ARACNE

ADVOCATING THE ROLE OF SILK ART AND CULTURAL HERITAGE AT NATIONAL AND EUROPEAN SCALE

Funded by the European Union

This project is funded by the European Union's Horizon Europe research and innovation programme under the Grant Agreement No 101095188

Deliverable 1.9

Report on the bottom up and participative activities for building research, innovation and knowledge for the Silk Innovation Ecosystem Version 2.0 (second school year report)

Version 1.0

Due date:	29/02/2024
Submission date:	18/03/2025
Deliverable leader:	CREA - Consiglio per la Ricerca in Agricoltura e l'Analisi dell'Economia Agraria
Author:	Diana Mantegazza, Manlio Piva, Silvia Cappellozza

Dissemination Level

☒	**PU:**	Public
☐	**SEN:**	Sensitive
☐	**PP:**	Restricted to other programme participants (including the Commission Services)
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Abstract

This document integrates the detailed description of the format and teaching materials provided to carry out the activities with the schools participating in the ARACNE project (D.1.2). The activity entails the collection of information directly *in situ* to study how sericulture has shaped European territories, landscapes, art, culture, genetics, production, industrial heritage and constituted value through mulberry cultivation and silkworm rearing, silk processing and trade, as a unifying element but with local specificities. These activities are essential for the development of a comprehensive knowledge base, with the aim of benefiting a European silk innovation ecosystem, which is one of the primary objectives of the ARACNE project. The described activities were carried out by the schools chosen by the partners, under their direct supervision.

Partners involved in the document

Participant n.	Participant organisation name	Short name	Check if involved
1 Coordinator	Consiglio per la Ricerca in Agricoltura e l'Analisi dell'Economia Agraria	CREA	X
2	Iniziativa Cube S.r.l.	INI	
3	Lepl State Silk Museum	SSM	X
4	Nauchen Tsentar Po Bubarstvo Vratsa	SCS	X
5	Piraeus Bank Group Cultural Foundation	PIOP	X
6	Univerza V Mariboru	UM	X
7	Ethniko Kai Kapodistriako Panepistimio Athinon	NKUA	X
8	Instituto Murciano de Investigacion y Desarrollo Agrario y Medioambiental (IMIDA)	IMIDA	X
9	D'orica S.r.l. Società Benefit	DOR	
10	Chemins De La Soie - Des Cevennes aux Alpujarras	ASSOIE	X
11	Sericyne	SER	
12	Universita degli Studi di Padova	UNIPD	X
13	Council Of Europe - Conseil de L'europe	COE	
14	Mouseio Technis Metaxiou	ASMS	X

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1. Description of the project

ARACNE project focuses on the cultural heritage of the European silk production and its preservation, protection and valorisation; it aims at reinvigorating traditional skills through the adaptive reuse of the common cultural and artistic legacy and at shaping a silk-linked European cultural identity.

The production and the past and present development of the silk sector can be again the common basis for a future European Silk Route intended as a cultural itinerary across Europe. To create a wide and well-connected network that, starting from the historical path followed by Marco Polo in his travels to East, even includes the routes of production and commercialization of silk in Europe in the following centuries, we aim to:

- Bring back silk production in vogue by reconstructing a resilient and innovative silk ecosystem that retraces the concerned European countries and promotes traditions, architecture, and both tangible and intangible heritages. The consolidation of a European Silk Route will encourage links and shared activities among European cities and regions to strengthen the preservation and protection of their culture and promote innovations in production and trade;
- Contribute to improve skills and competitiveness of silk-related European Cultural and Creative Industries through the renewal, co-development and the implementation of human-centered and place-specific silk-based cultural products, processes and service innovations, leveraging on digital applications and cutting-edge technologies, to foster the transition to more sustainable business models, and promote economic and social growth, and strengthen the reputation of European countries abroad.

1.1 ARACNE specific objectives

The overarching goal of ARACNE is to create a wide and well-connected Silk Innovation Ecosystem that, starting from the historical path followed by Marco Polo in his travels to East, also includes the routes of production and commercialization of silk in Europe in the following centuries. An innovation ecosystem is an interconnected network of quadruple helix stakeholders, including academia, industry and different levels of the public sector and civil society. This multi-level approach applies a systemic and bottom-up approach to creating research, innovation and knowledge. Silk Innovation Ecosystem includes every stakeholder and innovator in the cultural silk value chain even if not participating directly in the project activities. The production and, more in general, the past and present development of the silk sector in the ARACNE Consortium countries represent the common thread for the future "European Silk Route" as a cultural itinerary across Europe, to boost the European values in relation to the silk arts and CH for the benefit, prosperity, peace of our societies. To this aim, the project will explore the CCIs' capacities to create a cultural and artistic niche market where silk produced within EU boundaries will be valued as a distinct immaterial asset; on the other hand, the ambition is to contribute to stop the loss of technical, traditional and cultural know-how and skills that accompanied the decline of this fibre production and that

is detrimental exactly to those CCIs which might be active in fashion, art, design and product communication. In fact, the so-called "Silk Road" is generally associated to its Asian origin; however, its European ramifications were fundamental for the development of Europe as we know it today. More in general, the silk production (silkworm rearing, mulberry cultivation, silk reeling), originated from Asia but subsequently spread to Europe and developed strongly in the Mediterranean and Balkan regions. Bringing back silk production in vogue by reconstructing a resilient and innovative Silk Route that retraces the European countries and enhances traditions, architecture, tangible, and intangible heritage will demonstrate that silk, as a cultural legacy, can contribute to develop the European economy and enrich our society. In this context, ARACNE covers several sectors linked to content creation, conservation, exploitation, management, fruition, diffusion related to the silk historical, artistic and environmental resources and assets. The ambition of ARACNE will be reached through a set of specific, measurable, achievable, realistic and time-constrained (SMART) specific objectives:

Objective 1: Enhancement of knowledge and memory for the renaissance of a European Silk Innovation Ecosystem

Objective 2: Co-creation of human-centred and place specific creative silk-based solutions leveraging on digital and cutting-edge technologies

Objective 3: Implementation of innovative strategies and business, governance and financing models for the involved CCIs organisations and SMEs, building on previous research

Objective 4: Support the establishment of a cultural European Silk Route, based on the tangible and intangible silk cultural heritage and landscapes

Objective 5: Raise awareness of ARACNE results and impacts among different stakeholders of the territories and CCIs of the silk sector and raise the expectation for the constitution of a European Silk Route in support to the European silk CH and silk CCIs

Objective 6: Enhance the European cultural identity and strengthen European competitiveness for a more resilient post-crisis society

Objective 7: Contribution to the European Green Deal, the New European Bauhaus and the Sustainable Development Goals.

2. Introduction

The didactic format described was initially developed with as a pilot project with one of the third-year classes of the Classic High School Flaminio in Vittorio Veneto, with subsequent refinement and fine-tuning occurring during the 2023-2024 academic year. This process culminated in the formulation of a replicable procedure that can be adapted to the school curricula of the ARACNE project partner countries. The activity includes a field exploration phase with the objective of generating new knowledge on the state of the art. It entails the collection of data on the Silk Cultural Heritage in the local context of the different countries through field research conducted by the students. This phase integrates the knowledge of experts and local communities on tangible and intangible cultural and natural heritage assets through the mapping of heritage sites in different countries. The format is designed to be implemented in educational institutions across the participating countries, with teachers and

students involved in ARACNE activities on a voluntary basis. This didactic format, entitled 'Cultural Heritage', is combined and merged with the didactic path designed for the collection of mulberry samples, entitled 'Agricultural Landscape'. The digital maps produced by the participating schools in the project using ArcGIS software will be merged into a single map, designated the 'European Silk Route', which will be made available on the ARACNE website, at the conclusion of the project.

2.1 Objective of the deliverable

The final product was designed to illustrate how schools have been involved in the ARACNE project and how they have discovered the world of European sericulture. It will demonstrate how this activity has shaped territories, landscapes, arts, culture, genetics, production, industrial heritage and built value through mulberry cultivation and silkworm rearing, silk processing and trade. This teaching format has been designed to be flexible and should be adapted to the curriculum of each participating school. The activities conducted in this final product will contribute to the development of the knowledge database for the benefit of the European ecosystem of silk innovation. The objective is to elucidate the methodology employed in the schools, thereby establishing a teaching format that can be applied in the subsequent years.

2.2 Document structure

The document is organised into a total of eight chapters, which are subdivided in three main sections:

1. The initial segment of the document delineates the ARACNE project, articulating its objectives and aims for the final product.
2. The central part of the document describes the preparation for the teaching activities with the students.
3. The third part of the document illustrates how each of the partners worked with schools in their own countries.

The aforementioned activities are organised as follows:

i. Literacy phase
ii. Field research
iii. Mapping (Computer Laboratory)
iv. Dissemination and Validation of Results

The document contains links to the cited materials, which are available on the aracneproject.eu website. Finally, the document concludes with the presentation of acronyms and annexes.

3. Preliminary operations - preparation of teaching materials

This section of the document outlines the materials prepared to facilitate the standardisation of the teaching activities according to a format that can be applied and adapted to the different schools across the various partner countries.

3.1 Setting up web pages

The ARACNE project website (www.aracneproject.eu) contains a dedicated *Education* area in the top menu. This area comprises four sections:

- *Silk story*: this page contains narratives about significant people, events, realities in the field of history, promotion, innovation and growth in the sericulture sector. It is part of the *Education* area because it serves as inspiration for students, as well as being a container of possible stories that emerged during their field research phase.
- *Educational project*: it contains links to two educational paths proposed by the ARACNE project: '*Cultural Heritage'* and '*Agricultural Landscape'*.
- *Teacher area*: this section contains all the materials and links that teachers may require to carry out activities.
- *Museums*: this page contains a list of the project's partner museums, which schools can contact to obtain information and arrange guided tours.

3.1.1 The Agricultural Landscape page

The *Agricultural Landscape* page contains the indications for the proposed educational pathway for schools with a curriculum in agriculture, science and biology. It also contains a brief presentation with a timeline of the activities carried out with students. There are also links to the:

- *Teacher area:* section containing documents indicating guidelines on the use of the *MorusApp*[1].
- *MorusApp*: access link to the login page for using the online mulberry data collection database. Appropriate accounts have been set up for participating schools using e-mail addresses with a domain matching the aracneproject.eu site.
- *Entries*: link to an online form through which schools can apply to teach the proposed curriculum.
- *Contact*: this e-mail address is reserved for communications pertaining to teaching activities and is managed by the coordinator. Students and teachers may use this address to receive information about the project activities.

[1] Online database for the mulberry tree census

3.1.2 The Cultural Heritage page

The *Cultural Heritage* page has been structured in a manner consistent with the preceding one. The timetable for teaching activities for history and humanities curricula is presented. Links to the following can be found:

- *Teacher area:* this section contains documents and useful links to further resources relevant for the activity.
- *Entries*: it contains a link to an online form through which schools can apply for the teaching activity of the proposed route.
- *Collect data*: this section contains an online form that allows the user to enter the information needed to indicate a point of interest to be geolocalised in the digital map. The form can be used as a guideline in collecting the necessary information and to categorise points of interest according to their various types.
- *Contact*: this section contains the email address dedicated to communications relating to teaching activities and managed by the coordinator. This is an appropriate channel for students and teachers to write to for clarifications, suggestions, explanations and feedback in the course of their activity. It can also be used to request information useful for planning the activity in a new school.
- *Gallery*: this section provides a link to the gallery site to support the activity of entering data in the digital map.
- *ArcGIS:* link to the login page for access to the online application chosen for the digital map creation activity.

3.2 The Teacher Area page

The *Teacher Area* page has been created to provide teachers and students with access to a comprehensive range of teaching materials. The page includes a variety of content types, as:

- *Video*: this section contains tutorials and video lessons prepared to introduce the topics and explain the use of the applications.
- *Documents*: among these there are printable text documents, such as the disclaimers to be signed by students and people involved in the fieldwork, and the guide to use the geolocation application, translated into the languages of the partner countries that carried out the activity.
- *Links*: this section contains links to the main online platforms and websites, which are useful for carrying out the activities.
- *Presentations*: the section contains presentations in slide format used to present the topics and guidelines for carrying out the activity.
- *Bibliography*: this section contains publications that may be useful to students for reference.
- *For editing*: it contains useful materials for editing the videos and photographs produced by the students.

3.3 Setting up the ArcGIS platform

The *ArcGIS Online* application was chosen for digital mapping. The choice fell on this resource due to its capacity for utilisation without the necessity for device-specific installation of software or applications. Moreover, use is possible from any device (PC, tablet, smartphone). In comparison to its software counterpart, the online version offers a streamlined interface, enhancing its intuitiveness. *ArcGIS Online* it is distinguished by its greater customisation possibilities thanks to the *sketch layer tool*, which was selected for the geolocation of points of interest because it allows the creation of a pop-up[2] containing a tab in which text and multimedia materials can be inserted. The further advantage of using the online application is the possibility of sharing the results obtained in a more direct way, thanks to the creation of working groups and collaboration among organisations. The ArcGIS package provides other useful, if not indispensable applications, for the dissemination and presentation of the maps created, giving the possibility of navigating among the points of interest identified by the students using PCs or mobile devices.
It was decided to provide the schools with an account through a licence owned by the Lead Partner to allow easier management and monitoring of the activities, limiting the difficulties for the schools in activating the bureaucratic procedures to obtain the licence.
Consequently, following the implementation of the aforementioned activities with teaching staff and students, some institutions signalled their interest in acquiring the software with the intention of reintroducing the format independently.
The principal issues encountered in utilising the application can be summarised as follows:

- The software does not permit simultaneous editing of the same map by accessing it with the same account on multiple devices. The solution adopted was to create a map for each working group and then to merge the layers created through sharing into a single final map.
- It should be noted that the application does not require confirmation when using the 'delete' command. Consequently, it is important to exercise caution when entering data to prevent the inadvertent deletion of layers or features.

It is noteworthy that the students rapidly overcame the initial challenges posed by the novel approach, rapidly attaining proficiency in the use of the tools for map creation, utilising the guide (translated into the respective languages of the partners who initiated the educational path with the schools) and relying on subtitled videotutorial in the languages of the participating schools. The user guide provides a comprehensive explanation of all the steps from login to finalisation and sharing of the maps. The video tutorial illustrates the process of creating and editing map points using the *sketch layer* tool.

3.4 Setting up the web gallery site

In order to include the multimedia materials in the pop-ups of the geolocated points in the digital map, it was necessary to find an online space to act as a hosting service[3]. A website

[2] Window that opens on the computer screen while surfing the Internet
[3] A network service that permits hosting the pages of a website or web application on a web server, thus making it accessible to the Internet and its users.

was set up on a CREA server in which to host a gallery for uploading the images. In this way, the images produced by the students are stored in a protected space, accessible only through an accredited account. Using a service on a site owned by the Lead partner ensures the respect of copyright for images without sharing the information with external service, threby creating an archive of the media produced by the students. The images are exclusively viewable to the public by browsing the digital maps.
The gallery site contains 4 sections:

- *Homepage*: explains the function of the site and links to the official project site
- *Contact*: contains contacts and links to the ARACNE project socials
- *Upload media*: is the area where the tools for uploading images to the gallery are located
- *Image Gallery*: contains the folders with the images from which it is possible to copy the URL to be pasted into the appropriate ArcGIS command

For the use of the gallery, accredited accounts were created and provided to the schools. In order to train the students on the procedure of uploading images, a videotutorial showing the individual steps was made available (subtitled in the languages of the countries that activated the educational project).

3.5 Setting up the YouTube playlist

As with images, it was necessary to identify a hosting service for video media. It was decided to utilise the project's social account and to create a dedicated playlist within the YouTube channel. The videos produced by the students were uploaded to the playlist with the setting 'unlisted' in order to restrict their use to teaching activities. The videos can only be viewed from the project website via the dedicated link in the teacher area and from the digital maps.

3.6 Graphic Arrangements

In order to standardise the work and ensure consistency with the graphic style of the site, a number of tools and web applications were made available for free use by students, who were able to utilise them for the creation of multimedia materials, particularly for video editing. Additionally, instructions for creating subtitles were provided. Furthermore, a set of icons was selected for use in the geolocation of points of interest on maps, with the objective of ensuring that the graphic appearance of the work produced by each school was consistent. The categories highlighted for the icons are as follows:

- historic building
- company
- museum
- institution
- farmer
- park (botanical garden, collection)
- agricultural landscape
- artwork
- witness

- document: text
- document: multimedia
- other

4. Teaching activities

This section of the document presents an analysis of the stages of the activities and paths implemented in the project schools in order to illustrate the teaching format.

