Familiarizing conservation–restoration students with risk assessment and risk management using outdoor sculptures as case studies

Sagita Mirjam Sunara
University of Split, Arts Academy, Conservation-Restoration Department
sagita.mirjam.sunara@umas.hr

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Abstract

Aim. The paper describes a problem-based learning assignment through which conservation-restoration students become acquainted with the assessment and management of risks to cultural heritage. The assignment includes identification of threats, writing incident scenarios, proposing mitigation measures and identifying persons/institutions that can implement them. All risks are considered in the assignment, not just those related to disasters.

Approach/methodology. In the Introduction section, the concept of risk assessment and the context of the assignment are explained. A short description of objects selected as case studies is provided (three sculptures from the Sisak Steelworks Sculpture Park), as well as basic information about the students who worked on the assignment. Next, all the steps of the assignment are described. The final results are only broadly indicated.

Findings. Seventy-eight different incident scenarios were identified for outdoor sculptures. To help the reader understand the idea behind the assignment, mitigation measures for three incident scenarios are presented, and potential stakeholders listed.

Practical implications. Although the assignment used outdoor sculptures as case studies, it can be applied to any object or collection. The assignment does not have to be included in a preventive conservation course, nor does it have to be directed only to (conservation-restoration) students: it can be used by museum and heritage professionals as a first step in risk assessment for collections.

Originality/value. The topic presented in this paper is not well represented in Croatian

professional literature. The assignment may be considered innovative in the context of the methodology of teaching conservation-restoration at higher education institutions in Croatia.

KEYWORDS: outdoor sculpture, preventive conservation, problem-based learning, risk assessment, Sisak Steelworks Sculpture Park

> *Yes, preventive conservation began with a focus, almost an obsession, on climate and light, and many are still stuck there. I was hired to be just such a specialist, but I was lucky because (...) my CCI [Canadian Conservation Institute] job forced me to make sense of all the issues affecting preservation, not just climate and light.*
>
> Stefan Michalski (Michalski 2016, 4)

1. Introduction

As the opening quote explains, the traditional approach to preventive conservation has been to create an 'ideal' environment by controlling relative humidity, temperature and light. Preventive conservation also includes implementing procedures for proper handling, transport, storage, display and use of an object or a collection. Decisions on preventive conservation actions have traditionally relied on recommendations for specific materials or object types, and on 'best practices'.

A paradigm shift started to emerge in the late 1980s and the early 1990s, when the assessment and management of risk was applied to preventive conservation. For the sake of clarity, the two terms – 'risk assessment' and 'risk management' – need to be explained. The first term designates the process of risk identification, risk analysis, and risk evaluation, while the second term denotes the process whose goal is to minimize risk (Michalski and Pedersoli Jr 2016, 162).[1] The aim of this approach is to consider all issues affecting the preservation of objects, the frequency of their occurrence (or the rate of their action), and their effect, and to use that information as a basis for deciding which mitigation strategies will be implemented. This approach enables one to make objective (not intuitive!) decisions and allows the available resources to be distributed in a reasonable way (Baer 1991; Waller 1995; Michalski 2016).

This paper describes a problem-based learning assignment that I designed to familiarize conservation-restoration students with some elements of risk assessment and risk management. Although that topic has long been present in the study programs of some foreign higher education institutions (Baer 2001; Roemich and Weintraub 2010), and even taught to heritage professionals (Waller, 1994; Antomarchi et al 2005), it has not been included in

[1] Ashley-Smith defines risk assessment as „an informed judgement about particular risks ", and risk management as „control of exposure to hazards in order to minimize risk" (Ashley-Smith 2011, 19). There are also other definitions. See, for example, Waller 1995, 21.

preventive conservation courses taught at Croatian universities.

The undergraduate program of study offered by the University of Dubrovnik has two preventive conservation courses. One focuses on factors affecting the ageing and deterioration processes, while the other one tackles practical aspects of preventive conservation, such as packing and transport, and emergency response (University of Dubrovnik 2021, 145–147, 207–209). Two preventive conservation courses are also included in the integrated undergraduate and graduate program of study at the University of Split – Arts Academy. One provides students with a general understanding of mechanisms of change by exploring the ten agents of deterioration, while the other one focuses on damage prevention actions related to the objects that students work on in the studios or in situ[2] (Arts Academy in Split 2019a, 49–52, 171–173). At the present moment, the integrated undergraduate and graduate program of study offered by the University of Zagreb – Academy of Fine Arts does not include preventive conservation courses. Issues related to preventive conservation are covered within specialist courses, with a focus on the environmental control, causes of deterioration and object- or material- specific practical preventive conservation actions (Ana Božičević, Email message to the author, June 7, 2022).

