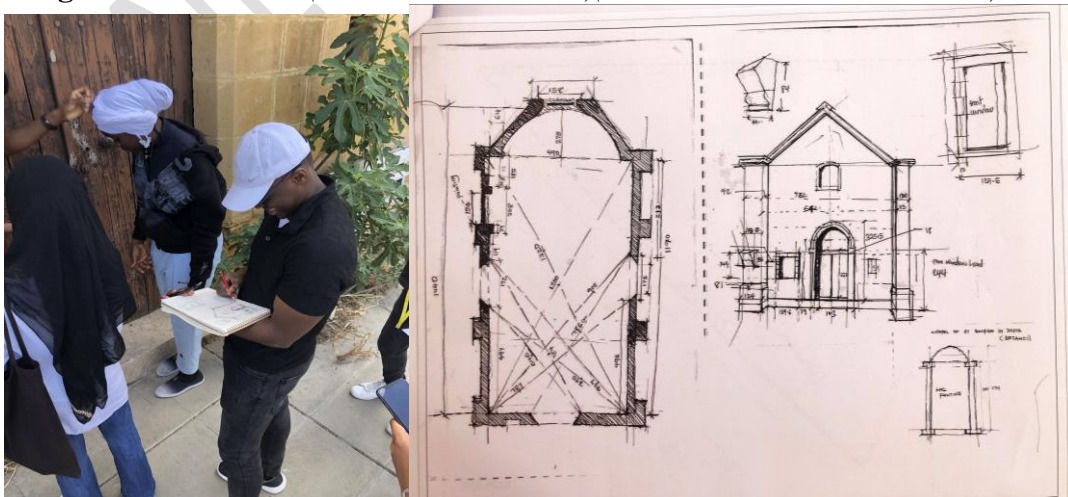
introducing the basic knowledge – key terminology. Following this, significance of cultural heritage, history of conservation and restoration, definition of values, value based approach, international and national legislations and charters, international organizations, causes of physical decay and deteriorations, damage analysis, repair techniques, principles of restoration, research before restoration, building survey and measured drawings are explained in detail.

**Figure 1.** *Field works (Photos: Authors, 2022)*



In the practical study students experience in-situ study/direct work on a selected heritage building. In-situ work provides opportunity to investigate a heritage building in its context. Practical part is the part that students have the chance to apply the knowledge gathered during the theoretical part. Thus, it is the part that the level of knowledge can be tested. Students have the opportunity to improve their measuring, observation and sketching abilities. While they are at the site, they are directed to do observation related to the existing functions and question the most necessary and suitable function for the neighborhood to be proposed as an adaptive reuse.

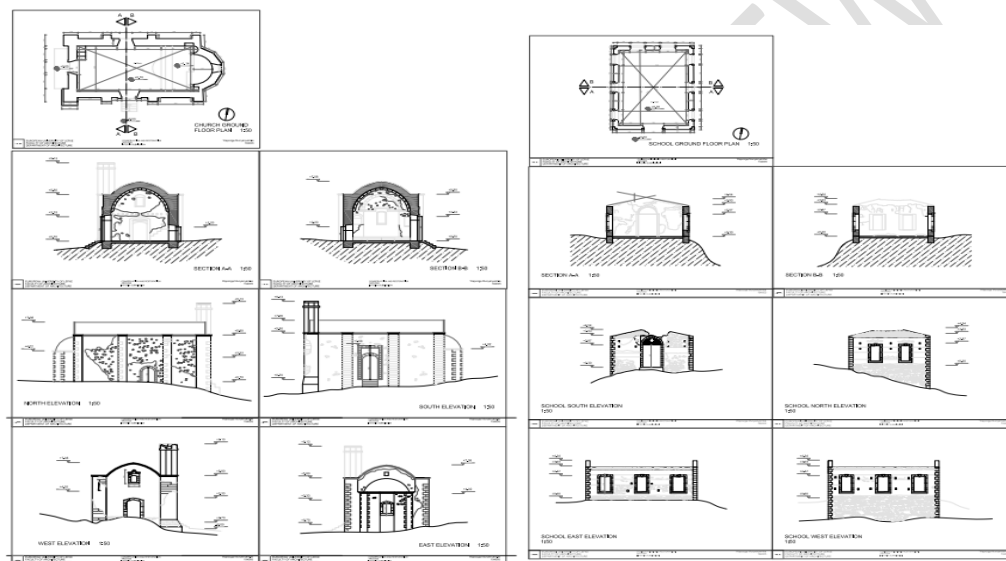
**Figure 2.** *Field works (Photo: Authors, 2023)(Sketch: Joshua Ahumuza, 2023)*