4.1 Background

The format was developed based on the experience gained from experiments in multimedia didactics conducted by the University of Padua (FISPPA department). The use of geolocation platforms for didactics has its most complete precedent in the experience of the 'Great War Project' pathway, for which several secondary schools in north-eastern Italy worked on the digital mapping of memory places linked to the First World War from 2013 to 2018.
The format developed for activities with students is characterised by the following attributes:

- Flexibility of the format, which must be tailored to the curriculum of the participating school on a case-by-case basis.
- The terms of engagement with the schools were defined in October/November, with the appropriate agreements being prepared by the partners so that the students would have all the authorisations to carry out the activities (releases, reference tutor(s), technologies available at the school, e.g., a computer lab with access to the HGIS platform). In Annex I - II there are two examples of agreements prepared by the University of Padua - FISPPA Department for the activation of PCTO pathways with Italian schools, one for the *Cultural Heritage* pathway and the other for the *Agricultural Landscape* pathway.
- Each of the partners contacted their local school(s). Some schools proposed their candidature for the next school year after learning about the ARACNE project activities or at the suggestion of teachers who participated in the activity in the academic year 2023/24.
- The activities were designed for a class group (20-25 pupils) of High school (16-19 years old students); these can obviously be multiplied depending on the number of participating classes/schools
- Once the rules of engagement and an outline timetable had been defined, the activity was launched, divided into 3 + 1 macro sections: literacy; field research; creation of the HGIS map; dissemination

The maps created by school students are designed to reproduce the experience and the *modus operandi* of the scientific researcher, to be useful as a training and professional orientation activity. It should be noted that these maps do not possess any scientific validity within the ARACNE Project unless verified by ARACNE experts themselves. Some of the materials produced by the students may be reworked to create Silk Stories for the appropriate section of the site.

5. Literacy Phase

CREA in its role of coordinator of this initiative identified a reference tutor to provide training to the partner tutors and the teachers who were assigned to oversee the activities of the class group that had enrolled in the educational pathway. Online meetings were held during which the objectives of the ARACNE project were outlined, the didactic pathway was explained, and the mapping tools were demonstrated to the partner tutors and the referring teachers from the schools.
Furthermore, the anticipated outcomes were presented by the students of the pilot class who participated in the experimentation for the production of the DemoMap[4].

5.1 Meeting with experts

The partner organisation, through its tutor, organised the meetings between the participating class and local experts for both the *Cultural Heritage* and the *Agricultural Landscape* pathways. The selection of experts proved to be a challenging phase because s the objective was to enhance the specificities of each territory by identifying a figure who could introduce the students to the topics relating to silk culture in the geographical area of the humanities-oriented institutes. For the institutes with an agro-oriented focus, a lesson was organised to provide the historical basis for the spread of mulberry cultivation and to equip students with the tools to recognise and analyse mulberry specimens for data entry in the MorusApp. The Italian Federation of UNESCO Associations and Clubs – FICLU – provided free-of-charge assistance.
Each meeting was attended by the tutor and the teacher-referent in addition to students. The meetings were conducted in a hybrid format, combining in-person and online components, and covered the following subjects:

- A presentation of the research project to the class, was delivered by the ArcGIS mapping expert, who provided a concise demonstration of the map's functionality and its relevance to the objectives of the research activity.
  For the *Agricultural Landscape* path, the MorusApp was introduced as a tool for collecting data on old mulberry trees.
- A meeting with a history expert was made with a focus on the history of mulberry cultivation in the institute's area for the *Cultural Heritage* path. An historical nature introduction was also made for the *Agricultural Landscape* path, with an in-depth agronomic study of the mulberry plant and the characteristics to be analysed for the compilation of the MorusApp's forms.
- A meeting with a local expert was conducted to direct students to preliminary sources from which to develop research (*Cultural Heritage* path only).

[4] Map demonstrating the envisaged results and made by the pilot-class

5.2 Guided tour

During the fieldwork phase, the schools independently arranged the necessary permits and organised numerous guided tours after contacting some locations. The students were able to visit various places related to the world of silk production, processing and conservation. During the visits, the students produced multimedia materials for including them in the digital map, such as video interviews.
For the *Agricultural Landscape* route, the students proceeded to search for ancient mulberry trees following the instructions of the teachers. In some institutes, the students independently visited the individual plants several times to collect morphological and phenological data. In other institutes, the students were accompanied to the research locations by the teachers as a whole class group.

5.3 Identification of research topics/group work

The meetings with the experts are intended to guide the students in defining the topics of their fieldwork. On the basis of the proposals that emerged, the tutors and teachers shared their fields of expertise with the students and divided them into working subgroups (maximum 5 members per subgroup). Each team was responsible for mapping several points on the map. The pupils worked by classifying the information according to one of the following criteria

- Geographical area
- Cultural theme
- Type of structure
- Historical period

6. Field research

Each subgroup reached consensus on the subjects to be investigated during the fieldwork phase and organised the sources to be reworked.

6.1 Organisation of on-site activities

Each group proposed a timetable of activities for their research to the teacher. In some schools, the groups worked independently and moved around the area individually. In other schools, educational trips were organised to take the whole class to each of the sites analysed by each working group.

6.2 Production of multimedia materials

Each subgroup autonomously organised the work of producing media material and collecting sources by internally subdividing the roles of the research team: photography, cartography, interviews, archive materials, production of media elements, production of texts, insertion

into the map. The materials of interest were processed and digitised to be transformed into media suitable for the geolocation platform.

6.3 Digital standards

- Photos: jpg format with a maximum size of 3Mb
- Video: MP4 format with horizontal orientation 16:9, minimum resolution Full HD (1080p)
- Audio: MP3 stereo format, recommended resolution 128 Kbps, 44.1 kHz

Other multimedia formats have been suggested to the students:

- Animated GIF: for presenting multiple images in a slideshow format
- Presentations: for creating in-depth content in slide format

6.4 Organisation of the materials

The online form provided by CREA was used as a guide for data collection by the schools. It was not used for data entry, as the students preferred to receive more direct feedback, through constant communication with the partner tutor. In this way, it was possible to continuously monitor the information collected by the students and guide them to go deeper into the issues identified.

The students organised the collected materials according to an online repository, divided into sub-folders by type: one folder per group with a sub-folder for each dataset containing at least one multimedia and one text document. The materials were shared with the tutors of the project partners in order to monitor the sources and create an archive.

7. Mapping

Once the fieldwork had been completed, the subgroups, with the assistance of the tutor, the contact teacher, and the ArcGIS expert, selected and refined the most compelling materials for inclusion in the map and the route (waypoints, storytelling).

7.1 Learning to use the HGIS map

- Setting: a tutor and an HGIS expert were responsible of the computer laboratory (see 1.2).
- Learning by doing: the students were instructed on how to create and insert records in the map through a combination of verbal explanations and the use of a video tutorial available in the teacher area of the website.
- Re-elaboration of materials in multimedia: in accordance with the established guidelines, the students proceeded to utilise the application independently to create the map.
- Following the guidelines: the students independently used the application to create the map and proceeded to:
    - Locating the georeferenced point on the map

- Inserting the point of interest icon with the specified parameters
- Inserting text and multimedia materials in the pop-up tab of the record
- Inserting external links and references to sources

7.2 Editing and inserting data into the ArcGIS map

Building on the insights gained during the inaugural meeting, wherein the utility of the map was introduced, each subgroup proceeded to independently organize the creation of records. This entailed writing texts, selecting images and other digitised materials, standardising records, and inserting records.

Frequent discourse between the students, the tutor, and the teacher was essential for monitoring and directing the work on the map. Several monitoring meetings were held, both online and in person, with the entire class and/or individual work groups. The information was reworked in a multimedia key, adapting the contents to a smart type of communication designed for use from mobile devices by a heterogeneous audience. Each point was elaborated both in the mother tongue and in English.

7.3 Finalising the map

A work session was held during which the expert explored the created map with the students, highlighting and correcting any errors, recommending additions and changes. A subsequent revision phase will be implemented by the CREA expert during the phase of merging the maps into a single map, designated as the '*European silk route*'.

7.4 Dissemination and validation of results

The dissemination phase was postponed until the beginning of the new school year for the following reasons:

- To avoid the dispersion of students and families due to the beginning of the vacation period.
- To use the presentation of the map as inauguration of the new school year and as a presentation of the expected results to the schools that will start the educational journey.

This choice was dictated by the experience gained with the pilot class of the Marcantonio Flaminio High School in Vittorio Veneto (Italy), which had the opportunity to present the DemoMap on several occasions:

- The first presentation was organised at the High school at the end of the school year: it was aimed at the students of this institution and had limited feedback.
- The second presentation took place at the Esapolis Museum in Padua on 28 November 2023, on the occasion of the centenary celebrations of the Sericulture Experiment Station in Padua. The students presented the map to the audience in the hall and streamed it to the schools that would undertake the teaching activity in the new school year (news on the website).

- The third presentation took place at the Silkworm Museum in Vittorio Veneto on 24 February 2024. It was addressed to the local community and was well attended (news on the website).
- Press-release: New Millennium Bug: Past, Present, and Future of Sericulture in Veneto - Il Piave
- Press-release: The silkworm between tradition and future strategies - Il Gazzettino
- Press-release: The "Flaminio" in the European Silk Route - La Tribuna

The Vittorio Veneto Silkworm Museum disseminated information about the event via its communication channels, thereby making the DemoMap available for consultation on its institutional website.

Figure 1: Presentation of the digital DemoMap by the students of the Flaminio Classical High School

The demomap was also presented on Saturday 14th December 2025, during the conference entitled: *Can sericulture be carried out in Veneto in the third millennium?* organised by CREA – Agriculture and Environment – Sericulture Laboratory during the 1364th International Agriculture Fair of Santa Lucia di Piave (TV). In the auditorium of the Ex-Filanda pavilions, the students presented their work to an audience made up of students from Agriculture Technical institutes, teachers, and individuals interested in the revival of this historic production activity, which once thrived in Veneto.

The work carried out with schools has been the subject of other news items on the site in the dedicated section.

- News: Traditional and cultural association visits the IMIDA Silk Museum
- News: School visit to IMIDA Silk Museum
- News: School activities for the ARACNE project at the Silk Museum of PIOP
- News: Visit to the silk museum by students – Soufli
- News: ARACNE Project Revitalizes the Interest in Bulgarian Sericulture

8. Participating schools

It was not possible for all partner countries to identify suitable schools to participate in the project for the 2023/2024 academic year. This was due to the challenge of articulating the underlying logic of the activity to teachers. Despite the online and in-person presentations delivered by CREA staff to teachers, students, and the same partnership to elucidate the collaborative research process and the assistance provided to create the online maps, many teachers felt inadequately prepared.

8.1 Italy

Italy experienced a high volume of requests for participation, originating from both high schools and agricultural technical institutes. Consequently, a decision was made to select three high schools from disparate regions of Italy (two from the northern and one from the southern regions) and three agricultural schools (two from the northern and one from the southern regions). Access to the software was facilitated through a special subscription to ArcGis by CREA, enabling the participants to utilise the software free of charge. All participating schools were furnished with comprehensive materials, including disclaimers, instructions, and guidance on map creation. The Agriculture Technical Institutes ('Agricultural Landscape') in Italy were visited by two mentors (one for the Northern part, one for the Southern), who were experts in moriculture and were introduced to the use of the *Mulberry App* by the CREA researcher (Dr. Gianni Fila), who also provided further assistance on this point. Furthermore, various mentors were assigned for *in loco* lessons, including experts with a proven track record, such as the Unesco club president, for the 'Cultural Heritage' path.

The following schools have successfully completed the Cultural Heritage path:

- Istituto d'Istruzione Superiore Enzo Ferrari, Chiaravalle Centrale (CZ)

- Liceo Fabio Filzi, Rovereto (TN)

- Liceo Artistico Statale Michelangelo Guggenheim, Venezia.

All of the aforementioned schools participated in the ARACNE educational project, carrying out the activities as part of the hours allocated for PCTO (Paths for Transversal Skills and Orientation). These are extracurricular activities which Italian school students are required to complete, in accordance with the provisions of the Italian school system.

8.1.1 Istituto d'Istruzione Superiore Enzo Ferrari, Chiaravalle Centrale (CZ)

The "Enzo Ferrari" High School of Chiaravalle Centrale, located in the province of Catanzaro, offers a range of academic programmes, including the Scientific High School and the Vocational Institute for agriculture, rural development, promotion of local products, and management of forest and mountain resources. In order to participate in the Aracne project, an interclass group was established, comprising half of the students from the Scientific High School and half from the Agricultural Vocational Institute, totalling 25 students. This choice is indicative of a distinctive and characteristic feature of the work carried out by this educational establishment, due to the synergy created between students from different fields of study. The class group was engaged in both the Cultural Heritage and the Agricultural Landscape pathways.

The introductory lessons for the literacy phase were delivered by Teresa Gualtieri, the president of the FICLU (Italian Federation of Clubs and Centers for UNESCO). The field research phase commenced at the State Archives of Catanzaro. The coordination of the students was overseen by the teaching staff, who guided them in visiting the designated research locations. Prof. Leania Condello for the Agricultural Vocational Institute and Prof. Chiarina Macrina for the Scientific High School.

The students also conducted three interviews with individuals involved in local activities and the preservation of historical memory and traditions.

- *Chiara Pirroncello – Universochiara:* an artisan weaving workshop located in Chiaravalle Centrale.
- *Teresa Notaro and Angela Bertucci – Spazio Donna:* a social and cultural promotion association based in Cortale, aimed at supporting and promoting local handicrafts.
- *Maria Saraceno:* a former silkworm rearer.

The students also visited the company Nido di Seta in the municipality of San Florio, which engages in mulberry silkworm farming and silk reeling, with projects focused on tourism and education.

To facilitate the data entry phase on the ArcGIS platform, an online distance learning session was conducted with Dr. Diana Mantegazza, the tutor for Aracne educational activities at CREA –Laboratory of Sericulture in Padua. For the Cultural Heritage pathway, the students produced a total of 21 points of interest, which were entered into the ArcGIS map. These points were found to be heterogeneous in nature and were independently documented in both English and Italian.

The introductory lesson on the mulberry tree was delivered by Dr. Luigia Angela Iuliano from ARSAC - Regional Company for the Development of Calabrian Agriculture. The students then proceeded to add ten mulberry trees to the MorusApp, ensuring that each entry was accompanied by a detailed description and a set of photographs, in accordance with the prescribed guidelines.

In the context of the Agricultural Landscape pathway, the introductory lesson on the mulberry tree was delivered by Dr. Luigia Angela Iuliano of ARSAC (Regional Company for the Development of Calabrian Agriculture). The students then proceeded to add ten mulberry trees to the MorusApp, meticulously documenting their observations with detailed descriptions and photographs, in accordance with the prescribed guidelines.

On 6 November 2024, the presentation and award ceremony of the "European Silk Route School Map" educational project for the 2023-2024 school year took place.

On 16 January 2025, a presentation was held at the Calabria Regional Citadel, with the participation of the Regional Councillor for Agriculture, Gianluca Gallo. The event attracted significant media attention, and a brief press review has been published on the project website (news section).

8.1.2 Liceo Fabio Filzi, Rovereto (TN)

The "Fabio Filzi" High School of Rovereto, located in the province of Trento, participated in the Cultural Heritage pathway with class III EC of the Economic and Social Sciences High School programme. The students were under the supervision of their teacher, Professor Chiara Ballarini. The school had previously engaged in a few academic projects concerning the historical, cultural and economic aspects of silk, and thus expressed a keen interest in participating in the present initiative.

The preliminary lessons were conducted in collaboration with the Laboratorio di Storia di Rovereto (Social Promotion Association) and Prof. Cristina Andreolli, as well as during a guided tour of the Rovereto Civic Museum, which has a dedicated section to silk.

The school organised several class field trips in the area:

- *Setificio Colle Masotti:* This site included a twisting mill, silk mill, and commercial house, highlighting the historical significance of silk processing in the Rovereto area.
- *Filatoio di Piazzo:* An early 19th-century silk reeling and twisting mill, located in Piazzo, is still partially visible in its original form.
- *'Orto San Marco – Setàp:* An urban agricultural area focused on organic production, including the rearing of mulberry silkworms. It also organises educational and training activities and events on sustainability and biodiversity.

For the data entry phase on the ArcGIS platform, the students attended one lesson at school and two online monitoring sessions with Dr. Diana Mantegazza, the tutor for educational activities at CREA – Sericulture Laboratory of Padua. For the Cultural Heritage pathway, the students produced a total of 15 points of interest, which were entered into the ArcGIS map.

The distinguishing characteristic of the students' work is the reinterpretation of a project previously executed by other students from the same educational institution in collaboration with the Municipality of Rovereto. In this earlier project, historical and cultural podcasts about silk-related sites were created. These podcasts were then integrated into an ArcGIS map, accompanied by translated English text. The map also incorporates an audio testimony by Mrs. Angelina Tranquillini (Mori, TN, 7/9/1887 - 3/19/1987), which was transcribed and translated into English by the students.

The culmination of this endeavour was marked by the presentation of the students' findings and final projects:

On 6 November 2024, a presentation and award ceremony for the educational project 'European Silk Route School Map' for the 2023-2024 school year was held.

8.1.3 Liceo Artistico Statale Michelangelo Guggenheim, Venezia.

The State Art High School "Michelangelo Guggenheim" is located in the historic centre of Venice. The school's historic premises are housed in the ancient Carmini convent, which has now been fully restored, and it offers various study programmes. These include figurative arts (plastic and visual art), architecture and environment, design (textiles, glass, metals, and jewellery), graphics, audiovisual and multimedia, and scenography.