Until 2019 my knowledge of risk assessment and risk management applied to cultural heritage was somewhat limited, but a visiting lecture by José Luiz Pedersoli Jr from the International Centre for the Study of the Preservation and Restoration of Cultural Property (ICCROM) provided both me and my students with the opportunity to delve more deeply into the subject.[3] Pedersoli Jr presented the method described in the publication he co-authored, *The ABC Method: a risk management approach to the preservation of cultural heritage* (Michalski and Pedersoli Jr 2016). Inspired by his talk, I decided to include some aspects of risk assessment and risk management in the program of a theoretical and practical workshop that I conducted a month later – in June 2019 – in Sisak, Croatia (Sunara 2019b; Sunara 2019c) as part of the European project Conservation of Art in Public Spaces (CAPuS).[4] I came up with an assignment in which workshop participants had to identify threats to the collection of outdoor metal sculptures known as the Sisak Steelworks Sculpture Park, to consider if the threats are the same for all the sculptures in the collection, to identify the factors that can cause damage or loss of value to the sculptures, and to propose mitigation measures/actions. The participants gave very positive feedback on this task, which encouraged me to further develop it through one of the courses I teach at the Arts Academy in Split.

The opportunity presented itself to me sooner than I had expected. In the spring semester of the academic year 2019/2020 I took over another preventive conservation course. (I had been teaching basics of preventive conservation since 2010.) Less than three weeks into the semester, the COVID-19 pandemic lockdown was imposed, and the universities were

[2] The latter was introduced in the study program in 2019, substituting a course that provided students with some hands-on experience, but mainly focused on dusting and cleaning of wooden objects in churches. The new course was for the first time delivered in the academic year 2021/2022. Its reading list includes two books on risk assessment and risk management (Ashley-Smith 2011; Michalski and Pedersoli Jr 2016).

[3] General information about the lectures that José Luiz Pedersoli Jr delivered in Split is published on the Arts Academy in Split website (Arts Academy in Split 2019b).

[4] The Conservation of Art in Public Spaces (CAPuS) project started in January 2018 and ended in June 2021. The project received funding from the European Commission, Programme Erasmus+ Knowledge Alliances (Project N° 588082-EPP-A-2017-1-IT-EPPKA2-KA). More information about the project can be found on the CAPuS website (CAPuS, n.d.).

forced to switch to distance teaching. Since the problem-based assignment related to risk assessment could be devised in such a way that students work on specific tasks at home, individually, with mentoring support being provided online, I decided to integrate it into the course.[5] I also decided to use the sculptures from Sisak as case studies as they have been the focus of my research interest for over a decade. More importantly, outdoor works of art are exposed to numerous risks, from harsh environment to interaction with the public, which made them ideal for the assignment.

2. The case studies

The assignment revolved around three sculptures from the Sisak Steelworks Sculpture Park, a collection comprised of 38 outdoor metal sculptures created during the 1970s and the 1980s by artists from the former Yugoslavia who participated in an artists' colony organised by the Sisak Steelworks (Čakširan and Baćani 2012; Sunara 2021).

The three sculptures that I selected differ in material, size, form, and location. The first sculpture – *The Work Process* by Sašo Stevović (Figure 1) – is made of steel. It rests on a low cement plinth and is sited near a road that connects the former Sisak Steelworks and the nearby residential estate. The second sculpture – *Dark Visions I* by Josip Zeman (Figure 2) – is made of galvanized steel and is installed in the middle of the park that separates the factory from the housing estate. It lies directly on the ground. The third object – a painted steel sculpture titled *Wall*, by Dora Kovačević (Figure 3) – is located in the Steelworks housing estate. It is not properly installed, rather leant against a wall of a residential building.

Figure 1. *Sašo (Nedeljko) Stevović, The Work Process, 1975, steel, 79.5 x 140 x 50 cm* (Photo by Boris Cvjetanović, October 24, 2018 © University of Split, Arts Academy)

[5] The entire course was delivered online, using Microsoft Teams as a teaching platform. Students submitted homework via email.