On-site data collection work necessitates a team work. Groups of three to five students are formed to work on site for data collection. The groups are formed by the students themselves. These groups include measurers, sketchers and photographers. Laser meters and tape meters are used as measurement tools. Additionally, inventory form is filled by each group.

Deskwork starts with the production of measured drawings (Figure 3). In contrary to the on-site work, desk work is an individual work. Two dimensional orthographic drawings are produced with software, mainly by AutoCAD. Moreover, deskwork includes archive research. When it is possible students conduct interviews with the locals living in close vicinity of the heritage building. This offers them an advantage to question and/or verify the information obtained from archival study. They merge both data.

**Figure 3. Measured Drawings**



The project that is submitted at the end of the semester reflects each student's understanding and awareness on the subject. The heritage building/site acts as a laboratory where students can test their knowledge while working.

## Materials and Methods

The data was collected through a survey in two consecutive years with architecture and interior architecture students who take the course in 2021-2022 Spring and 2022-2023 Spring semesters. The data was collected from an international group of students of Turkish (majority), Kazakh, Kyrgyz, Malawian, Nigerian, Rwandan, South African, Turkish Cypriot, Zambian, whose age were mainly 20-23. Total number of the questionnaire is 44.

Questionnaire survey – which included open-ended questions only – is used as the method of the study to understand how the awareness and knowledge related to the subjects changed amongst third year undergraduate students. The

questionnaire was conducted in two phase. First questionnaire was conducted at the beginning of the identified semesters in the first lecture before explaining any subject to the students. Second questionnaire, which covered the identical questions in the first questionnaire, was conducted at the end of the semester, when the whole subjects were covered and all the exams and project submissions were finalized. The aim was to compare and interpret the answers given to the questions before and after introducing the knowledge related to the conservation, restoration and cultural heritage.

The questionnaire was structured in two parts. First part includes demographic information of the participant. The second part includes questions that structured to address 5 major aspects of conservation and its effect on the learning process. The questions that asked listed as below:

- Did you take any lecture/course/education related to cultural heritage conservation?
- What does cultural heritage mean?
- Can you give examples to a cultural heritage?
- What does conservation and restoration mean?
- Why it is important to conserve cultural heritage?

In addition to the questionnaire, students' final projects were interpreted to understand the knowledge level and development. Although various historic buildings such as vernacular houses, churches, etc. have been the subject of the course only churches have been the selected heritage building in the mentioned semesters.