The third-year Textile Design programme, under the guidance of Professor Francesco Zampieri, in collaboration with Professor Anna Cinelli, Professor Marina Majcen and Professor Alice Lazzari, participated in the Cultural Heritage pathway.

The literacy phase was conducted by Dr. Silvia Cappellozza during two lessons held in the school's auditorium. The subjects selected for study were chosen in consultation with the teaching staff to concentrate the research on silk production and textiles. The project created by the students reflected this focus and their specific field of study, shaping the map with a unique character. The students were divided into six groups, with each group focusing on one point of interest in Venice. For each location, the map was expanded to include several points, delineating the historical and architectural context, providing descriptions of excursions and museums, and conducting an analysis of specific artefacts.

- *Luigi Bevilacqua Foundation*: It is a key player in the field of weaving. The Luigi Bevilacqua weaving mill produces luxury fabrics with ancient roots, including the "Soprarizzo" velvet. The production process is intricate and is still predominantly conducted manually on 18th-century looms, which were formerly utilised by the silk guild of the Republic of Venice.
- *The Museum of Palazzo Mocenigo*: Opened to the public in 1985, it became the headquarters of the Study Centre of the History of Textiles, Costumes, and Perfume,

housing extensive collections of ancient fabrics and garments belonging to the Venice Civic Museums.

- *Basilica di Santa Maria Gloriosa dei Frari*: Visit to the archives and analysis of the silk liturgical vestments (sciamito).
- *Palazzo Fortuny*: Named after its last owner, the artist Mariano Fortuny y Madrazo, it now houses to the museum of the same name.
- *Chiesa dei Gesuiti*: This baroque church includes the chapel now known as the 'Chapel of the Silk Weavers'.

The students also analysed the archive of their own school, which includes a museum section and an extensive library, as well as weaving machinery and valuable artefacts.

For the data entry phase on the ArcGIS platform, the students participated in a lesson at the school and two online monitoring sessions with Dr. Diana Mantegazza, the tutor for educational activities at CREA – Sericulture Laboratory of Padua. For the Cultural Heritage pathway, the students produced a total of 26 points of interest, which were added to the ArcGIS map.

On 6 November 2024, a presentation and awards ceremony for the educational project "European Silk Route School Map" for the 2023-2024 school year was held.

8.2 Greece

Greece's involvement with the two partners (NKUA and PIOP) in organising the participation of students from Soufli, Greece, in the school activities of the junior high and high school levels was significant.

Figure 2: Mary from the PIOP Silk Museum showing students how to make earrings

The initial contact with the school was initiated in August 2023 during the Morus festival, which was organised by the Municipality of Soufli. This was subsequent to the presentation of the ARACNE project to the local community by Professor Skarlatos Dedos (NKUA). By November 2023, following the commencement of the new academic year, an online meeting was convened to acquaint the participants with the project and its educational activities. During this meeting, Danae Kaplanidi (PIOP), who acted as a tutor throughout these activities and attended in-person, coordinated a discussion and organised the initial working groups

with the assistance of the teaching staff. In a subsequent on-site visit, Danae Kaplanidi conducted meetings with each group to finalise their research goals and plan. The approach adopted was participatory, incorporating a mind map formulation through group discussion. Following an introductory session on social sciences methods, a methodological plan was collaboratively formulated. The tutors employed their skills to assist students in conducting the research, and the tutor offered guidance on new approaches and supplementary procedures.

In the course of their research, the students had the opportunity to visit the Silk Museum, attend creative workshops, go on a trip in Bulgaria, and perform research among their community. They conducted interviews with former owners of cocoon houses, representatives of the silk industry, silkworm farmers, and scientists. An exhibition related to global silk heritage was held at the school's library, featuring the students' silk creations from the creative workshops, and was attended by the primary school of Soufli. It is noteworthy that students and teachers engaged in ARACNE's school activities beyond the designated school hours. It is noteworthy that all participants attended all activities. The research was conducted individually or in groups within their respective working groups.
Free access to ArcGIS was facilitated through negotiations with the private company that holds the license for ArcGIS in Greece and the Ministry of Education to license the use of the software by the students. Following the collection of their material, an online workshop, in addition to text and video instructions, was utilised to guide the students in the creation of an online map of Greece. The research team received supplementary assistance from PIOP and an Italian tutor.
The school activities, which took place at the Junior High/High School of Soufli, were attended by 19 students.

- On 18 May 2024, the students presented their results to their classmates in an event that was organised at the Silk Museum in the context of International Museum Day.

- On 6 November 2024, the presentation and awards ceremony for the educational project "European Silk Route School Map" for the 2023-2024 school year took place.

8.3 Slovenia

Two high schools located in Maribor (Slovenia) took part in the activities, collecting information on historical points of interest and creating new materials based on silk artefacts or inspired by the tradition of silk rearing and processing.

8.3.1 Anton Martin Slomšek Grammar School Activities

The student from the Anton Martin Slomšek Grammar School were supervised by the Aracne project researchers of Faculty of Agriculture and Life Sciences, University of Maribor. The objective of the study was to identify, research, describe and map historical sites related to

sericulture in Slovenia, with a particular focus on the region of Styria. The research involved the participation of interested students from various classes, who worked under the guidance of a biology teacher with a master's degree. Jožica Brecl, professor of biology and history. The project activities were overseen by Damjana Krivec Čarman, who is a professor of biology, to ensure that the project was well-organised and interdisciplinary. The students were divided into smaller groups, with each group selecting a site to study. The site-specific research involved archival sources, fieldwork, and interviews with local residents and experts. The documentation of their findings, in the form of photographs or videos, was complemented by detailed descriptions, which were subsequently entered into the ArcGIS program with the assistance of Aracne mentor.

Throughout the course of the project, students were invited to meet with university experts on three occasions: initially, for an introduction to the school activities and guidance on fieldwork at preselected historical sites; secondly, for a progress report and review of photographic materials; and finally, for the entry of their documented points of interest into ArcGIS (Figure 1). The project had a significant impact on the students' knowledge of history, geography, biology, foreign languages, and computer science.

Figure 3: Third meeting with students for final entry of their points of interest

Regional Fruit and Wine School in Maribor

A group of students investigating the sericultural history of the current Biotechnical School initiated their research by examining archival annual reports (Izvestja Vinarske in sadjarske šole Maribor, Šolsko poročilo Kmetijske srednje šole), regional newspapers, books, and other

newly identified written sources. Additionally, they visited the school to conduct interviews with both the current principal and the history teacher.

Today's Biotechnical School, also known as the Regional Fruit and Wine School **(**Errore. L'origine riferimento non è stata trovata.**)**, is one of the oldest schools in Slovenia. The school was founded in 1866 by the Styrian Regional Assembly in 1866 and opened its doors in 1872. Its first director was Franz Zweifler, who worked as a viticulture expert and teacher at the school. Since its foundation, it has been responsible for the revitalisation of agriculture in Slovenian cities and continues to pursue the most modern achievements of agricultural science. In the Daily Mail of 1866 (5 January), the students found a record of the intention to set up a sericulture programme and an experimental mulberry plantation, but the programme was probably not implemented. Dr. Julius Mulle, who won five medals for well-reared cocoons at the exhibition in Maribor, was certainly employed at the school. Today, there are 6 vocational education programmes at the school that combine nature or agriculture and animal husbandry. The estate extends over 132 hectares of land on the slopes of Calvary and has its own wine cellar with a bottling plant, an orchard, a park, apiary and modern classrooms ready for a new generation of students. As part of ARACNE's school activities and horticultural practice, the students have planted mulberry trees of different varieties.

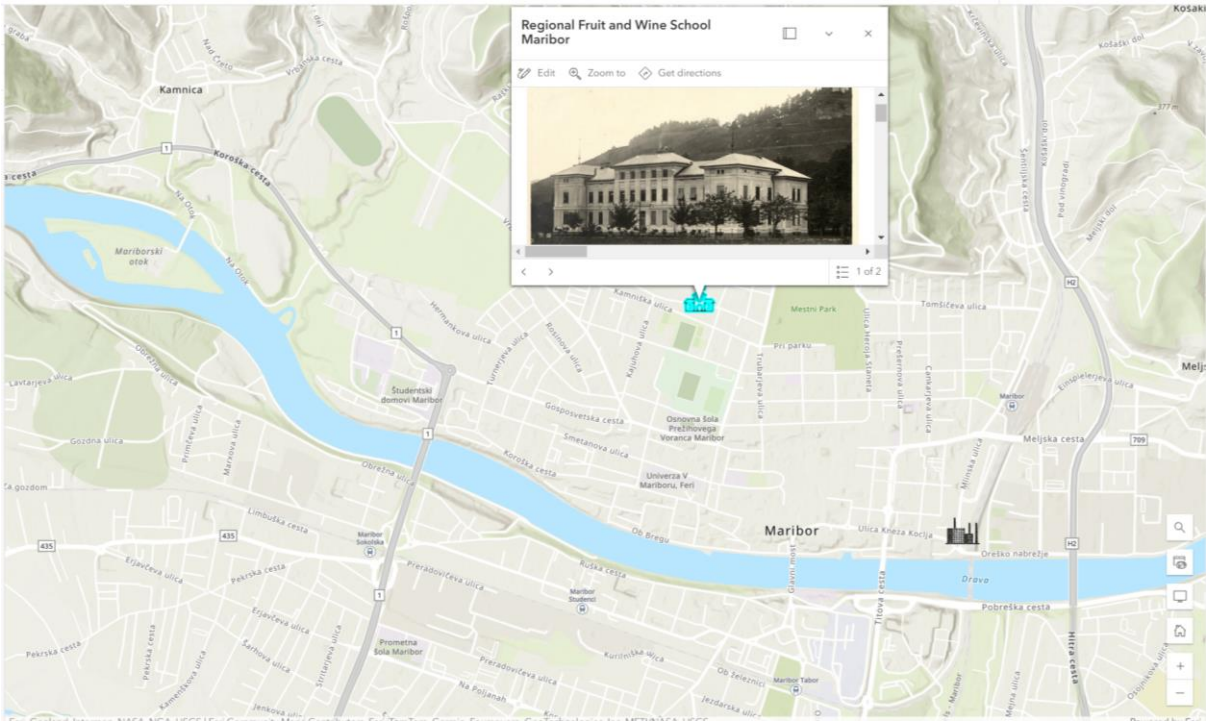


Figure 4: Point of interest-Regional Fruit and Wine School

Plans for a Silk Weaving and Dyeing Factory in the Dominican Monastery in Ptuj

A group of students researching the sericultural history of the Dominican Monastery conducted the main part of their research in the field after reviewing historical literature. They visited the regional archive in Ptuj, where they gained insights from cadastral maps. Additionally, they interviewed elderly residents for information about sericultural activity in the city. Furthermore, they visited the site of the Dominican Monastery to examine the remains of the monastery and its surroundings.

The establishment of the monastery is connected to Matilda of Ptuj (the widow of Frederick III of Ptuj), who donated the building and land to the Dominican monastic order in 1230. She also provided funds for construction, maintenance, and the procurement of church equipment. The monastery itself was built next to existing pilgrimage buildings. In the autumn of 1231, seven Dominican monks led by the first prior, Otto Grammaticus, moved in from Brež in Carinthia. Archbishop Eberhard III of Salzburg granted the young preaching order the privilege to conduct spiritual and social work among the town's people. The monastery burned down in 1302, and its restoration works continued until the 14th century. The Ptuj family remained patrons of the monastic order until the death of its last member. The dissolution of the Dominican monastery was initiated in 1785, and the order was formally abolished in 1786, in accordance with the religious reforms initiated by Joseph II. Soldiers were then quartered in the monastery, which was also designated for use as a military hospital The monastery was subsequently appropriated by military forces, which utilised the premises as both a place of residence and, subsequently, a military hospital. This use continued uninterrupted by the military for a period of 140 years, until 1923. Following this period, the monastery was auctioned, and it was purchased by Dr. Rinald Čulić, a lawyer from Belgrade. He intended to convert it into a silk weaving and dyeing factory, as evidenced by preserved plans (**Figure 3**). However, the Monument Office of the Educational Department for Slovenia imposed conditions that the proprietor, Dr. Čulić, was unable to meet, due to the necessity of preserving artistically significant elements of the monastery. Consequently, he was not granted permission for the reconstruction, and the idea did not come to fruition. As a result, Dr. Rinald Čulić was forced to sell the monastery at auction. In 1928, the municipal council purchased the Dominican Monastery. They converted it into a museum and apartments. Until 2012, the Ptuj-Ormož Regional Museum operated there with its archaeological department and collections, as well as the Historical Archive in Ptuj. Consequently, permission for the reconstruction was not granted, and the idea did not come to fruition. Consequently, Dr. Rinald Čulić was compelled to sell the monastery at auction. In 1928, the municipal council purchased the Dominican Monastery. The monastery was subsequently converted into a museum and apartments. Until 2012, the Ptuj-Ormož Regional Museum operated there with its archaeological department and collections, as well as the Historical Archive in Ptuj.

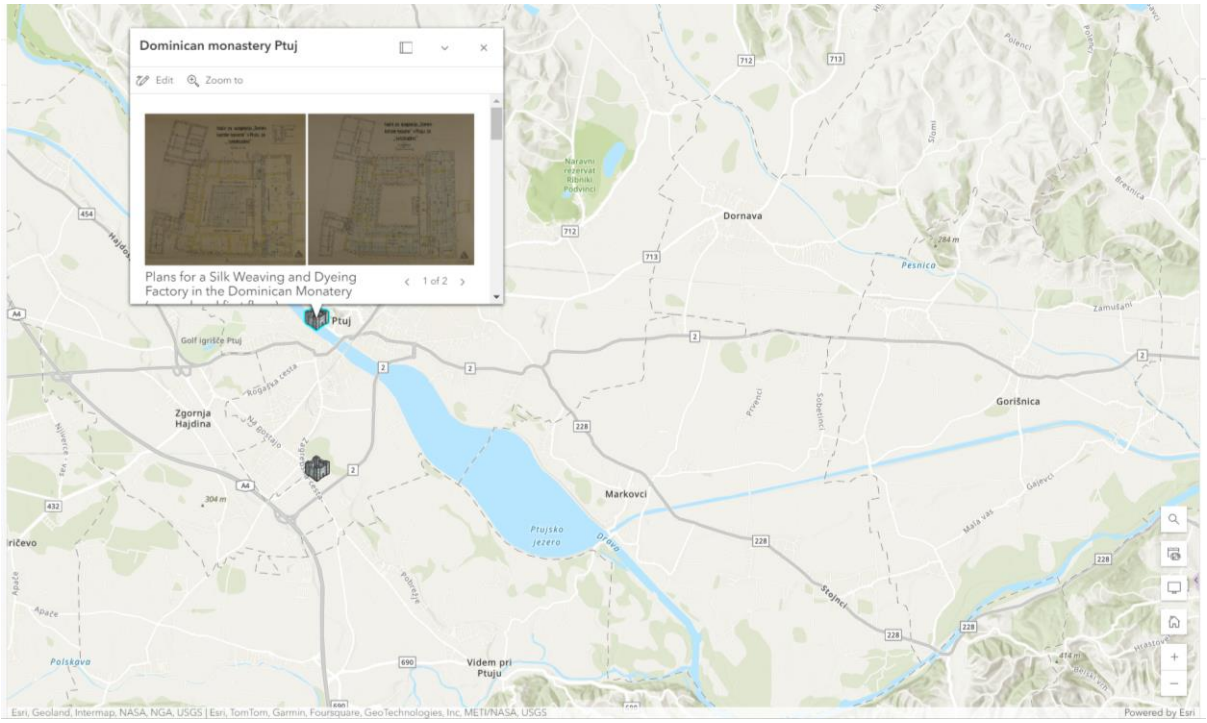


Figure 5: Point of Interest-Dominician Monastery, Ptuj

Castle Turnišče

A group of students researching the sericultural history of Castle Turnišče gathered most of their data by studying various historical sources. After an initial literature review, they searched for additional resources in various online databases of historical documents. They also visited the local archive in Ptuj to explore information on the connection between sericulture and Castle Turnišče. Additionally, the students visited the remains of the castle and interviewed elderly residents in the neighborhood about their knowledge of the castle's past sericultural activities.