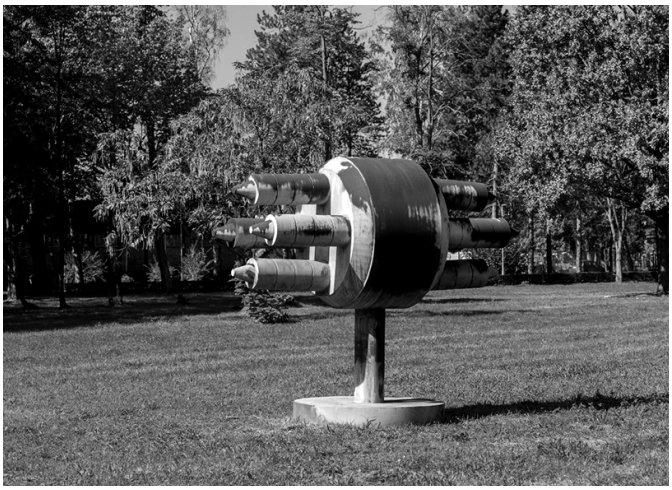

Figure 2. *Josip Zeman, Dark Visions I, 1983, galvanized steel, 266.5 x 266.5 x 327 cm* (Photo by Boris Cvjetanović, October 25, 2018 © University of Split, Arts Academy)

Figure 3. *Dora Kovačević, Wall, 1985, painted steel, 266.5 x 266.5 x 327 cm* (Photo by Boris Cvjetanović, October 25, 2018 © University of Split, Arts Academy)

3. Student demographics

The assignment was included in the second-year preventive conservation course. Ten students were enrolled in the course, all of whom had previously completed the introductory (first-year) course in preventive conservation. They also had attended José Luiz Pedersoli Jr's lecture on risk management.

I do not have information about the number of students in the group who were pursuing the specialization in conservation-restoration of metal, but I should note that the assignment did not require a high level of specialist knowledge in that area, rather the application of knowledge acquired in the other courses and of common-sense.

4. The assignment

The outline of the assignment is shown in Appendix 1. First, I introduced the students to the three outdoor sculptures the assignment would focus on. I provided them with photographs of the artworks and pointed them to a Google map on which the sculptures' locations are marked. Because the sculptures are located in Sisak, which is 400 kilometres road distance from Split, and because the course was delivered at a time when severe travel restrictions were imposed, students did not get to see them in person. The only information they had on the sculptures' state of conservation was what they could discern from their photographs, so I did not ask them to consider the objects' physical condition when working on the assignment.

The first requirement for each student was to produce an essay in which they would answer the following questions: What threats is each sculpture exposed to? How can damage occur? What measures can be taken to prevent the damage? Which people and/or services can help implement the proposed measures? Students also had to explain who should respond when a sculpture gets damaged, and what the chain of responsibility should be.

Next, I asked the students to read all the essays and to mark the sentences that mention causes of damage to the three sculptures. I provided them with a form in which they had to list the causes of damage and note which sculpture each cause referred to i.e., if a certain cause affected one sculpture, two sculptures, or all three sculptures.

In the following step students had to go through the essays again and extract sentences that mention or describe incident scenarios for each of the ten agents of deterioration[6] for one particular sculpture. The extracted text had to be revised in order to provide a clear description of each scenario.[7] Students had to enter this information in a special form. Since the task focused on three objects, I created three forms – one for each sculpture. Each form included one example: incident scenarios for one agent of deterioration (physical forces) for that particular piece. Table 1 shows the example included in the form related to the sculpture installed near a road.

Table 1. *Incident scenarios for the sculpture installed near a road*

Number	Incident scenario
1	If someone is driving too fast or under the influence, a car can fly off the road, hit the sculpture and physically damage it (scratch it, deform it, or break it into pieces). The force of the impact can cause the sculpture to fall off the concrete plinth.
2	Gravel or other rock material can fall off passing trucks, and the cars can propel the gravel or rocks toward the sculpture. This can lead to surface damage (chipping off the metal).

[6] Physical forces; thieves, vandals and displacers; fire; water; pests; pollutants; light, ultraviolet and infrared; incorrect temperature; incorrect relative humidity; dissociation / custodial neglect.