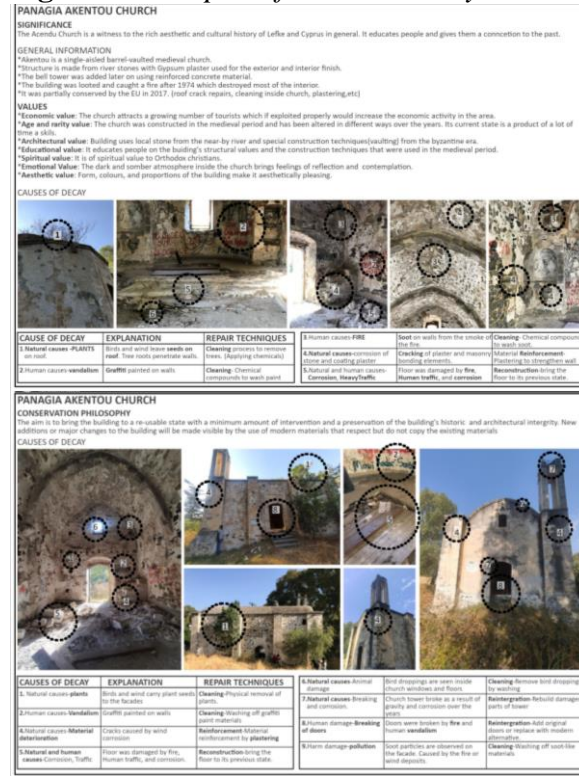
## Results

The students were asked to define 'cultural heritage', 'conservation' and 'restoration'. When the definitions on the first and definitions on the second questionnaire were investigated, it was found that compare to the former, different and more academic/scientific terminology is used in the latter besides the repeated terminology. Moreover, interior architecture students are appeared to be more in to the subject and the terminology since the initial stage of the course. The reason of this is the cultural heritage related courses in the Interior Architecture and Environmental Design Department's curriculum – "Measurement and Renovation" and "Interior Design Studio IV". "Measurement and Renovation" covers both theoretical information and practical work. The course provides ability to analyze the physical condition of an existing building, to learn how to measure and draw it and to design for adaptive re-use. "Interior Design Studio IV" is a design studio that focuses on interior design in a historic context and includes adaptive reuse project. Architecture students take "Architectural Design studio III" that they work in a historic site and learn designing in historic context. However, the studio focuses more on the design aspects and the theory of conservation is limited.



When the awareness on the variety of cultural heritage was questioned it was seen that students gave more general examples to cultural heritage by referring to the function of the building (e.g. churches) at the beginning of the course whereas at the end of the course their tendency was to give specific examples and name the heritage building (e.g. Agia Sophia). In general, students were able to list more examples at the second phase.

**Figure 4. Examples of Final Works by Students**



It was seen that the examples given by the students of 2021-2022 at the first phase were mainly buildings. Small amount of students listed dance, food, paintings, lifestyle and traditional activities as examples. Different than this group the examples given by the students of 2022-2023 were not limited with the buildings. Traditional dance, food, language, festive, songs, poems, handcraft etc. were emphasized as examples to cultural heritage. Almost all of the examples were from Turkey. International students were able to give examples from Cyprus at the end of the course.

‘Why it is important to conserve cultural heritage?’ is as important as to understand what it is. Similar to the previous questions, students with a background in the subject provided more comprehensive information even at the first stage. According to the students the reasons to conserve cultural heritage is various as following.

Firstly indicated reasons:

- Expresses the value of the society



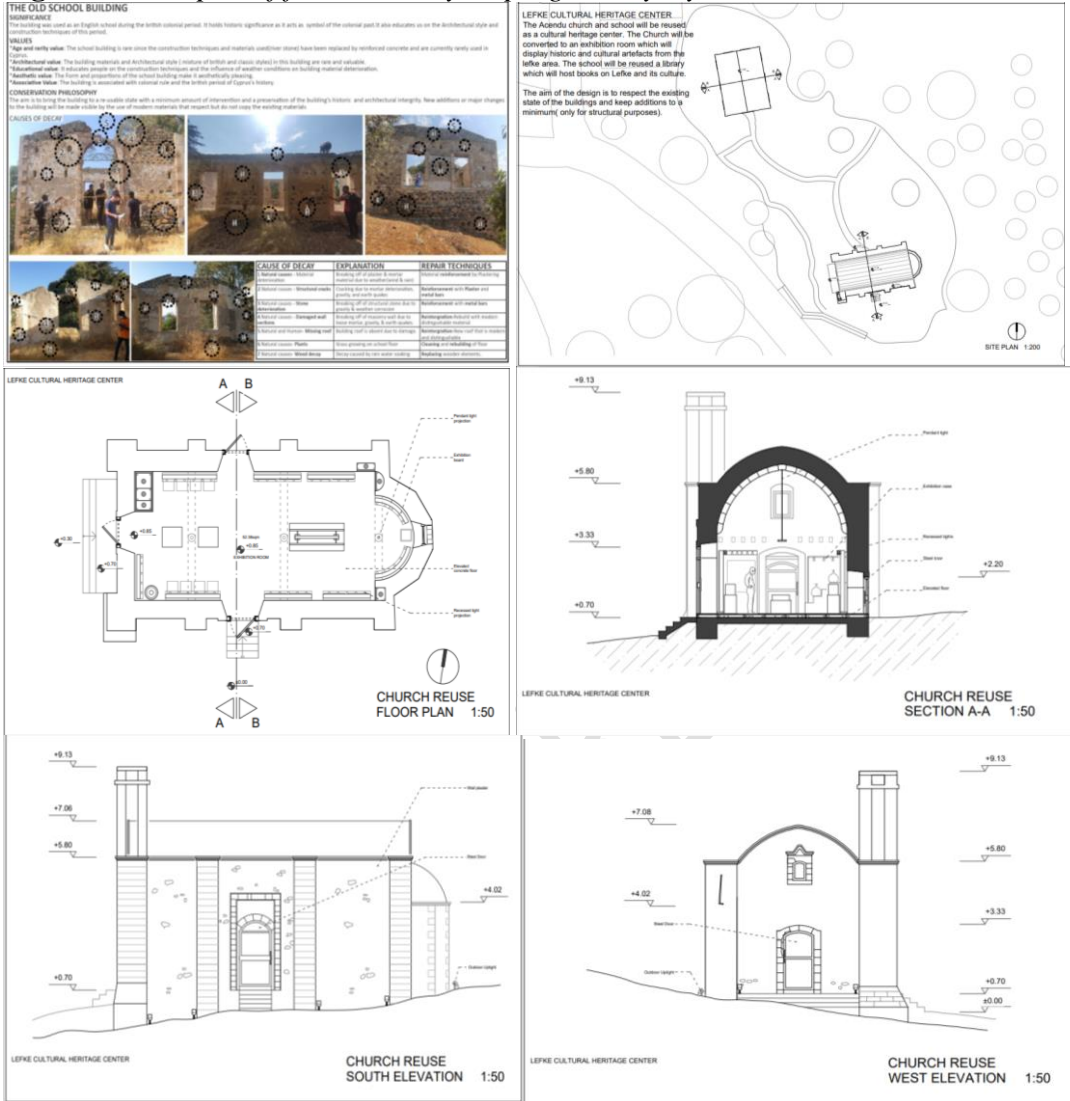
- For tourism
- Helps to preserve diversity in the world
- Inspires
- It can guide us into what we may expect in the future, helps analyse and understand past designs and art
- Provides connection with the past
- To achieve sustainability
- To do community analysis/to learn the history
- To protect history
- To understand economy, culture, history
- Transmitting/shed light

Secondly indicated reasons:

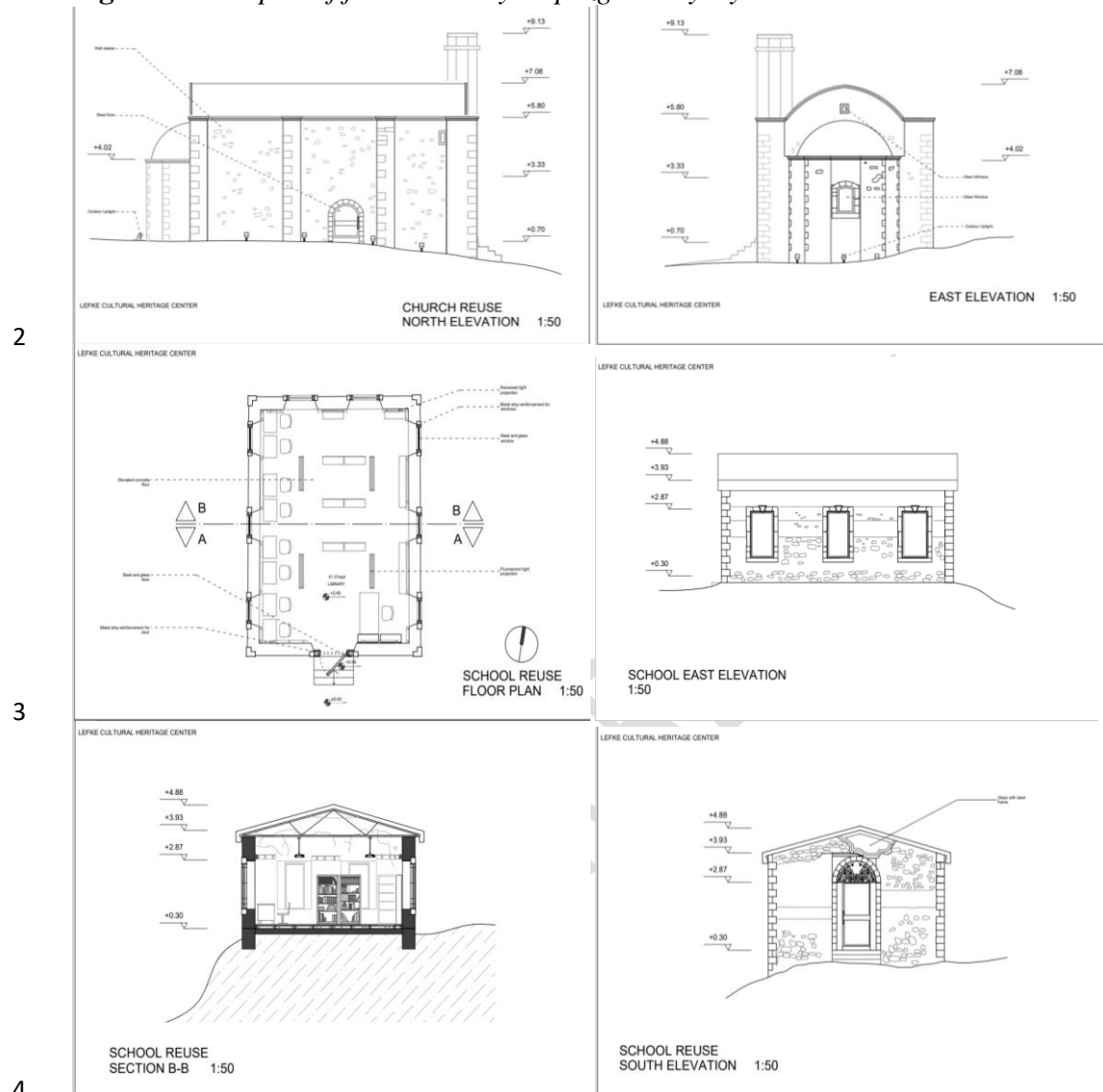
- Documentary
- Educational purpose/To learn from them
- For identity, cultural identity, national identity
- For tourism/to encourage tourism
- Historic & education purposes
- Intergenerational bond/Transferring the experiences accumulated throughout history to the future
- Pride & prestige
- Sense of nostalgia
- To get economical, cultural, historical benefit
- To get national benefit
- To protect/claim history and culture
- To sustain cultural values

Moreover, final projects of the students indicate the level of knowledge gained during the course. Students who commerce with no or limited knowledge related to conservation of cultural heritage become able to do archival research related to heritage building, to recognize the values of heritage building, to measure an existing historic building, to produce measured drawings, to identify damages and reasons of damages, propose appropriate repair techniques for damages. Furthermore, they become eligible to produce restoration project and propose new use to historic building in order to bring it back to life.

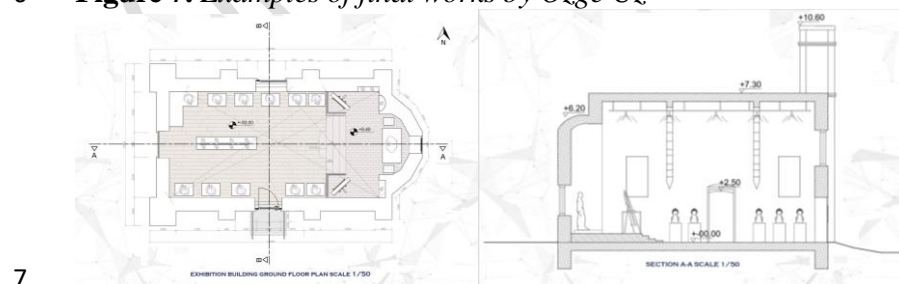
1 **Figure 5. Examples of final works by Wapozga Munyenembe**