The Castle of Turnišče (Figure 6) is located in the village of Pobrežje, in close proximity to Ptuj, along the road that connects the two locations. It stands on the historical footprint of the medieval Pogrenje manor. Its name, first documented in 1441 as "Tuernes", suggests its origins as a tower court. During the 16th century, the Szekelys became the proprietors of the castle, and subsequently, in the 17th century, the Herbersteins assumed ownership. From 1676 onwards, the castle was owned by Suzana E. Thurn and her son Maximilian, a period which was marked by significant developments, including the construction of the extant structure and the expansion by the purchase of new properties. Then many owners changed until Anton Schönfeld bought the manor in the beginning of 19th century (1826). From 1884 to 1945, the owner of the property was Baron Ralf Waren Lippit, who in 1875 founded the famous stable that still stands today. The castle was confiscated by the Lippit-Hunker family after the Second World War. The castle got its current appearance during their ownership. An extensive castle park and a mansion were built next to the castle. By the mid-19th century,

the proprietors of the mansion recognised the economic potential of silk production and invested in the planting of mulberry trees and the establishment of silkworm rearing facilities. This initiative was part of a broader movement across the Austro-Hungarian Empire, where noble families like those of Novo Celje championed sericulture as a means of rural upliftment. The estate's expansive lands provided an ideal location for the cultivation of mulberry trees, which were the cornerstone of sericulture. In the spring of 1845, Turnišče mansion imported 2,000 mulberry trees from Rome and established a mulberry plantation under the supervision of Dr. Anton Perinello, adapting the mulberry planting model of mansion Novo Celje. Furthermore, Mr. Ignac Dissauer, the director of the Baiernhof sericultural estate in Graz, and Mr. Lovrenc Priegler, a tenant of the Turnišče estate, delivered a substantial quantity of rooted seedlings from their vineyards, namely the selected varieties of 'Burgundian' and 'Moselle'. Straight rows featured alternating mulberry trees in semi-low and high cutting form, accompanied by high-quality vine varieties were arranged according to the Venetian-style plantations known as 'La Piantata Veneta' to ensure protection from winds and ample sunlight. This systematic approach ensured a balance between high and semi-low formed trees and a harmonious integration of vines. The Turnišče Mansion became a center for sericultural experimentation and education in the region of Ptuj, where methods of mulberry cultivation, silkworm rearing, and silk reeling were developed and disseminated. It is hypothesised that the estate functioned as a site for demonstrations, thereby contributing to the dissemination of sericultural knowledge among the local farming community. This initiative was consistent with Archduke John's overarching objectives of enhancing agriculture and achieving economic self-sufficiency in Styria.

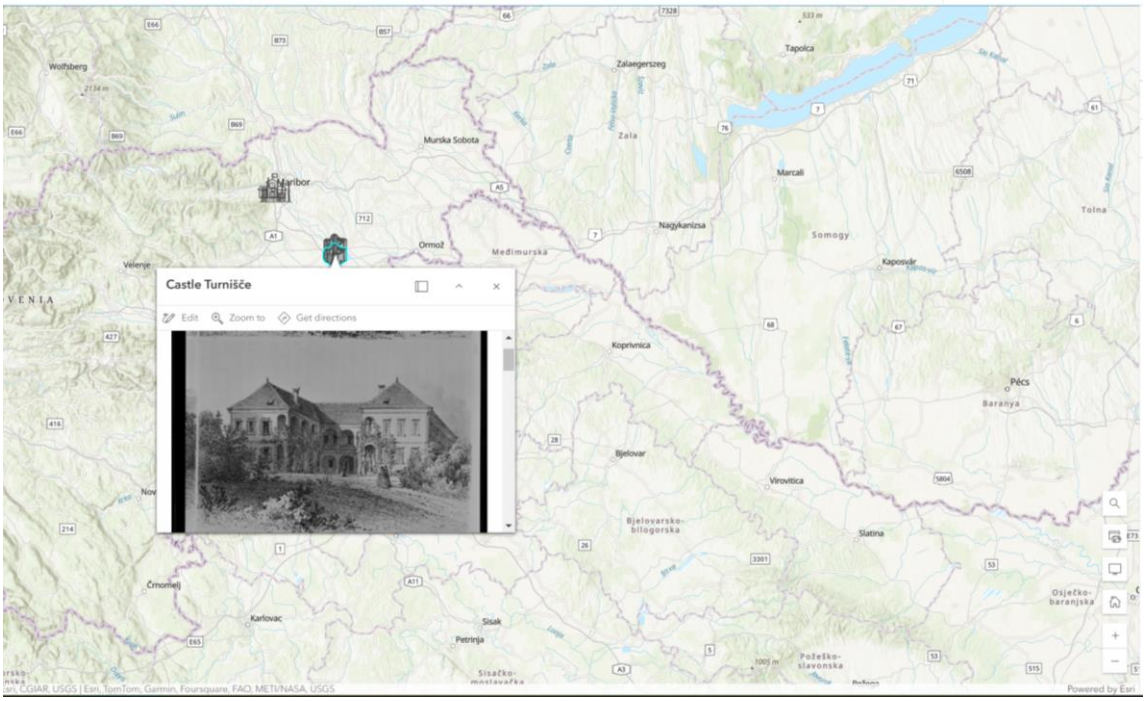


Figure 6: Point of Interest - Castle Turnišče

Primary School Pod Goro, Slovenske Konjice

A group of students researching the sericultural history of Castle Turnišče gathered most of their data during a field visit to the school. After thoroughly reviewing the relatively limited literature available, they contacted the school to arrange a visit. They explored the school garden and surroundings, consulted with the school principal, and examined the school archives.

The first school in Slovenske Konjice **(Figure 7)** was opened in 1763. The first Slovenian school for girls and boys opened its doors in 1909. This school is now known as Primary School Pod Goro. Following the First World War, only a boys' school operated on the same premises, whereas the girls' school was continued on the premises of the former German school. The school garden was utilised for the cultivation of fruit trees and mulberries, which were essential for the rearing of silkworms. It is presumed that this activity was undertaken as an extracurricular pursuit or as part of the scientific curriculum. In addition to primary school, there was also a professional secondary school. Today, the garden as it was in the past no longer exists.

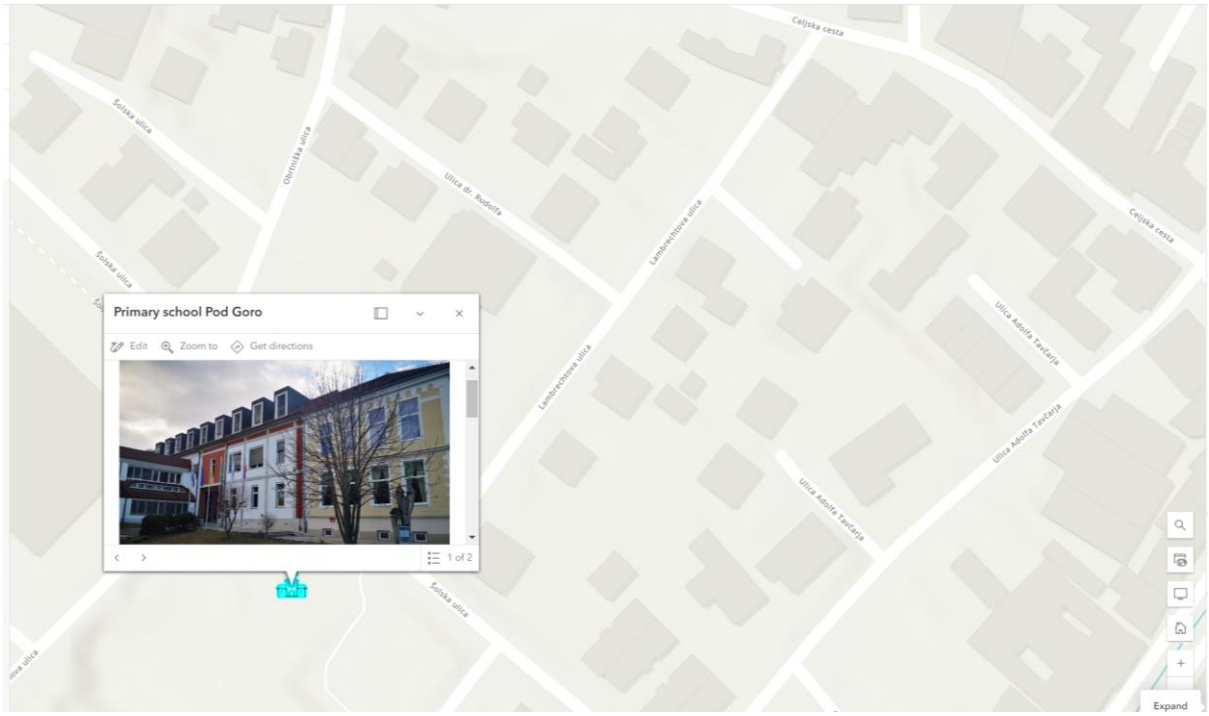


Figure 7: Point of Interest- Primary School Pod Goro

Thoma & Co

This factory was a significant textile enterprise in Yugoslavia until its closure in 2005. A group of students researching the sericultural history of Thoma & Co initially conducted an extensive review of written literature. Following the literature review, they interviewed Mag. Jože Šen, the author of 'Svila Maribor 1928-2005'. This book chronicles the history of the

Svila factory in Maribor, where Šen worked initially as a technician in the dye department and later as the manager of the department. The book includes detailed historical accounts and visual documentation from both public archives and his personal collection, reflecting the comprehensive research undertaken to preserve the legacy of Svila Maribor.

When the Thoma Factory (**Figure 8**) (Karl Thoma, mechanical factory of silk products or later Thoma & Co.) was founded in 1928, it was considered one of the most modern textile factories in the Kingdom of Serbs, Croats, and Slovenes or of the Kingdom of Yugoslavia, and there were already six textile factories operating in Maribor. At that time, there were already six textile factories operating in Maribor. In the decade preceding the Second World War, the textile industry underwent rapid development in the city and its outskirts, providing employment to approximately 13% of the total population of Maribor. The original premises of the Thoma & Co. The original factory premises on Mlinska Street were replaced by new facilities on Pobrežje (now Ob Dravi 6), where the entire production was relocated in 1938, with the company headquarters and warehouse remaining in the centre of Maribor. During World War II, the factory operated without interruption for the needs of the Nazi war industry. In the initial years following the conclusion of the war, the factory was transferred into state ownership as part of the broader nationalisation process. Its name was also changed several times. Following a period of 77 years, in 2005, the manufacturing facilities at the factory were decommissioned, a development that was widely reported in the media at the time. At the time of its bankruptcy, the company was referred to as "Svila Maribor". In the initial years following its foundation, the manufacturing operations were spearheaded by experts from the Czech Republic. The machinery was also sourced from the Czech Republic, as was the case with the founder and co-owner, Karl Thoma. Following 1945, the acquisition of expertise in the field of weaving was primarily undertaken at the textile school in Kranj, with weaving specialists and other personnel, predominantly female, initially being instructed in the operation of weaving machines by more seasoned professionals. From 1965 to 1990, Svila also employed Ing. Jože Šen (born in 1940), as head of the development sector. During the interview, Mr. Šen expounded on the company's logo, which features a stylized spruce tree and a silkworm moth. At the time of his employment, the material for production was imported, as most of the textile production was directed towards the production of textiles from viscose fibres (industrial silk). Consequently, the company possessed its own laboratory for the development of dyeing and finishing technology. Prior to the Second World War, the primary focus of production was on weaving fabric from natural silk; however, Thoma & Co. procured ready-made raw materials for weaving, as opposed to silkworm cocoons. In the aforementioned conversation, Mr Šen precisely determined the location of the original premises of Thoma & Co., which, according to his research, should be at today's Mlinska Street 33 (in the vicinity of the Maribor bus station), where there is a gas station and next to it a large parking lot.

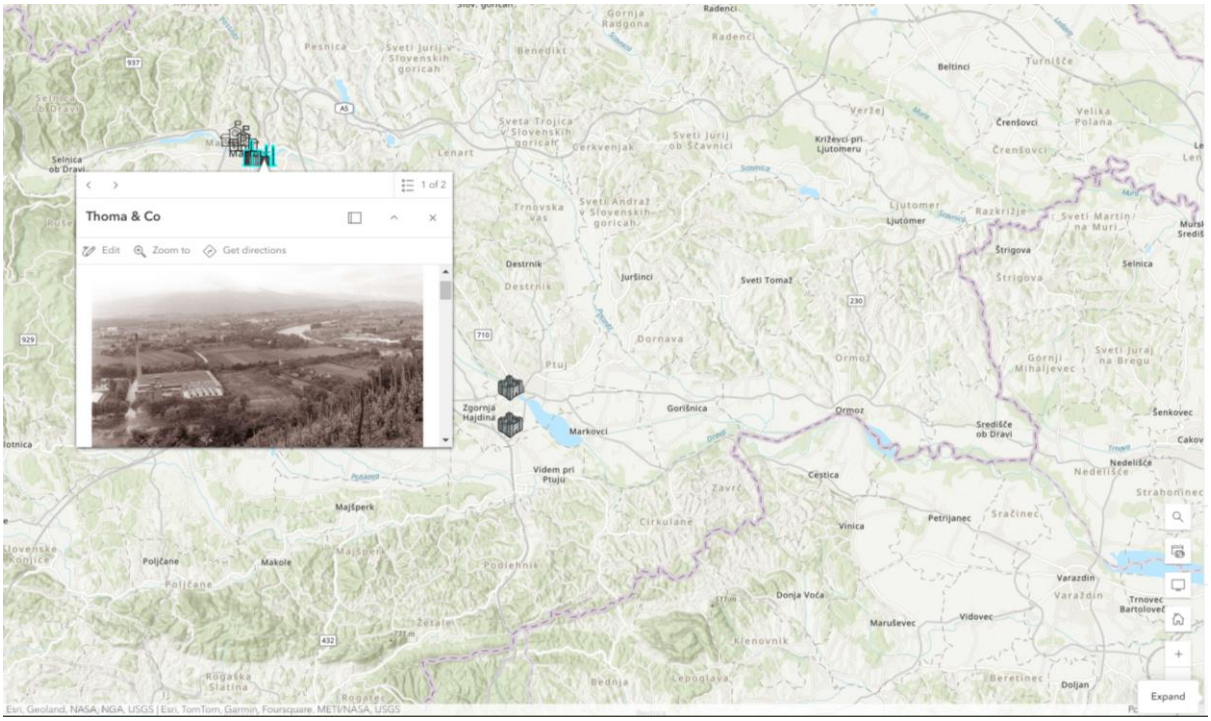


Figure 8: **Point of Interest- Thoma & Co**

8.3.2 High School of Design Maribor Activities

At the High School of Design in Maribor, seven workshops were held to present the students' work (see Figure 7). Under the guidance of Alenka Lukić, who holds a university diploma in textile design and clothing, the students painted silk scarves that drew inspiration from historical garments. Andreja Bertoncelj, a technician in bookbinding and a bookbinder, guided the creation of photo albums that merged bookbinding with graphic design. Mag. Ksenija Plazl, a university graduate with a diploma in textile engineering, led a workshop on the exploration of felting on silk scarves, integrating heritage with sustainability. Maja Osrajnik, a graduate of the Faculty of Textile and Clothing, introduced the Shibori technique, yielding vibrant neckerchiefs adorned with geometric patterns. Osrajnik also led a workshop on textile pattern design, utilising motifs such as threads and mulberry leaves. Marija Tuore's diploma in painting group crafted posters promoting silk's history and ethics in fashion under the title "SILK". Teja Kovač Lozar, a university-educated architect, oversaw the creation of jewellery from cocoons and a mulberry wood stand, showcasing innovative uses of materials.

Figure 9: Creations from seven workshops at the High School of Design Maribor

Maribor Regional Museum

At the High School of Design Maribor, involved teachers decided to participate in the project with silk scarves, which they painted with contours and colors for drawing on silk under the supervision of prof. Alenka Lukić, "University Graduate Engineer of Textile and Clothing Design. As a starting point, they chose silk clothes from the past, which are kept in the Maribor Regional Museum (**Figure 10**). The first is a black woman's dress with an interesting pattern. The pattern was stylized and modified to be used for painting on silk.

Description of clothes:

WOMAN'S DRESS 1936

Woman's formal dress in black silk crepe, straight, slightly loose fit, with long and narrow sleeves, round neck, no collar. The entire left side of the dress has decorative silk embroidery – a stylised flower motif that expands at the neckline and covers the entire upper part of the dress. Author: Tailoring Ivan Sapač Maribor (a salon on the Main Square). Decorative embroidery work by Zala Levstik (March 23, 1936) or Anka Dabinović.

BLACK DRESS 1980s

A woman's two-piece tournure style dress, pleated skirt, long cardigan with pleated and pleated back, long rectangular neckline in front. Black taffeta, lace.

FLORAL DRESS 1990s

A woman's dress with a short blouse, which has very richly gathered sleeves in the shoulder area, which taper towards the wrist. The front part is decorated with pleats and a fringe patch in a combination of fabric and dark blue velvet, which also edges the collar and shoulder part. The blouse has sewn-in stays and ends in a pointy front; the skirt is richly pleated, reaching to the floor (an example of a bourgeois dress with elements of a folk costume). Brocade.

TECHNIQUE

Initially, the students created pencil sketches of neckerchiefs on paper. They then transferred these patterns onto silk. The silk scarves were stretched on wooden frames; however, the

students encountered a problem as the neckerchiefs were larger than the frames, requiring them to be twisted or folded for neat stretching. They used Gutta contour dyes to outline the shapes. After waiting for the contours to dry, the students began painting the backgrounds and the inner flowers. This was followed by making corrections and defining the external contours. Finally, the colors were set using an iron. In total, the students produced 12 neckerchiefs.