[7] The scenario descriptions in the essays were mostly incoherent. For example, many students wrote "An earthquake can damage the sculpture." instead of "An earthquake can overturn the sculpture. Some parts of the sculpture can be detached or deformed, and the paint can get scratched."

3	During grass cutting, a mower or a trimmer can propel gravel or small rocks toward the sculpture. This can lead to surface damage (chipping off the metal).
4	Due to road traffic, the sculpture is subject to vibration. This can expose the material to strain and lead to (micro)cracking.
5	Solid particles carried by the wind can abrade the surface of the sculpture.
6	A strong wind or a storm can break off a branch from a nearby tree, which can land on the sculpture and cause scratches on its surface (deformation or breakage are a less probable, as the sculpture is made of solid steel elements).
7	A lightning strike can locally melt the surface, deform the sculpture or even completely destroy it.

I should note that the students were not asked to evaluate the probability of incident occurrence nor to quantify the resulting loss of value, as those kinds of assessments would require far more data and much more time.

Finally, I asked the students to propose mitigation measures for each risk scenario identified in the previous step, and to name the individuals and/or institutions that can (help) implement those measures. I again provided them with forms in which this information had to be registered. To help the students understand what they needed to write, I included several examples in the forms. Those examples are described in the next chapter. When proposing options to reduce risks, students did not have to consider the availability of economic and human resources, nor did they have to prioritize the proposed measures.

5. Results and discussion

5.1. Initial risk identification and initial proposal for risk elimination/mitigation

The essays students submitted in the first step of the assignment varied in structure, length and quality. Most students did not take into account all the threats that the sculptures are exposed to, and all the possible incident scenarios related to those threats. When considering individuals and services that could be involved in the implementation of mitigation actions and measures, most of them mentioned only conservator-restorers.

5.2. Identification of causes of deterioration

Some students recognized only 13 or 14 causes of deterioration, while some others managed to list 40 of them. Regardless of the number of causes they managed to discern, this task inspired the students to think about the issues they might have overlooked in the previous step. By reading each other's essays, they got the opportunity to critically evaluate the performance of their classmates, as well as their own.

5.3. Identification of incident scenarios

From the forms that students submitted I was able to extract 78 *different* incident scenarios. Some scenarios apply to all three sculptures, some to just two sculptures, while some are object-specific. Chart 1 shows how the scenarios are distributed across the ten agents of deterioration. The list of scenarios is not exhaustive, as they were 'sourced' only from the essays that students wrote in the first step of the assignment. The scenario descriptions required revision as the text was not always coherent and factually accurate.

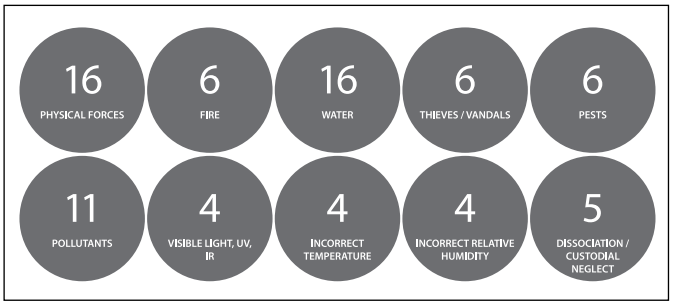

Chart 1. *Total number of different incident scenarios identified for the three sculptures from the Sisak Steelworks Sculpture Park*

5.4. Proposing specific mitigation measures and identifying stakeholders/partners

Working on this task, several students came up with original and creative solutions, and managed to propose more than one mitigation measure per incident scenario. Some students, however, had difficulty finding even one solution for a scenario, or proposed the same mitigation measure for multiple scenarios. Some students were unable to precisely determine who should be involved in the implementation of the measures.

A complete overview of the mitigation measures proposed for the 78 incident scenarios and of the persons/services/institutions that were identified as those that could implement them is beyond the scope of this paper. Until the free-form text that students entered in the forms is corrected, the final results of the assignment remain publicly unavailable. Once the text is revised, the results will be shared with the cultural institutions from Sisak who manage the Sisak Steelworks Sculpture Park, as well as with the responsible Monuments Care Office of the Ministry of Culture and Media.