1 **Figure 6.** Examples of final works by Wapozga Munyenembe



6 **Figure 7.** Examples of final works by Özge Uz

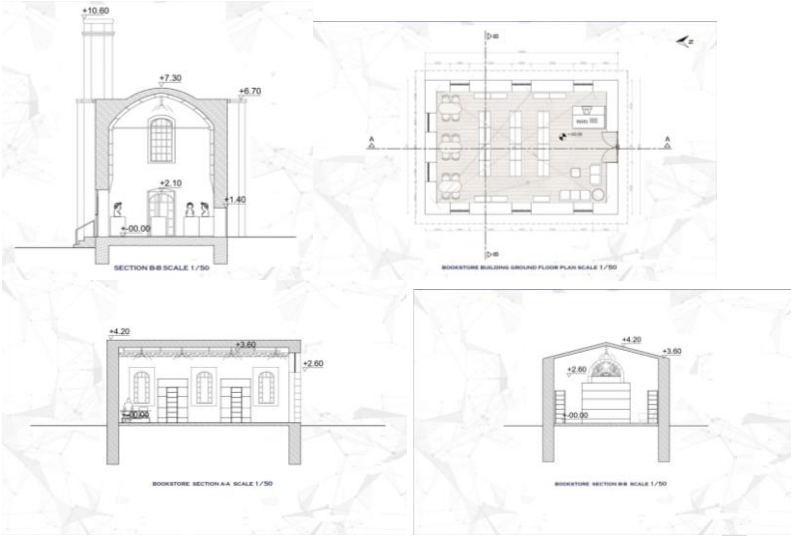


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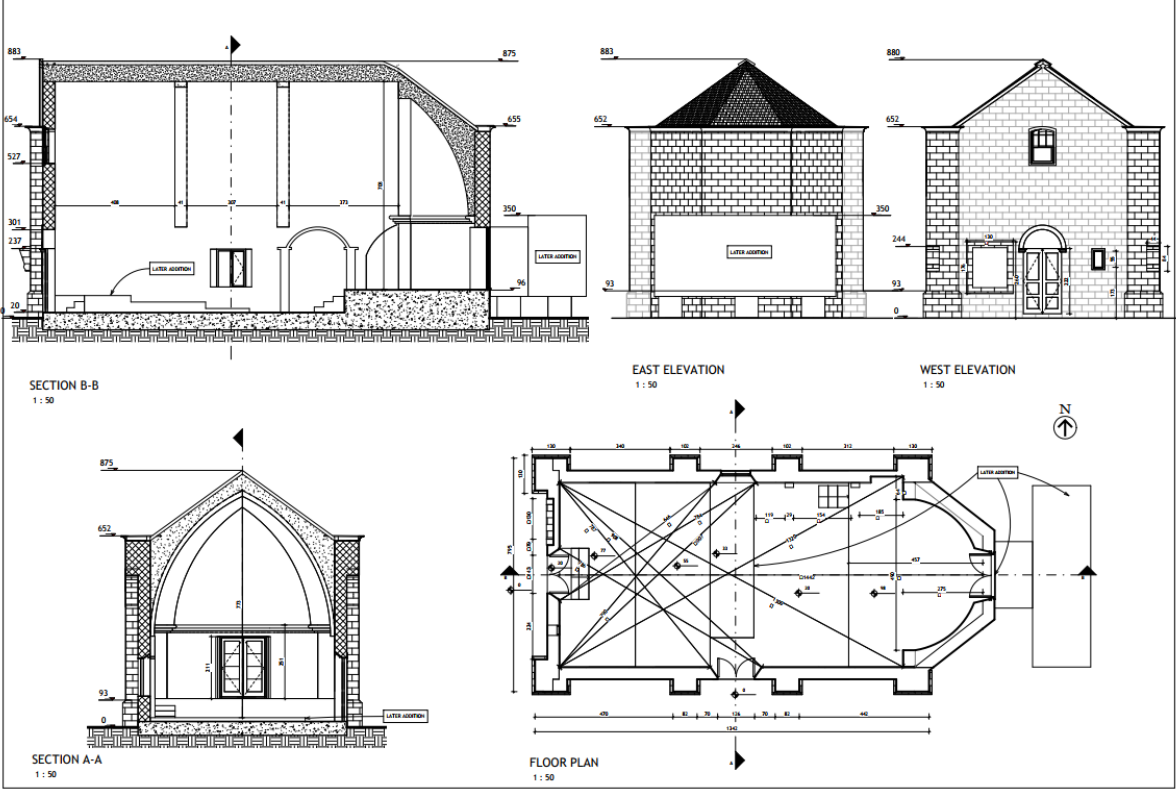
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**Figure 8.** *Examples of final works by Umar Murnai Kabir*