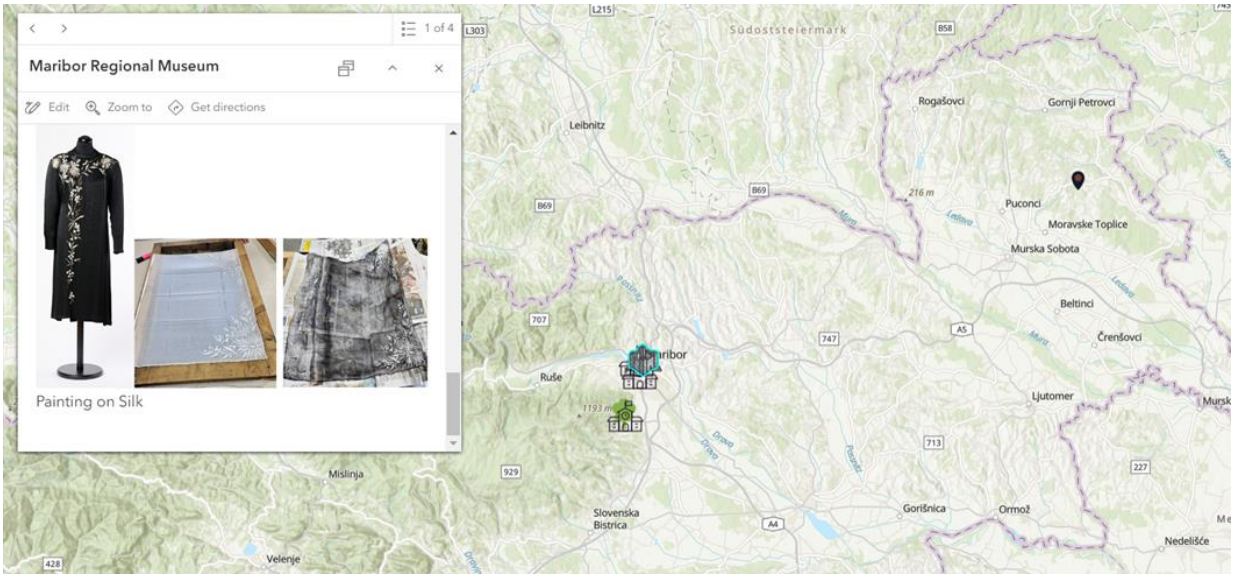


Figure 10: Point of Interest: Maribor Regional Museum

Inspirations by mulberry germplasm collection

The mulberry germplasm collection (**Figure 11**Figure 11) is maintained at the Faculty of Agriculture and Life Sciences of the University of Maribor (UM). This comprehensive collection spans 0.6 hectares and is meticulously organised into three distinct sections.

The first section comprises traditional sericultural mulberry varieties. This area emphasizes the conservation of varieties historically significant for silk production.

In the second section, vegetatively propagated trees derived from local historical Slovene and Hungarian trees are cultivated. These were collected during the inventory of the mulberry gene pool, a key task of the Slovenian partner in the joint Slovenian-Hungarian research project (ARIS N1-0041) conducted between 2015-2018. The focus here is on reconstructing the genetic heritage based on ancient populations to select local varieties best adapted to the region's pedo-climatic conditions. This section aims to offer a diverse range of plant materials for farmers, extending beyond silkworm rearing to other agricultural applications.

The third section of the collection is dedicated to species and hybrids primarily grown for fruit production. Initially, the collection founders aimed to preserve varieties from all major *Morus* species cultivable in the region. Currently, the collection includes *M. alba*, *M. nigra*, *M. alba* x *M. rubra*, and *M. rubra* cf. Additionally, species like *M. maclura* and *M. boninensis* are maintained in pots and overwintered in a cold house.

This diverse and well-curated collection not only preserves valuable genetic resources but also supports research and agricultural diversity in Slovenia.

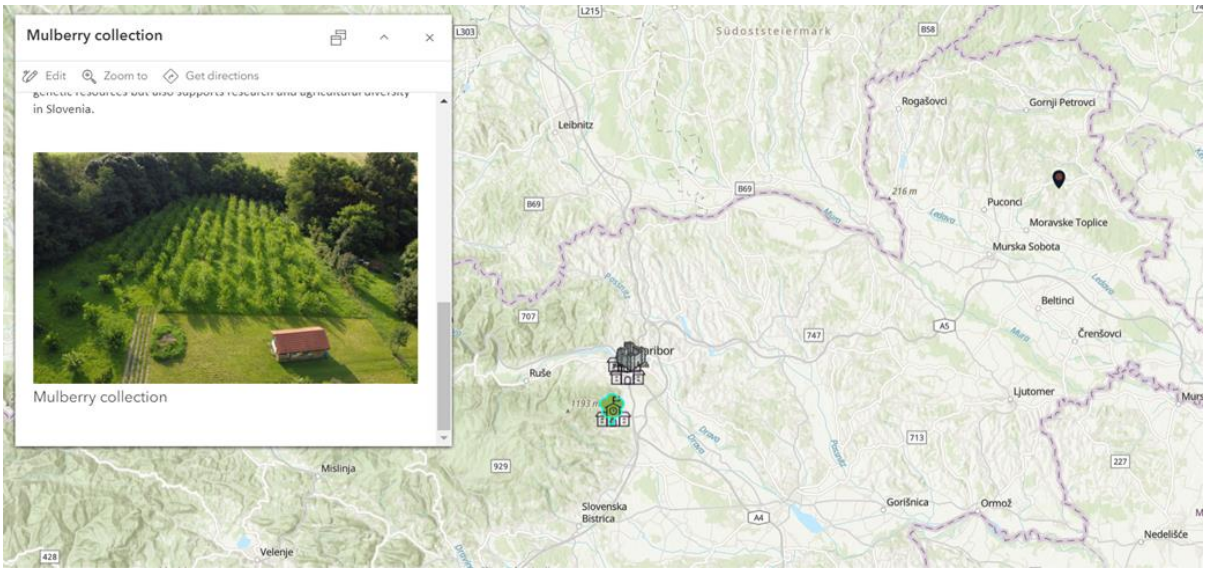


Figure 11: Point of Interest: Mulberry collection

The students sought inspiration from the mulberry and herbarium collections, which included leaves from different species, mulberry leaves, and inflorescences, using them as prints. These collections inspired the students to draw patterns and weave realistic shapes with creativity and imagination. They meaningfully incorporated these samples into their products, adding a creative touch and unique value. Under the supervision of Prof. Maja Osrajnik, a University Graduate Engineer of Textile and Clothing Design, they learned about the silk production process in the Textile Design course, from the emergence of the moth to the creation of the silk thread. The students were fascinated by the lifecycle of the silkworm (*Bombyx mori*), its voracious appetite for mulberry leaves, and the process of silk thread formation, culminating in the spinning of a cocoon. They were curious about the appearance of the silkworm moth, how silk is obtained in Slovenia, the local presence of mulberry trees, their appearance, the type of fruit they produce, and more. The teachers encouraged the students to touch, smell, and observe the cocoons and raw silk threads, compare the texture of the fabric, and marvel at the fineness and luxury of the silk.

In their pursuit of knowledge, the students created individual repeating patterns for printing on silk fabric using Adobe Illustrator. Various motifs, such as threads, moths, and mulberry leaves, served as starting points for developing colorful collections of patterns. This task not only showcased their creativity but also reinforced the students' appreciation for the beauty of silk and emphasized the importance of preserving nature in the production of aesthetic and sustainable products.

At the same time, another group of students took on the design of a jewelry stand made of mulberry wood. Part of a mulberry tree trunk was used as a base for metal bars in the shape of a tree, which will serve as a jewelry stand

Inspirations by Silkworm Rearing

Jewelry made of cocoons and a stand made of mulberry (**Figure 10**) were created during a practical lesson under the supervision of Prof. Teja Kovač Lozar, University Graduate Engineer of Architecture, in the 'Design of Useful Objects' course at the High School of Design in Maribor.

The starting point for the creation was the material itself, with its properties – silkworm cocoons, which invited the students to touch them. The cocoons' whiteness, soft egg shape, and fluffy surface appealed to the students. Woven from delicate, subtle silk threads, the cocoons form a firm shell that protects the silkworm pupa inside.

The silkworm, resembling a large caterpillar, weaves this compact protection around itself through a figure-of-eight movement. This natural wonder inspired them to choose it as a theme for their work, designing products that come into contact with human skin and hair. The goal was to touch, engage, and find inspiration in nature itself.

The first phase of the work process involved researching how to cut the cocoons, determining the easiest and most efficient ways and tools to cut, empty, and clean them. In the second phase, **students explored the possibilities of cocoon processing,** including laser cutting, gluing, painting, and adding accessories for fastening.

Once familiar with the material and its properties, they began to find solutions, design patterns, sketch, and move toward production.

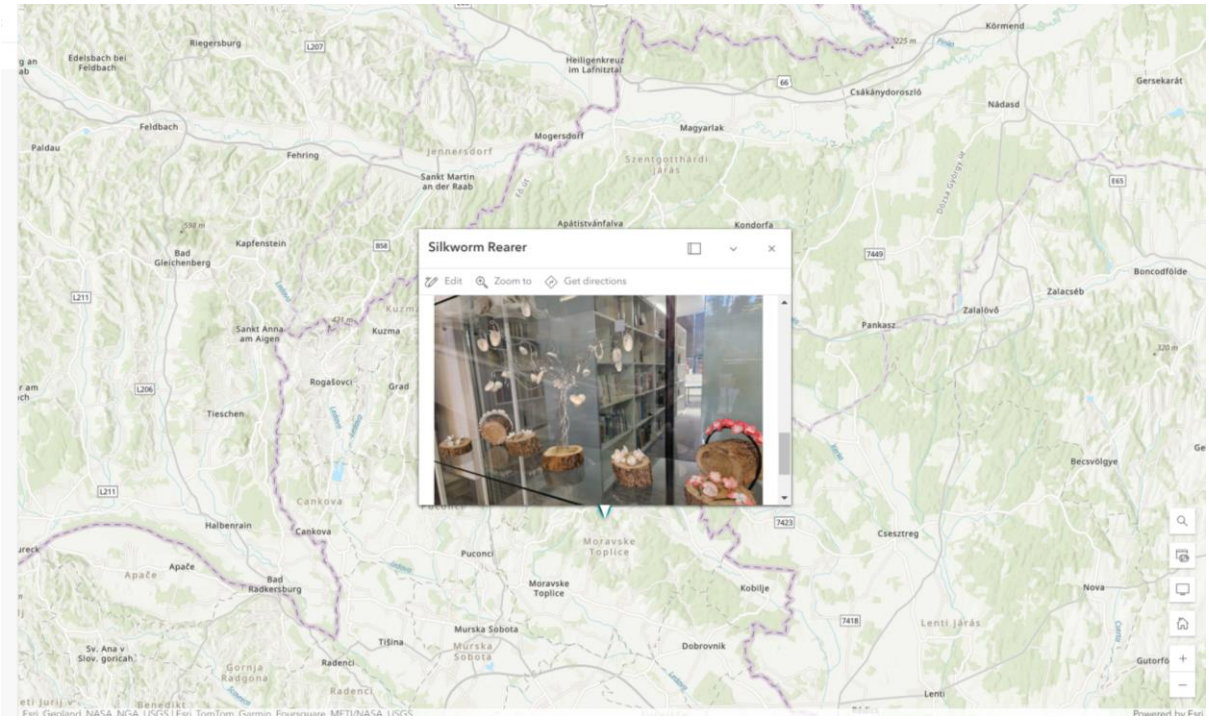


Figure 12: Point of Interest: Silkworm Rearer- Cocoon- made jewelry and mulberry stand

Shibori on silk

Under the supervision of Prof. Maja Osrajnik, a University Graduate Engineer of Textile and Clothing Design, the first-year students embarked on a silk dyeing project. As the highlight of their exploration, they delved into the Shibori technique (**Figure 11**). This venture into silk dyes was a novel experience for them, having never worked with these materials before. The classroom was abuzz with excitement as each student boldly used a vibrant palette of colors, giving their silk creations a distinctive personal touch. The discovery of the Shibori technique led to pleasant surprises, with students thrilled by the stunning outcomes of their creative experiments.

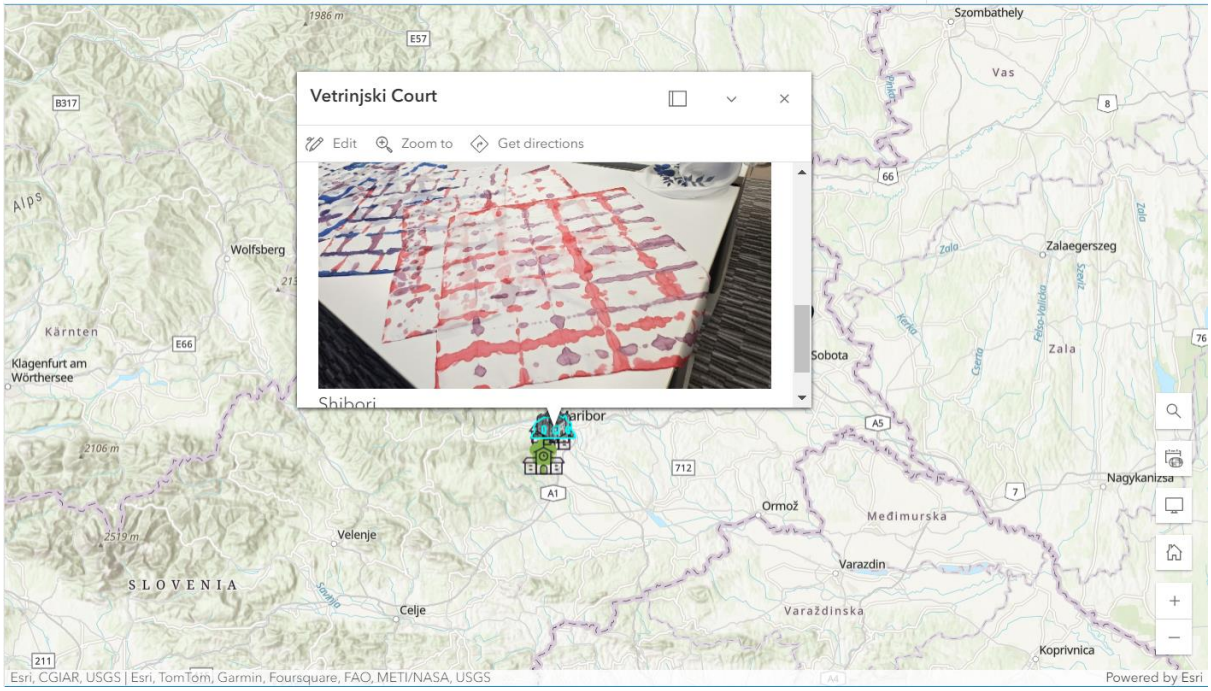


Figure 13: Point of Interest: Vetrinjski Court -Shibori on silk

Photo album

The patterns were designed by second-year students majoring in Graphic Operation under the supervision of Prof. Andreja Bertoncelj, Arrangement Technician, Bookbinder. Together, they utilized their knowledge of bookbinding and graphic finishing, combined with precious material, to create a series of unique photo albums (**Figure 12**).

A photo album is a book or album designed to house collections of photographs, typically organised around a particular theme or event. People commonly use photo albums to preserve memories from family events, vacations, or special occasions. These albums can vary in format and size, often featuring traditional printed photographs that are inserted into their pages.

Each album created was as unique as the students themselves, yet unified through their adherence to color harmony, reflecting both individual creativity and a collective aesthetic.

The students first sketched and designed albums, familiarised themselves with the material, tested the permeability of silk for glue and the gluing technique. Then, after precise measurements, they cut the material and made photo albums covered in Shantung silk.

Shantung silk, also known as raw silk, is a type of silk fabric characterised by a slightly irregular texture and a crisp coating. It is woven with a combination of raw silk yarns, giving it a unique look and feel compared to traditional smooth silk fabrics.