To help the reader make sense of the assignment and get a clearer image of the scope and importance of the work done, mitigation measures for three incident scenarios are presented here.[8]

An example related to physical forces

The following incident scenario was considered: "If someone is driving too fast or under the influence, a car can fly off the road, hit a sculpture installed near the road and physically damage it (scratch it, deform it, or break it into pieces). The force of the impact can cause a sculpture to fall off the concrete plinth." There are two lines of action that can be taken to mitigate damage: (A) slow down motor vehicle speed; (B) minimise impact damage.

Vehicle speed can be reduced by installing speed limit signs on the section of the road

[8] These are examples that the author included in the forms she gave to the students.

where the sculpture is installed; by installing speed humps and/or speed cameras; even by periodically conducting speed controls. These measures can be implemented with the help of road authorities and the police force.
As for the impact damage, there are several ways in which it can be minimised. A sculpture can be moved farther away from the road. A fence can be installed along the road (but it could have a negative effect on the visual experience of the artwork). Another possibility is to increase the height of the concrete plinth on which the sculpture rests (that, too, would change the artwork's visual impression). The measures listed can be implemented in collaboration with road authorities, municipal planning service and the artist.

An example related to thieves, vandals and displacers

"The whole or a part of a sculpture can be stolen" was the incident scenario considered. The actions that can be undertaken to mitigate this kind of loss/damage can be divided into (A) actions that have direct and immediate effect and (B) those that show effect in the medium and long term.
The first category encompasses a wide range of actions: setting a sculpture on a concrete plinth if it does not have one already; attaching a sculpture to its concrete plinth if it is not already fixed to it; lighting the sculpture; placing an information panel next to the sculpture with basic information about the piece and a note that it is a protected cultural property; installing surveillance cameras in the vicinity of the sculpture; conducting regular (weekly) check-ups; organising occasional police patrols; hiring a security company to patrol at night; if a sculpture or its part gets stolen, sending out photographs of the artwork to scrap metal facilities in the wider city area and requesting the companies to contact the police if the sculpture or a part of it are offered for sale; distributing photographs of the sculptures to local scrap metal companies and informing them that the objects are protected under law; severe penalties for any act of theft and vandalism of the sculptures. These measures can be implemented by: civil engineers and structural engineers (design of concrete plinths and anchoring systems), city utility service (construction of concrete plinths, anchoring the sculptures to the plinths, installation of lighting systems), lighting design company, video surveillance company, police authorities, security company, Ministry of Justice (legislation related to damage and destruction of cultural property), and the city cultural institutions that manage the collection (the making of a collection catalogue, delivery of the catalogue to scrap metal companies).
Measures that will produce effects in the medium and long term include: conducting educational programs in the local community to raise awareness about the sculptures' existence and to prompt citizens to report any suspicious activities around the sculptures; conducting educational activities for children and youth to prevent inappropriate interactions with the sculptures. These measures can be implemented by local kindergartens and schools, city cultural institutions that manage the collection, professional association of museum educators, and higher education institutions.

An example related to incorrect temperature

The following incident scenario was considered: "In the summer months, the sculpture heats up. Increased temperature accelerates all degradation processes." This incident scenario refers to sculptures that are entirely exposed in the sunlight the whole day.
Damage can be mitigated by placing a sun-shade over a sculpture just before annual tem-

perature maximums are reached. This would require the involvement of the meteorological and hydrological service (for delivering timely information on temperature maximums in the specified area), conservator-restorers (for installing sun-shades) and utility services (for assistance in installing sun-shades). A sun-shade would, albeit temporarily, affect the aesthetic experience of the artwork.

A sculpture can be protected by planting trees in its vicinity which will (in future) provide shade. This, however, could affect the aesthetic experience of the sculpture. The individuals and/or institutions whose help would be required are: conservator-restorers (to provide advice on where the trees can be planted), city planning services (to determine planting locations) and city utility services (to plant the trees and carry out maintenance).

A sculpture can be moved to a shadier location. That action presents an ethical question as relocation of the sculptures impairs the original conception of the organizers of the Sisak Steelworks Sculpture Colony, who chose the sculptures' installing locations. The implementation of this measure would require the involvement of the Monuments Care Office (for determining if/where a sculpture can be relocated), the artist (for choosing or approving the new location), conservator-restorers (for providing guidance in the selection of a new location), city planning services (for proposing the new location) and city utility services (for deinstallation and relocation of the sculpture).