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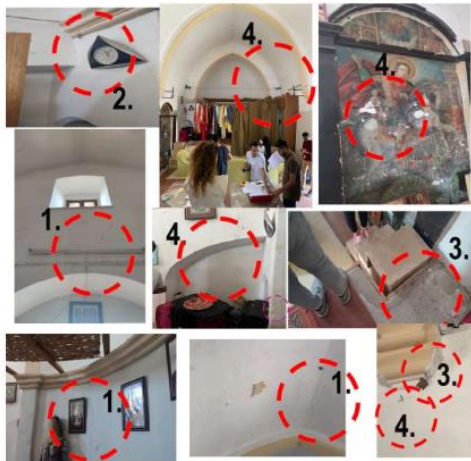
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1 **Figure 9. Examples of final works by Yaren Kırteke**

INTERIOR CAUSES OF DECAY



EXTERIOR CAUSES OF DECAY



CAUSES OF DECAY	EXPLANATION	REPAIR TECHNIQUES	2. CAUSES OF DECAY	EXPLANATION	REPAIR TECHNIQUES
1. Structural cracks	Cracking due to mortar deterioration, gravity and earthquakes.	Reinforcement with plaster and metal bars can be made as a coating solution.	2. Stone deterioration	Breaking off of plaster and mortar material due to weather. Wind and rain.	Material reinforcement by Plastering.
2. Damp , moisture	Soot particles are observed on the facade. Caused by the fire and wind deposits.	Cleaning washing soot - like materials.	1. Material deterioration	Breaking off of structural stone due to gravity and weather corrosion.	Reinforcement with plaster and metal bar.
3. Stone deterioration	Breaking off of plaster and mortar material due to weather. Wind and rain.	Material reinforcement by Plastering.	2. Damp , moisture	Soot particles are observed on the facade. Caused by the fire and wind deposits.	Cleaning washing soot - like materials.
4. Material deterioration	Breaking off of structural stone due to gravity and weather corrosion.	Reinforcement with plaster and metal bar.	3. Iron rust	When acidic substances (including water) come in contact with metals, such as iron and/or steel.	Paint is plastic, nickel, chrome, copper and zinc coating.
4. Vandalism	Kicking and damaging someone's property with your hands or feet.	Reconstruction , its previous state.	4. Roof decay	Decay caused by rain water soaking	Replacement of roof elements

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5 **Conclusion**

6  
7 Applying the integrated approaches in teaching preservation of cultural  
8 heritage provides students a deeper understanding of the importance and values of  
9 the heritage. Conservation projects and its processes promote students' skills in  
10 understanding and recognizing the cultural heritage and its values.

11 By evaluating the students' awareness on the heritage conservation before and  
12 after finishing the "Conservation and Restoration" course, the paper concluded  
13 that conservation courses in architectural education programs can be considered as  
14 an effective approach in creating awareness on conservation of cultural heritage.

15 When current situation of education in Cyprus considered regarding historical  
16 and environmental conservation, it is observed that the education on conservation  
17 starts in higher education level and there is no any course on the subject in primary  
18 education. Since it starts in higher education and it is only in certain faculties, there  
19 is no real integration with practice and other educational fields. Education in  
20 historical and environmental conservation should not be limited to architectural  
21 education in the universities and it should be integrated to curriculum of every  
22 faculty as a must course. Because it is responsibility of each individual to preserve  
23 the continuity of the cultural heritage.

24 The success of the conservation project is related to the involvement of the  
25 local people living around. Local authorities, organizations, decision makers and  
26 education specialists in the field should work together to produce necessary



policies, which may help raising the awareness in the field.

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