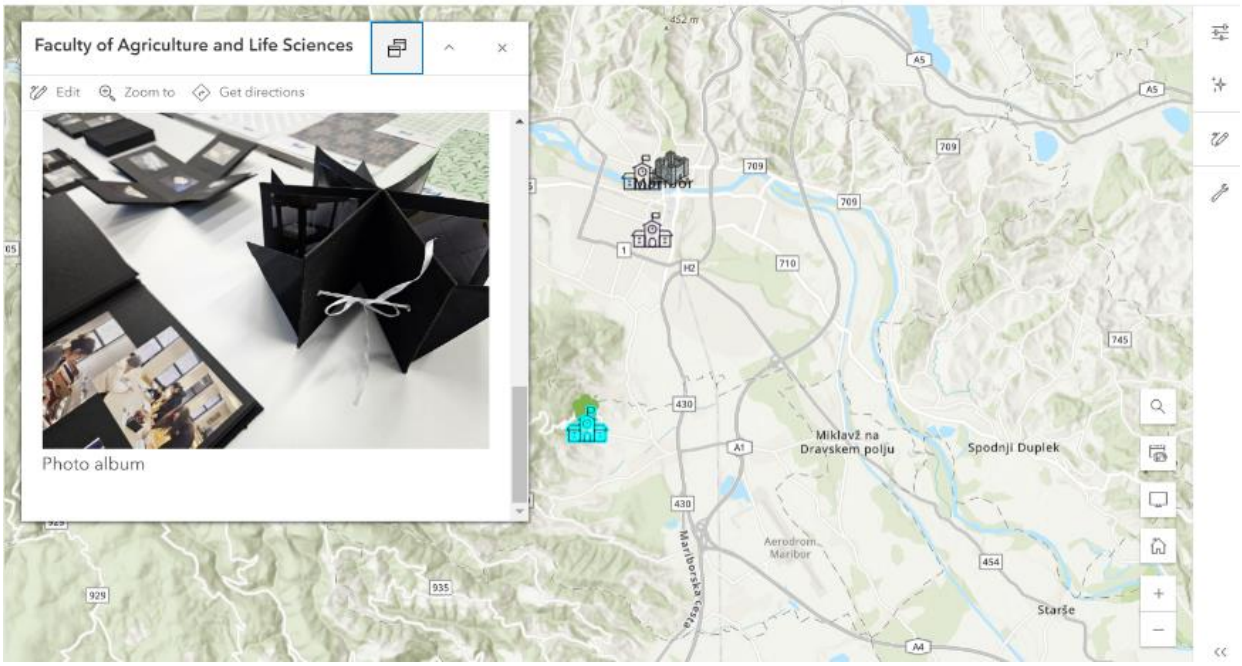


Figure 14: Point Of Interest: Faculty of Agriculture and Life Sciences-Photo album

Felting on silk

The patterns were designed by first-year fashion design students under the supervision of Prof. Mag. Ksenija Plazl, a University Graduate Engineer of Textiles.

Felting (**Figure 13**) is an ancient manual handicraft technique for creating flat textiles from carded sheep's wool. This craft was highly developed in Slovenian regions but has nearly vanished over time. Thanks to the revival of old crafts, particularly in the Škofja Loka area, felting is experiencing a resurgence and is increasingly valued in creativity and design. It offers a variety of eco-friendly products, from the sourcing of sheep's wool to the manufacturing and usage of the products, contributing to sustainability and enhancing awareness of nature preservation and cultural heritage. Besides sheep's wool, silk is also used in felting for its aesthetic and creative qualities. The exceptional blend of these two fibers and the exploration of ancient crafts inspired the first-year Fashion Design students at the Secondary School of Design in Maribor to participate in the Aracne project.

The motifs for felting wool onto silk scarves started with digital patterns created by the students. Themes related to silk, such as moths and mulberry leaves, were transferred onto the silk. Since wet felting softens the sharp lines of the motifs, it allows for individual interpretation and creativity.

The students' creativity and ingenuity extended beyond mastering the felting technique; they also enhanced the felted scarves by embroidering the patterns, adding further value to their creations.

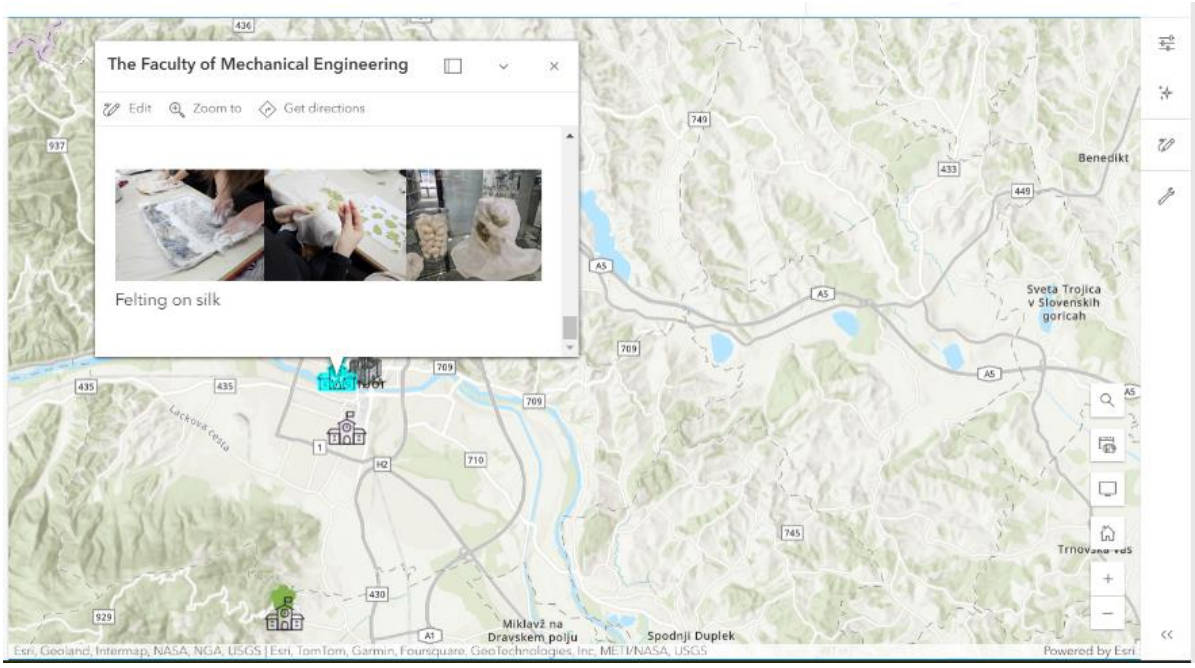


Figure 15: Point of Interest: Faculty of Mechanical Engineering-Felting on silk

Posters 'Silk'

Under the supervision of Prof. Marija Tuore, Graduate Painter, students of the 2nd year of graphic design created patterns on the theme of the mulberry tree and sericulture. The students designed a series of posters (**Figure 16**) on the theme of 'Silk', which are intended to promote and raise awareness of the history, production process and fashion influence of silk. In addition to aesthetically depicting the beauty and complexity of silk and its production process, they also encouraged reflection on the importance of sustainability and ethics in the fashion industry.

Prior to the conceptualisation of the posters, a group of students conducted comprehensive research on silk in collaboration with another group of students. This research encompassed the historical development of silkworms, including the rearing of silkworms and the cultivation of mulberries, which are indispensable for feeding the silkworms. The research revealed the fascinating journey of silk from the cocoon to the final textile product used in the fashion industry. Special attention was also paid to sustainable and ethical practices in silk production. The result of this research was the formulation of a creative strategy that combined aesthetics and communication. The objective was to devise visually appealing posters that could convey the richness and diversity of the domains of sericulture, ranging from the natural elegance of mulberry trees to the refinement of silk fashion products. The students commenced with sketching, subsequently transferring their ideas to a computer, and finally creating four posters, each in the style of a particular historical design style (Art Nouveau, Art Deco, Avant-garde movements and Polish poster). Each poster was designed

to stand alone as part of a series, with a common thematic and visual coherence. The project is an excellent example of how graphic design can serve as a powerful tool for communicating important messages in society.

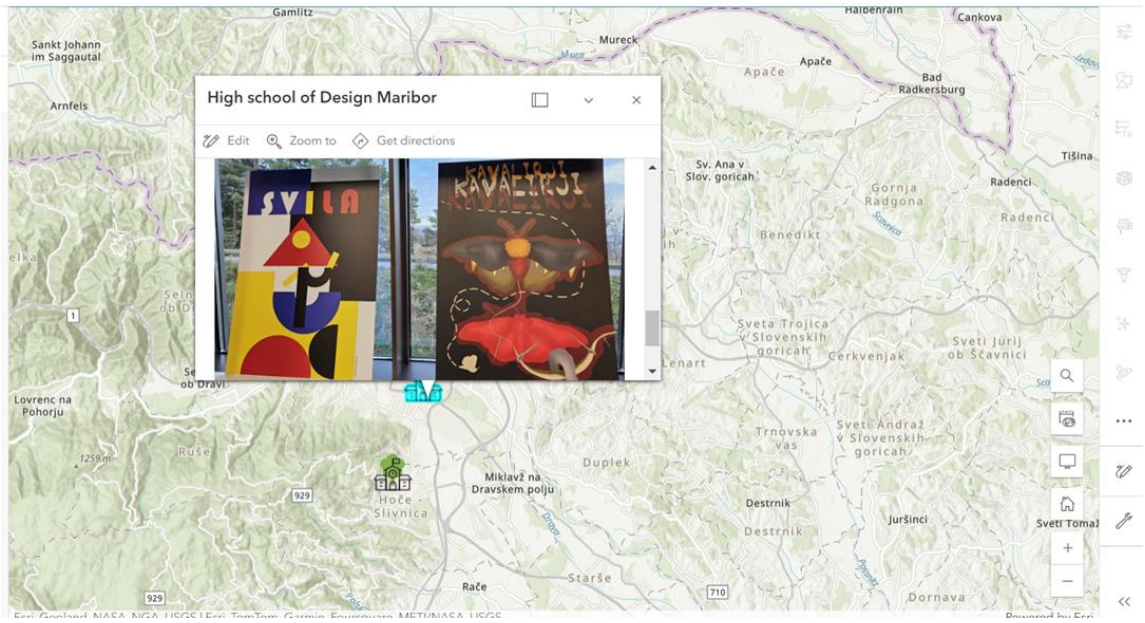


Figure 16: Point of Interest: High School of Design Maribor- Posters

8.4 Bulgaria

The Bulgarian partner was not able to recruit schools for this kind of work, but in 2023 SCS – Vratsa organised through the ARACNE project the visits and training of 266 students from primary schools at the National agricultural museum in Sofia and the Scientific Centre on Sericulture in Vratsa (see the above mentioned News). France, Spain and Georgia planned the activity for the school year 2024-2025 and translated all the necessary materials.

8.5 Final questionnaire for statistical purposes

To evaluate the design, execution and impact of the school activities, as described and carried out within Task 1.1 of WP1 of the ARACNE project, an evaluation questionnaire was designed (see Annex III).

A questionnaire is one of the several tools that can be used in social science research to evaluate a social activity carried out by its participants. Other tools include interviews with participants and demographic surveys of participants in any kind of social activity.

In-depth interviews may be a powerful tool for data collecting data regarding the participants in a social activity that has to be evaluated or described, but they require a person-to-person interaction that in this particular case (interviews with young people) was inappropriate, not

to mention impractical. On the other hand, the collection of demographic data was deemed inadequate for the designed task since the target group was already selected (junior high/high school students and no additional data of the participants could be of any use for the tasks that were to be carried out by the participants.

A questionnaire was, therefore, designed as the most appropriate tool to evaluate the school activities that took place in the 3 countries (Italy, Slovenia, Greece) where schools participated in the activities, as foreseen in the ARACNE project. The questionnaire was first designed in English and then translated into Greek, Italian and Slovenian to be filled by the students in the respective countries after completing their respective school activities.

The questionnaire was composed of a brief introduction about its purpose in relation to the school activity that they had carried out, followed by the questionnaire which consisted of four parts. Each of the first three parts of the questionnaire consisted of ten statements that the responders were asked to reply to by ticking a number from one to five that corresponds to a Likert scale reply. Respondents were asked to tick five if they agreed with the statement that was posed or one if they did not agree. Number three denoted that they are not sure whether they agreed or disagreed.

The first of the four parts of the questionnaire consisted of ten statements that asked the students to evaluate their preparation for participating in the activity that they had chosen to do. The second part of the questionnaire consisted of ten statements about the actual activity, that is what the student thought about/and during the activity. The third part of the questionnaire consisted of 10 statements aiming to identify how students felt about the activity after its completion.

The final, the fourth part of the questionnaire consisted of a set of ten open-end questions where students were asked to freely express themselves by answering the questions.

More specifically, the statements in the first part of the questionnaire asked the students about how they felt their tutors and activity organisers presented the school activity to them. The focus here, therefore, was on the organisers of the school activity through the “eyes” of the students.

The second part focused on how the students carried out the school activity trying to evaluate how informative and/or challenging was the task that they carried out.

The third part of the questionnaire consisted of statements that aimed at determining how pedagogically important was the task that the students carried out. The statements aimed at identifying whether the activities enabled the students to develop a sense of identity and belonging with regard to the place where they live and where they carried out the activity.

The final, fourth part consisted of open-ended questions that the students were asked to answer in their own words and were questions pertinent to the aims and objectives of the ARACNE project without explicitly referring to the project.

A final overall evaluation statements was introduced in an attempt to capture the overall appreciation of the activity by the students. The evaluation statement asked the students to rank the overall experience in a scale from 1 to 9, taking into account all the steps taken to complete the activity.

8.6 Final Evaluation committee and competition among the schools

The final works of the schools that participated in the educational project were evaluated by a committee to determine the winning work for each of the two paths. The prize is a monetary contribution for an educational trip to the city of Padua and a guided tour of the Esapolis Museum.
The evaluation committee for the maps produced for the Cultural Heritage path was composed of four individuals selected from among the project partners. The committee members were the three tutors of the participating schools, and one external person:

- Dr. Anna Gasperl: one of the tutors for educational activities in Slovenia
- Dr. Danae Kaplanidi: tutor for educational activities in Greece
- Dr. Diana Mantegazza: tutor for educational activities in Italy
- Dr. Krasimira Avramova: external member, main assistant, PhD, Agricultural University, Plovdiv

Each member assigned a score from 1 to 10 in two of the three evaluation categories and provided an overall assessment of the strengths and weaknesses of each map:
Historical or naturalistic aspects
Creative and aesthetic aspects
ArcGIS use and technical aspects

Dr. Anna Gasperl, Dr. Danae Kaplanidi, and Dr. Krasimira Avramova evaluated categories A and B, while Dr. Diana Mantegazza evaluated category B and category C, as she was the reference for the use of the ArcGIS platform and responsible for merging the maps produced by the schools into a single map called the European Silk Route.
The schools' ranking was determined by the sum of the scores given by the committee:

	Score
Junior and High School Soufl	39
IIS Ferrari Chiaravalle Centrale	38
High School of Design Maribor	36
Anton Martin Slomšek Grammar School Maribor	33
Liceo Filzi Rovereto	29
Liceo Guggenheim Venezia	28

The map created by students from Junior and High School Soufl wins for the variety of POIs included, the completeness and depth of the texts, the range of media added, and the availability of subtitles in the video interviews. An additional merit was the creative work done by the students.

The Agricultural Landscape path of the ARACNE educational project aims to collect data on mulberry trees in the area. For the 2023-2024 school year, it was carried out by students from two Italian schools:

IIS Enzo Ferrari - Chiaravalle Centrale - CZ
IIS 8 Marzo - K. Lorenz - Mirano - VE

The students completed the form in the MorusApp, contributing to the census of mulberry trees across Italy. The evaluation of the schools' work was conducted by Dr. Gianni Fila and Dr. Diana Mantegazza from CREA, considering the number of plants entered into the database, their historical and landscape relevance, and the quantity and accuracy of the completed entries.

The IIS Enzo Ferrari - Chiaravalle Centrale - CZ won for the quantity of mulberry trees entered in the MorusApp, the completeness of the information provided, the quality of the photos, and the monumentality of the surveyed plants.

The presentation and award ceremony for the educational project 'European Silk Route School Map' for the school year 2023-2024 took place on 6 November 2024, through an online meeting attended by all the participating students, the supervising teachers, the tutors, and some partners of the Aracne project.
During the event, the Aracne website page containing the European Silk Route map (link to the page) was presented, showcasing all the maps produced.
Students from each school then presented their work in English, highlighting specific points on the map and sharing their experiences. Some examples of the trees added to the MorusApp were also shown. At the conclusion of the presentations, the winners were announced.

The event received highly positive feedback from the students and teachers, who were able to compare the unique characteristics of the territories studied and the field research carried out. Partners not directly involved in the educational project for the 2023-2024 school year gained a clearer understanding of the activities carried out and observed the variety of results achieved, serving as an example for implementing the project in the 2024-2025 school year.

8.7 Engagement for the 2024/2025 academic year

For the forthcoming academic year, applications have already been received from some educational institutions through the registration form on the website and through direct contact with the partner tutors. In the light of the experience gained and the examples of maps produced, the other partners have also initiated the recruitment of schools within their respective geographical areas. Currently, ten schools have already expressed their interest in undertaking the route in the academic year 2024/2025.

9 Conclusions

The engagement with educational institutions represents a valuable contribution to the development of the ARACNE project's innovation ecosystem. The enthusiasm of students in exploring the world of silk through a contemporary lens and the integration of digital technologies has been a source of encouragement for the project's partners. This approach has proven to be an effective way to pass on traditions and knowledge, as well as to engage with future innovators in the sector. Unfortunately, the time gap between the project reporting period and the conclusion of the academic year precludes the presentation of comprehensive outcomes from the first year of the project. An update of this deliverable is scheduled for the beginning of 2025. Although the results are not yet complete, a considerable amount of material on the website attests to the methodology employed and the first experiences of the students. The decision of the Veneto Region, as expressed in its Law on Sericulture, to strengthen this activity in favour of educational institutions is a significant step towards the long-term sustainability of this work on the silk sector in education. This is particularly important for students, as it has implications for a wide range of disciplines.