6. Conclusion

The assignment required students to integrate and apply knowledge they had acquired across multiple courses. This particularly refers to explaining the cause-and-effect relationship. Proposing mitigation measures helped develop students' creative thinking skills. The assignment as a whole taught them how to tackle a problem systematically.

The most important outcome of the assignment was that students' perception of preventive conservation was broadened. They became aware of the extremely wide range of threats that heritage objects are exposed to – a fact they need to consider when making preventive conservation plans. Students also realized that, when it comes to the implementation of risk-mitigation measures, conservator-restorers cannot do all the work on their own – they need to establish relationships and build partnerships with other experts and agencies. Preventive conservation requires a collective effort.

The sculptures from the Sisak Steelworks Sculpture Park greatly benefited from the assignment. The threats to the three sculptures have been recognized, mitigation recommendations developed, and key actors identified. These data can be used to create a preventive conservation plan not just for those sculptures, but for other similar works in the collection – and elsewhere.

If more sculptures from the Sisak Steelworks Sculpture Park are analysed in the same manner, a catalogue/register of incident scenarios and mitigation recommendations can be produced. More factors that determine an object's vulnerability to damage can be taken into account in the future, such as the material composition of the object in question, its size, form, construction technique, physical condition and environmental context. A database could eventually be created in which one could enter sculpture attributes – for example "painted steel", "urban area", "under a tree" – and a list of all incident scenarios would be

displayed, along with possible mitigation measures. That would be an extremely helpful tool in preventive conservation planning for outdoor works of art.
A shortened version of this assignment (see Appendix 2) has been included in the course on conservation-restoration of contemporary public artworks developed through the CAPuS project. It is a part of the module 'Mitigating deterioration (preservation plan)'. The material is openly and freely available on the CAPuS e-learning platform.
The assignment – either in the form described in this paper or in its shortened version – can be applied to any heritage object or a collection. The exercise does not need to be limited to conservation-restoration students – it can be used by professional conservator-restorers (and other heritage professionals) as a first step in risk assessment.

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Appendix 1

Table 2. *The outline of the assignment described in the paper.*

Step	Student tasks	Materials provided by the course instructor
1	Examine the available information about the cultural heritage objects, and respond to the following questions in essay form: What threats is each object exposed to? How can damage occur? What measures can be taken to prevent the damage? Which people and/or services can help implement the measures you are proposing? Who should respond when the objects get damaged, and what the chain of responsibility should be?	General information and photographs of the objects.
2	Read your colleagues' essays, and write down all the causes of deterioration mentioned in the texts. Take note of which object is / objects are affected by a specific cause. Record the information in the form provided by the course instructor. Critically evaluate your own performance in Step 1.	A form (a Word document table) in which students have to enter the causes of deterioration mentioned in the essays, and record which object is / objects are affected by each cause.
3	Focusing on just one object, read the essays again and extract sentences that describe incident scenarios for that particular object. Group incident scenarios into categories according to the ten agents of deterioration. Record the information in the form provided by the course instructor. If necessary, amend/edit the text you extracted from the essays. The text you will enter in the form needs to provide a thorough explanation of the sequence of events connected to each cause that results in damage to the object.	One form (a Word document table) for each object included in the assignment, in which students have to record incident scenarios described in the essays. Each form should include one example (incident scenarios for one agent of deterioration for the object in question).
4	Propose mitigation measures for the incident scenarios listed in the form that you received from the course instructor. Identify individuals and/or institutions that can (help) implement each measure/action you are proposing. Enter the information in the form(s).	One form (Excel spreadsheets) that contains all incident scenarios identified in Step 3. Students have to enter in the form information about possible mitigation measures and the actors who can implement them. If the assignment requires a lot of time to complete, split the form into several smaller ones (each form should cover several agents of deterioration). Make sure to include one example in every form (mitigation measures for one incident scenario, and the actors who can implement them).