ACRONYMS

[ACR]	*ACRONYM*
[GIF]	Graphics Interchange Format
[JPG]	Joint Photographic Experts Group
[MP3]	MPEG-2 + Audio Layer-3
[MP4]	MPEG-2 + Audio Layer-4
[PCTO]	Paths for Cross-Curricular Skills and Guidance

Annex I

Paths for Cross-Curricular Skills and Guidance: Agricultural Landscape

DIPARTIMENTO DI FILOSOFIA, SOCIOLOGIA, PEDAGOGIA
e PSICOLOGIA APPLICATA (FISPPA)

UNIVERSITÀ DEGLI STUDI DI PADOVA

Padova, 29/09/2023

OGGETTO: Attivazione PCTO 2023-24

PROPONENTE: MANLIO PIVA (Ricercatore L-Art/06, Dip. FiSPPA)
Contatti: manlio.piva@unipd.it +39 3289091702

Titolo

Tracciare il Passato, Salvaguardare il Futuro: una mappa HGIS e la MorusApp per i Gelsi secolari.

Motivazioni

La storia della gelsibachicoltura in Italia è secolare e anima le esperienze di intere comunità almeno fino al secondo dopoguerra. Si lega indissolubilmente alla coltivazione del gelso, i cui alberi sono tuttora testimonianza della storia del territorio. Toponomastica, archeologia industriale, lessico famigliare, foto e musei provano a raccontare ancora oggi alle nuove generazioni l'importanza di un'economia che ha visto l'Italia come stato trainante in Europa. Ma nuove ragioni spingono a tornare con rinnovata energia e nuove strategie comunicative e didattiche su questa storia sociale, economica, culturale.

Il baco del nuovo millennio. Prima di tutto la sensibilità verso la green economy e le strategie per metterla in atto, attraverso l'educazione all'ecosostenibilità e alla (ri-)scoperta di pratiche economiche circolari: la gelsibachicoltura non è una pratica del passato ma si sta rivelando un eccellente volano per l'economia green; il *bombyx mori* non è più solo sinonimo di tessuti pregiati ma trova applicazioni nella chirurgia, nella cosmesi, nella nutrizione animale e umana ed è al centro di ricerche nelle nanotecnologie e nei superconduttori. La gelsicoltura procede di pari passo e non è più solo al servizio dell'allevamento, ma oggetto di studi per applicazioni che toccano anche l'ambito alimentare, medico e cosmetico.

Una storia locale e globale. L'epopea del baco da seta in Italia costituisce un eccellente esempio di un'economia integrata all'interno di piccole comunità contadine che partecipa attivamente a una fiorente industria che fa per secoli dell'Italia il secondo

produttore al mondo di seta dopo la Cina. Grazie all'esportazione dei filati e dei tessuti in seta la regione conserva a lungo un accesso diretto ai più importanti centri del commercio globale del tempo. Un'epopea che parla di economie di sussistenza e baratto che trovavano nell'allevamento dei "cavalieri" uno dei pochi, se non l'unico, introito di denaro, integratore prezioso dell'attività agricola, leva per la nascita della piccola borghesia del nord Italia; ma anche di rapidi processi di innovazione, come l'introduzione su larga scala dell'uso del microscopio per combattere le malattie del baco nel tardo Ottocento. Lessico, pratiche sociali, riti, luoghi e soprattutto alberi secolari raccontano ancor oggi il territorio e le sue comunità. La schedatura di questi preziosi esemplari di gelso ha anche lo scopo di recuperare un patrimonio genetico che si è dimostrato resistente nei secoli e può diventare fondamentale per una gelsicoltura che si trova ad affrontare le odierne sfide di un ecosistema in continua evoluzione.

Strategie didattico-educative. Per le ragioni addotte, il tema si presta a essere affrontato ricorrendo a tools e applicazioni tecnologiche avanzate (georeferenziazione, multimedia, digital storytelling, data base management) a integrazione di attività sul campo, testimonianze, visite guidate, laboratori. Aggiornando le pratiche e gli strumenti didattico-educativi a disposizione degli insegnanti, attraverso la Didattica Digitale Integrata (DID) e favorendo negli studenti un approccio "smart" all'apprendimento e alla ricerca.

Target

Studenti delle scuole secondarie di II grado: laboratori ed esperienze di ricerca assistita a studenti del ciclo secondario II grado (PCTO)

Discipline coinvolte

Storia, geografia, italiano, educazione civica, tecnologie, informatica, scienze della terra, biologia.

Temi collegati

Toponomastica, storia e testimonianze (orali, letterarie, fotografiche), cultura immateriale (lessico, pratiche sociali, mestieri, ruolo delle donne), biologia, scienze, innovazione tecnologica, ecosostenibilità, cittadinanza, turismo sostenibile.

Risorse umane

Il proponente si impegna a mettere a disposizione il personale docente e i formatori esperti. Il personale docente sarà costituito da docenti che si occupano di Pedagogia, Tecnologie per la didattica, Discipline artistiche e mediali, Storia, Antropologia culturale, Agronomia.
Il proponente curerà i rapporti con i partner esterni (scuole, professionisti, ricercatori, enti territoriali, aziende) al fine di offrire ai discenti visite guidate, testimonianze, approfondimenti storici e scientifici in situ e a distanza.

Partner dell'iniziativa:

Progetto europeo ARACNE - CREA di Padova.

Risorse finanziarie

Le attività previste per l'Anno Scolastico 2023-24 saranno svolte A TITOLO GRATUITO.

Tempistiche

Febbraio 2024 – Giugno 2024: PCTO di 40 ore (indicative)
Programmazione e contenuti
Percorso per le Competenze Trasversali e per l'Orientamento (PCTO)

Titolo:

- *Il Gelso e la sua importanza per la gelsibachicoltura in Italia: la MorusApp e la mappa HGIS*

Modalità di erogazione:

- Attività online e sul campo

Target:

- Studenti del III e IV anno scuole secondarie di II grado
- Max 25 partecipanti
- Indirizzi: Liceo Scientifico, Liceo delle Scienze Umane, Istituti agrari.

Obiettivi: creazione di una mappa geolocalizzata HGIS e utilizzo della MorusApp per censire gli esemplari di gelso secolari.

Il PCTO sarà strutturato in 5 fasi:

Inverno 2024
Fase 1 (2 incontri online per totali 4 ore): *Affinamento delle conoscenze e competenze*

- Lezione 2 ore: Per un approccio storico alla gelsibachicoltura in Italia: metodi, fonti, strumenti, il ciclo vitale del gelso e le sue caratteristiche (tema indicativo, da concordare con la scuola ospitante)
- Lezione 2 ore: Reperire testimonianze, produrre documenti fotografici sulla gelsibachicoltura: metodi, fonti e strumenti (Dott. Manlio Piva, L-ART/06, FiSPPA - Unipd)

Febbraio- Aprile 2024
Fase 2 (22-24 ore): *Ricerca sul campo*

- Gli studenti, divisi in gruppi sviluppano una ricerca di documenti e testimonianze sul territorio; archiviano attraverso registrazioni e trasferimento in digitale di documenti analogici (mappe storiche, foto, pellicole, documenti d'archivio pubblici e privati), compilano il database attraverso la MorusApp analizzando le piante di gelso secolari nelle varie fasi del loro ciclo vitale.
- Ciascun gruppo sarà seguito da un tutor/docente della scuola di riferimento

- Si prevedono periodici incontri di condivisione, monitoraggio, assistenza da parte del tutor universitario

Maggio 2024
Fase 3 (6-8 ore): *rielaborazione, collazione e pubblicazione dei materiali raccolti*

- 2-3 incontri online e in presenza di abilitazione degli studenti all'utilizzo della MorusApp e della mappa geolocalizzata ArcGIS e inserimento nella stessa dei documenti esito della ricerca.

Inizio Giugno 2024
Fase 4 (2 ore): Evento pubblico di presentazione dei risultati

Possibili partner dell'iniziativa:

- Uffici pubblici (anagrafe, catasto ecc.) dei comuni del territorio in esame
- Musei pubblici e privati dedicati alla gelsibachicoltura del territorio in esame
- Archivi privati di storia locale del territorio in esame
- Aziende agricole, del tessile e della seta presenti sul territorio in esame

Il proponente, Dott. Manlio Piva – FiSPPA Unipd

Annex II

Paths for Cross-Curricular Skills and Guidance: Cultural Heritage

DIPARTIMENTO DI FILOSOFIA, SOCIOLOGIA, PEDAGOGIA
e PSICOLOGIA APPLICATA (FISPPA)

UNIVERSITÀ DEGLI STUDI DI PADOVA

Padova, 29/09/2023

OGGETTO: Attivazione PCTO 2023-24

PROPONENTE: MANLIO PIVA (Ricercatore L-Art/06, Dip. FiSPPA)
Contatti: manlio.piva@unipd.it +39 3289091702

Titolo

New millenium bug. Passato presente e futuro della gelsibachicoltura nel nord Italia

Motivazioni

La storia della gelsibachicoltura nel nord Italia è secolare e anima le esperienze di intere comunità almeno fino al secondo dopoguerra. Toponomastica, archeologia industriale, lessico famigliare, foto e musei provano a raccontarla ancora oggi alle nuove generazioni. Ma nuove ragioni spingono a tornare con rinnovata energia e nuove strategie comunicative e didattiche su questa storia sociale, economica, culturale.

Il baco del nuovo millennio. Prima di tutto la sensibilità verso la green economy e le strategie per metterla in atto, attraverso l'educazione all'ecosostenibilità e alla (ri-)scoperta di pratiche economiche circolari: la gelsibachicoltura non è una pratica del passato ma si sta rivelando un eccellente volano per l'economia green; il *bombyx mori* non è più solo sinonimo di tessuti pregiati ma trova applicazioni nella chirurgia, nella cosmesi, nella nutrizione animale e umana ed è al centro di ricerche nelle nanotecnologie e nei superconduttori.

Una storia locale e globale. L'epopea del baco da seta nel nord Italia costituisce un eccellente esempio di un'economia integrata all'interno di piccole comunità contadine che partecipa attivamente a una fiorente industria che fa per secoli dell'Italia il secondo produttore al mondo di seta dopo la Cina. Grazie all'esportazione dei filati e dei tessuti in seta la regione conserva a lungo un accesso diretto ai più importanti centri del commercio globale del tempo. Un'epopea che parla di economie di sussistenza e

baratto che trovavano nell'allevamento dei "cavalieri" uno dei pochi, se non l'unico, introito di denaro, integratore prezioso dell'attività agricola, leva per la nascita della piccola borghesia del nord Italia; ma anche di rapidi processi di innovazione, come l'introduzione su larga scala dell'uso del microscopio per combattere le malattie del baco nel tardo Ottocento. Lessico, pratiche sociali, riti, luoghi raccontano ancor oggi un territorio e le sue comunità.

Strategie didattico-educative. Per le ragioni addotte, il tema si presta a essere affrontato ricorrendo a tools e applicazioni tecnologiche avanzate (georeferenziazione, multimedia, digital storytelling) a integrazione di attività sul campo, testimonianze, visite guidate, laboratori. Aggiornando le pratiche e gli strumenti didattico-educativi a disposizione degli insegnanti, attraverso la Didattica Digitale Integrata (DID) e favorendo negli studenti un approccio "smart" all'apprendimento e alla ricerca.

Target

Studenti delle scuole secondarie di II grado: laboratori e esperienze di ricerca assistita a studenti del ciclo secondario II grado (PCTO)

Discipline coinvolte

Storia, geografia, italiano, educazione civica, tecnologie, informatica, scienze della terra, biologia.

Temi collegati

Toponomastica, archeologia industriale, storia e testimonianze (orali, letterarie, fotografiche e cinematografiche), cultura immateriale (lessico, pratiche sociali, mestieri, ruolo delle donne), biologia, scienze, innovazione tecnologica, ecosostenibilità, cittadinanza, turismo sostenibile

Risorse umane

Il proponente si impegna a mettere a disposizione il personale docente e i formatori esperti. Il personale docente sarà costituito da docenti che si occupano di Pedagogia, Tecnologie per la didattica, Discipline artistiche e mediali, Storia, Antropologia culturale.
Il proponente curerà i rapporti con i partner esterni (scuole, professionisti, ricercatori, enti territoriali, aziende) al fine di offrire ai discenti visite guidate, testimonianze, approfondimenti storici e scientifici in situ e a distanza.

Partner dell'iniziativa:

Progetto europeo ARACNE - CREA di Padova.

Risorse finanziarie

Le attività previste per l'Anno Scolastico 2023-24 saranno svolte A TITOLO GRATUITO.

Tempistiche

Novembre 2023 – Giugno 2024: PCTO di 40 ore (indicative)

Programmazione e contenuti

Percorso per le Competenze Trasversali e per l'Orientamento (PCTO)

Titolo:

- *L'epopea del baco da seta nel nord Italia: una mappa HGIS multidisciplinare*

Modalità di erogazione:

- Attività online e sul campo

Target:

- Studenti del III e IV anno scuole secondarie di II grado
- Max 25 partecipanti
- Indirizzi: Liceo Classico, Liceo delle Scienze Umane, Liceo Scientifico, Liceo Artistico, Istituti tecnici e per il turismo, Istituti per la moda e il design, Istituti agrari.

Obiettivi: creazione di una mappa geostorica HGIS

Il PCTO sarà strutturato in 5 fasi:

Autunno 2023

Fase 1 (3 incontri online per totali 6 ore): *Affinamento delle conoscenze e competenze*

- Lezione 2 ore: Per un approccio storico alla seribachicoltura nel nord Italia: metodi, fonti, strumenti (tema indicativo, da concordare con la scuola ospitante)
- Lezione 2 ore: Per un approccio antropologico-culturale alla seribachicoltura nel nord Italia: metodi, fonti, strumenti (tema indicativo, da concordare con la scuola ospitante)
- Lezione 2 ore: Reperire testimonianze e documenti audio e visivi sulla gelsibachicoltura: metodi, fonti e strumenti (Dott. Manlio Piva, L-ART/06, FiSPPA - Unipd)

Febbraio- Aprile 2024

Fase 2 (22-24 ore): *Ricerca sul campo*

- Gli studenti, divisi in gruppi sviluppano una ricerca di documenti e testimonianze sul territorio; visitano Musei ed enti pubblici e privati inerenti; archiviano attraverso registrazioni e trasferimento in digitale di documenti analogici (mappe storiche, foto, pellicole, documenti d'archivio pubblici e privati).
- Ciascun gruppo sarà seguito da un tutor/docente della scuola di riferimento
- Si prevedono periodici incontri di condivisione, monitoraggio, assistenza da parte del tutor universitario

Maggio 2024

Fase 3 (6-8 ore): *rielaborazione, collazione e pubblicazione dei materiali raccolti*

- 3-4 incontri online e in presenza di abilitazione degli studenti all'utilizzo della mappa geolocalizzata ArcGIS e inserimento nella stessa dei documenti esito della ricerca

Inizio Giugno 2023
Fase 4 (2 ore): Evento pubblico di presentazione dei risultati

Possibili partner dell'iniziativa:

- Uffici pubblici (anagrafe, catasto ecc.) dei comuni del territorio in esame
- Musei pubblici e privati dedicati alla seribachicoltura del territorio in esame
- Archivi privati di storia locale del territorio in esame
- Aziende del tessile e della seta presenti sul territorio in esame

Il proponente, Dott. Manlio Piva – FiSPPA Unipd

Annex III

Evaluation questionnaire of the school activities of the ARACNE project

This questionnaire was designed to be filled in by the student participants to the school activities of the ARACNE project as a means of evaluating their experience on the school activity they participated in.
In this questionnaire you (the student) are asked to reflect on the knowledge that you acquired on silk and its historical, cultural and social aspects within your local community and within the broader European context. You are asked to provide your response to a set of 30 statements divided in three parts with each statement set on a Likert scale from 1 to 5. In the final fourth part, you are asked to answer a set of 10 questions by writing 1-3 sentences for each question. Once you completed the questionnaire please hand it to your tutor or send it to him/her by email.

Gender: F / M

Year of Study: School of Study:

Age:

Part A: Before the school activity of the ARACNE project

In this part of the questionnaire, we ask you to provide us with information about yourself and the organisers of the school activity, by agreeing or disagreeing with the following statements. Please read the questions very carefully and give a quick answer to each question (by stating what comes to your mind). Please answer all the questions.