Appendix 2

The following is an excerpt from the Guide for Lecturers written by Sagita Mirjam Sunara for the Conservation of Art in Public Spaces (CAPuS) formative module 'Mitigating deterioration (preservation plan) – maintenance of outdoor sculptures'.[9]

In-class, 2 hours
Step 1. Problem-based exercise: identifying threats to outdoor sculptures

Show students an outdoor sculpture from the CAPuS Digital Repository (https://www.capusrepository.unito.it/), and provide some context (basic information about the artwork, its location and physical condition).

Ask students to list worst-case scenarios related to each of the ten agents of deterioration for that specific sculpture. If necessary, remind them what the ten Agents of deterioration are: (1) physical forces, (2) thieves, vandals, displacers, (3) fire, (4) water, (5) pests, (6) pollutants, (7) light, (8) incorrect temperature (9), incorrect relative humidity, and (1) custodial neglect and dissociation. Tell students that they can list more than one scenario for each agent.

Exercise tip: This exercise can be performed in such a way that students are divided into small groups or pairs, and each group or pair reflects on the scenarios related to two or three agents of deterioration.

Step 2. Problem-based exercise: identifying factors that influence the vulnerability of an object.

Ask students to explain how risks change according to the artwork's material, physical state (i.e., state of preservation) and location.

Ask them if they can think of any other factors that can influence the object's vulnerability. (Possible answers: size, structure/shape, function, value, use of the site/area where the sculpture is installed.)

Step 3. Problem-based exercise: proposing mitigation measures for public sculptures.

Ask students to propose mitigation measures for each scenario from the first stage of the discussion, and to identify all the actors – individuals and services/institutions – that can (help) implement the proposed measures.

Step 4. Group discussion about the exercise.

Ask students to reflect on the whole assignment. What have they learned from this exercise? (Students should gradually come to the conclusion that preventive conservation of outdoor sculptures requires more than routine maintenance, and that conservator-restorers need to partner up with other professionals in order to make sure that outdoor sculptures last as long as possible.)

[9] The module can be accessed through the CAPuS e-learning platform, available at http://www.capusproject.eu/capus-e-learning-platform/.

Sažetak

Upoznavanje studenata konzervacije-restauracije s procjenom rizika i upravljanjem rizicima na primjeru skulptura na otvorenom

Cilj. U radu se opisuje problemski zadatak koji studente konzervacije-restauracije upoznaje s procjenom rizika i upravljanjem rizicima u kontekstu kulturne baštine. Zadatak uključuje identificiranje prijetnji kojima su kulturna dobra izložena, izradu scenarija događaja koji mogu rezultirati oštećivanjem ili gubitkom vrijednosti kulturnih dobara, predlaganje mjera ublažavanja rizika te identificiranje aktera koji predložene mjere mogu provesti. Zadatak u obzir uzima sve rizike, ne samo one povezane s nezgodama i velikim nesrećama.

Pristup/metodologija. U uvodnom se dijelu objašnjava koncept procjene rizika i kontekst problemskog zadatka. Uz kratki prikaz studije slučaja (tri skulpture iz Parka skulptura Željezare Sisak), u radu se donose osnovni podaci o studentima koji su rješavali zadatak. Problemski je zadatak objašnjen po koracima/fazama. Završni su rezultati samo okvirno opisani.

Rezultati. Kroz problemski je zadatak identificirano 78 različitih scenarija za skulpture na otvorenom. Da bi se čitatelju približila osnovna ideja zadatka, u radu su opisane mjere ublažavanja rizika za tri scenarija i navedene osobe/službe koje ih mogu provesti.

Praktična primjena. Zadatak se bavio skulpturama na otvorenom, no može se primijeniti na bilo koji predmet ili zbirku. Zadatak se ne mora nužno uklopiti u sveučilišne kolegije vezane za preventivnu konzervaciju. Štoviše, ne mora biti usmjeren samo na studente konzervacije-restauracije (ili studente općenito): muzejski i baštinski stručnjaci mogu ga primijeniti kao prvi korak u izradi procjene rizika za muzejske i sakralne zbirke.

Originalnost/vrijednost. Tema koja je u radu predstavljena u hrvatskoj je stručnoj literaturi slabo zastupljena. U kontekstu metodike nastave konzervacije-restauracije na visokim učilištima u Hrvatskoj, opisani problemski zadatak može se smatrati inovativnim.

KLJUČNE RIJEČI: Park skulptura Željezare Sisak, preventivna konzervacija, problemsko učenje, procjena rizika, skulptura na otvorenom