5 means: agree **4** means: partly agree
2 means: partly disagree **1** means: disagree
Try not to answer **3** = Unsure, unless it is not possible to answer otherwise or you think that the statement is irrelevant to you.
We ask to mark if you disagree (=1) or agree (=5) with each of the following statements

		Agree	Partly Agree	Unsure	Partly Disagree	Disagree
1.	The school activity was presented to me in an engaging way	5	4	3	2	1
2.	I am very eager to participate in cultural school activities and learning excursions	5	4	3	2	1
3.	I joined in because my classmates joined in as well	5	4	3	2	1
4.	I became confident about the activity after meeting the other tutors and instructors	5	4	3	2	1
5.	I am interested in learning more about my cultural heritage	5	4	3	2	1
6.	I was motivated by the presentation and content of the activity	5	4	3	2	1
7.	My school fosters such activities and my teachers are keen on participating in such activities	5	4	3	2	1
8.	It was the first time that I participated in such an activity so I thought I should join in.	5	4	3	2	1
9.	I was not aware that my region had such rich history in silk or mulberry cultivation	5	4	3	2	1
10.	As it was designed and presented the school activity appeared quite challenging	5	4	3	2	1

Part B. During the school activity of the ARACNE project

In this part of the questionnaire, we ask you to provide us with information about the skills and competencies you gained during the school activity by agreeing or disagreeing with the following statements. Please read the questions carefully and give a quick answer to each question (by stating what comes to your mind). Please answer all the questions.

5 means: agree **4** means: partly agree
2 means: partly disagree **1** means: disagree
Try not to answer **3** = Unsure, unless it is not possible to answer otherwise or you think that the statement is irrelevant to you.

We ask to mark if you disagree (=1) or agree (=5) with each of the following statement.

	Agree	Partly Agree	Unsure	Partly Disagree	Disagree
11. I collaborated with my fellow students and form a common understanding of the school activity	5	4	3	2	1
12. I was given a choice of topics for the school activity	5	4	3	2	1
13. I collaborated well with my tutors and learned from them many things about the task I worked on	5	4	3	2	1
14. I acquired knowledge about silk and its cultural, historical and artistic importance	5	4	3	2	1
15. I was introduced and talked with experts on the field of sericulture and silk production	5	4	3	2	1
16. I acquired knowledge about the production of silk and the traditions associated with it	5	4	3	2	1
17. I acquired new skills and competencies related to silk production and its importance in our society	5	4	3	2	1
18. I acquired knowledge about my heritage and the cultural history of my place	5	4	3	2	1
19. I acquired knowledge beyond the school curriculum	5	4	3	2	1
20. I engaged with new technologies and ways of producing visual and audio data	5	4	3	2	1

Part C. Reflecting on the school activity of the ARACNE project

In this part of the questionnaire, we ask you to evaluate the whole experience of the school activity and also evaluate your tutors and the ARACNE project instructors in relation to the school activity you participated in., by agreeing or disagreeing with the following statements. Please read the questions carefully and give a quick answer to each question (by stating what comes to your mind). Please answer all the questions.

5 means: agree **4** means: partly agree
2 means: partly disagree **1** means: disagree
Try not to answer **3** = Unsure, unless it is not possible to answer otherwise or you think that the statement is irrelevant to you.

We ask to mark if you disagree (=1) or agree (=5) with each of the following statement.

	Agree	Partly Agree	Unsure	Partly Disagree	Disagree
21. The activity I participated in helped me develop a sense of appreciation for the place I was born	5	4	3	2	1
22. The activity I participated in familiarised me with silk, the silkworm and the mulberry tree	5	4	3	2	1
23. All the technical and practical aspects of the activity were clearly explained to me	5	4	3	2	1
24. The activity I participated in provide me with better knowledge of the historical importance and the impact of silk production in society	5	4	3	2	1
25. The activity I participated in helped me appreciate better the role of insects in human society and culture	5	4	3	2	1
26. The activity I participated in helped me understand the historical reasons that made silk such an important aspect in the evolution of the European identity	5	4	3	2	1
27. The activity I participated in motivated me into getting involved with silk production	5	4	3	2	1
28. The activity I participated in enriched my knowledge of the cultural significance of traditions and practices related to silk and its production	5	4	3	2	1
29. The activity I participated in inspired me to think of silk as a product that can have multiple uses	5	4	3	2	1
30. I was not aware that my region had such rich history in silk production or mulberry cultivation	5	4	3	2	1

Part D. Open end question related to the school activity of the ARACNE project

In this part of the questionnaire, we ask you to answer briefly a set of 10 question related to the school activity. We ask you to give us feedback on the school activity you participated in and we also ask you to give us your views/opinions on silk and its role in our society. Please read the questions carefully and write 1-3 sentences for each question. **Please answer all the questions**.

1. What was the topic of the school activity related to?

2. What was the most informative aspect of the school activity that you participated in?

3. What was the most mundane aspect of the school activity that you participated in?

4. Which part of the activity was the most challenging and difficult for you?

5. What would you change if you had to do the activity again?

6. How do you rate the overall performance of your tutors and instructors in the school activity?

7. Which part of the school activity needed better management?

8. Why you think silk is considered a luxury item?

9. Can you suggest some new ways on how humans can use silk?

10. Do you consider silk as an environmentally-friendly item?

Finally, please provide us with an overall rating of the activity that you participated in. Please rate the activity as objectively as you can and try not to give a very good score unless you feel that you should!

Very good		Quite good		Mediocre		Not so good		Rather bad
9	8	7	6	5	4	3	2	1

Check that you have answered all questions before handing in the questionnaire.

4

Annex IV

Questionnaire analysis of Slovenian school activities in the ARACNE project

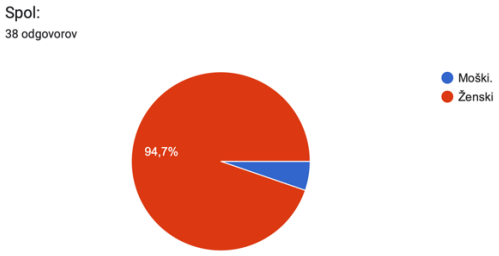
Questionnaire analysis of Slovenian school activities in the ARACNE project

This questionnaire was designed as a means of evaluating the experience of student participants on the school activities of the ARACNE project in Slovenia, they participated in. In the first part students rated 30 statements on a Likert scale ranging from 5 (agree) to 1 (disagree). In the second part, students answered 10 open-ended questions. Please find the questionnaire and the responses of students to each of the statements or questions (pie charts). Percentages of responses given are presented in pie charts. In cases where percentages are not visible in the chart, please refer to the accompanying text for clarification.

Questionnaire

In this questionnaire you (the student) are asked to reflect on the knowledge that you acquired on silk and its historical, cultural and social aspects within your local community and within the broader European context. You are asked to provide your response to a set of 30 statements, divided in three parts, with each statement set on a Likert scale from 1 to 5. In the final fourth part, you are asked to answer a set of 10 questions by writing 1-3 sentences for each question. Once you completed the questionnaire, please hand it to your tutor or send it to him/her by email.

Gender: F (94.7 %, red) / M (5.3 %, blue)



Year of Study (35 responses):
First year of study: 21 students
Second year of study: 3 students
Third year of study: 11 students

School of Study: (36 responses)
High school for design Maribor:
32 students

Grammar school “Antona Martina Slomška”: 4 students

Age: (35 responses)
15: 10 students
16: 10 students
17: 5 students
18: 10 students

Part A: Before the school activity of the ARACNE project

In this part of the questionnaire, we ask you to provide us with information about yourself and the organisers

of the school activity, by agreeing or disagreeing with the following statements. Please read the questions very

carefully and give a quick answer to each question (by stating what comes to your mind). Please answer all the questions.

5 means: agree

4 means: partly agree

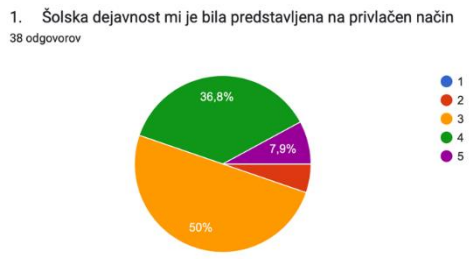
2 means: partly disagree

1 means: disagree

Try not to answer **3** = Unsure, unless it is not possible to answer otherwise or you think that the statement is irrelevant to you.

We ask to mark if you disagree (=1) or agree (=5) with each of the following statements

	Agree	Partly Agree	Unsure	Partly Disagree	Disagree
1. The school activity was presented to me in an engaging way	5	4	3	2	1



Of the 38 students responding, 7.9 % agreed, more than one third (36.8 %) partly agreed, 50 % were unsure and 5.3 % partly disagreed.

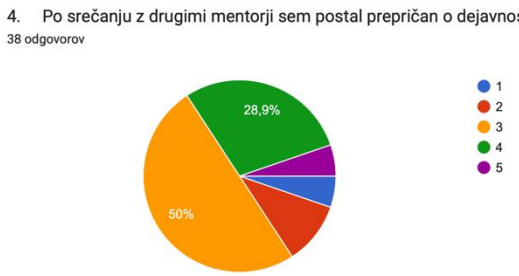
2. I am very eager to participate in cultural school activities and learning excursions

Of the 38 students responding, 10.5 % agreed, 44.7 % partly agreed, 39.5 % were unsure and 5.3 % partly disagreed.

3. I joined in because my classmates joined in as well

Of the 37 students responding, 13.5 % agreed, close to one third (27. %) partly agreed, 35.1 % were unsure, 10.8 % partly disagreed and 13.5 % disagreed.

4. I became confident about the activity after meeting the other tutors and instructors.



Of the 38 students responding, 5.3 % agreed, close to one third (28.9 %) partly agreed, 50 % were unsure, 10.5 % partly disagreed and 5.3 % disagreed.

5. I am interested in learning more about my cultural heritage.

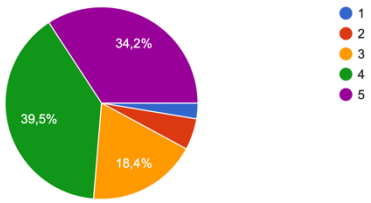
Of the 38 students responding, 18.4 % agreed, 21.1 % partly agreed, one third (31.6 %) were unsure, 18.4 % partly disagreed and 10.5 % disagreed.

6. I was motivated by the presentation and content of the activity.

Of the 38 students responding, 10.5 % agreed, 21.1 % partly agreed, 42.1 % were unsure, 21.1 % partly disagreed and 5.3 % disagreed.

7. My school fosters such activities, and my teachers are keen on participating in such activities.

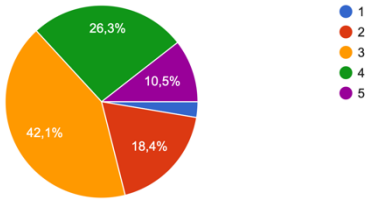
7. Moja šola spodbuja takšne dejavnosti in moji učitelji so zelo navdušeni za sodelovanje
38 odgovorov



Of the 38 students responding, more than one third (34.2 %) agreed, 39.5 % partly agreed, 18.4 % were unsure, 5.3 % partly disagreed and 2.6 % disagreed.

8. It was the first time that I participated in such an activity so I thought I should join in.

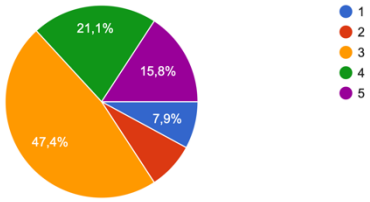
8. To je bilo prvič, da sem lahko sodeloval v takšni dejavnosti, zato sem se želel vključiti.
38 odgovorov



Of the 38 students responding, 10.5 % agreed, 26.3 % partly agreed, 42.1 % were unsure, 28.4 % partly disagreed and 2.6 % disagreed.

9. I was not aware that my region had such rich history in silk or mulberry cultivation.

9. Nisem vedel, da ima moja regija tako bogato zgodovino svilogojstva ali gojenja murve
38 odgovorov



Of the 38 students responding, 15.8 % agreed, 21.1 % partly agreed, 47.4 % were unsure, 7.9 % partly disagreed and 7.9 % disagreed.

10. As it was designed and presented the school activity appeared quite challenging.

Of the 38 students responding, 7.9 % partly agreed, one half was unsure, 21.1 % and 5.3 % disagreed.

Part B. During the school activity of the ARACNE project

In this part of the questionnaire, we ask you to provide us with information about the skills and competencies you gained during the school activity by agreeing or disagreeing with the following statements. Please read the questions carefully and give a quick answer to each question (by stating what comes to your mind). Please answer all the questions.

5 means: agree

4 means: partly agree

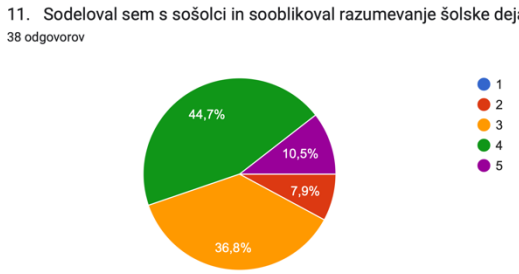
2 means: partly disagree

1 means: disagree

Try not to answer **3** = Unsure, unless it is not possible to answer otherwise, or you think that the statement is irrelevant to you.

We ask to mark if you disagree (=1) or agree (=5) with each of the following statement.

	Agree	Partly Agree	Unsure	Partly Disagree	Disagree
11. I collaborated with my fellow students and form a common understanding of the school activity	5	4	3	2	1

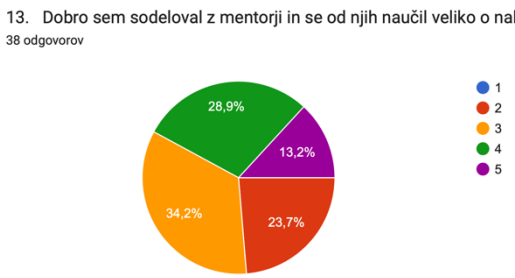


Of the 38 students responding, 10.5 % agreed, close to one half (44.7 %) partly agreed, 36.8 % were unsure and 7.9 % disagreed.

12. I was given a choice of topics for the school activity

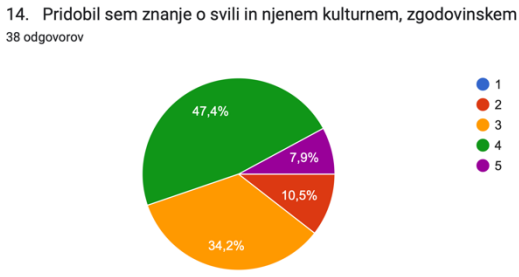
Of the 38 students responding, 2.6 % agreed, 26.3 % partly agreed, 36.8 % were unsure, 5.3 % and 26.3 % disagreed.

13. I collaborated well with my tutors and learned from them many things about the task I worked on



Of the 38 students responding, 13.2 % agreed, close to one third (28.9 %) partly agreed, 36.8 % were unsure, 5.3 % partly disagreed and 26.3 % disagreed.

14. I acquired knowledge about silk and its cultural, historical and artistic importance



Of the 38 students responding, 7.9 % agreed, close to one half (47.4 %) partly agreed, 34.2 % were unsure and 5.3 % partly disagreed.

15. I was introduced and talked with experts on the field of sericulture and silk production.

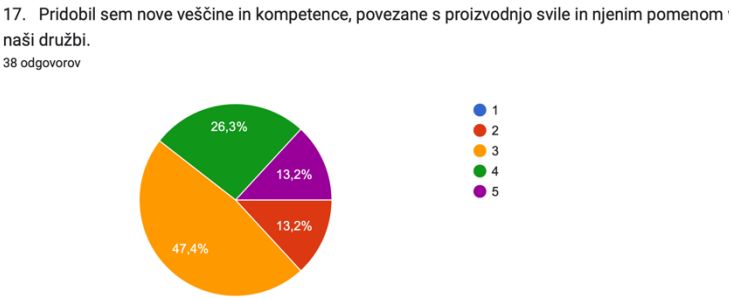
Of the 38 students responding, 7.9 % agreed, 26.3 % partly agreed, 28.9 % were unsure, 26.3 % partly disagreed and 10.5 % disagreed.

16. I acquired knowledge about the production of silk and the traditions associated with it.

Of the 38 students responding, 8.1 % agreed, one third

(29.7 %) partly agreed, 43.2 % were unsure, 16.2 % partly disagreed and 2.7 % disagreed.

17. I acquired new skills and competencies related to silk production and its importance in our society.



Of the 38 students responding, 13.2 % agreed, 26.3 % partly agreed, 47.4 % were unsure, and 13.2 % partly disagreed.

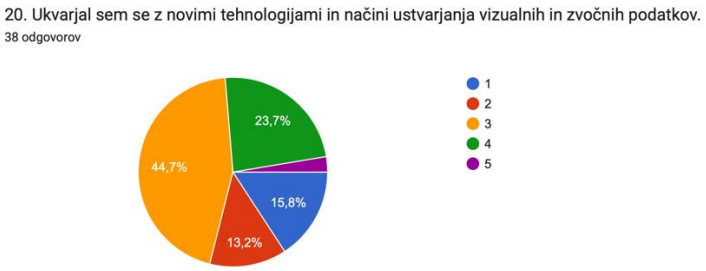
18. I acquired knowledge about my heritage and the cultural history of my place.

Of the 38 students responding, 7.9 % agreed, 26.3 % partly agreed, 39.5 % were unsure, 18.4 % partly disagreed and 7.9 % disagreed.

19. I acquired knowledge beyond the school curriculum.

Of the 38 students responding, 7.9 % agreed, more than one third (36.8 %) partly agreed, 39.5 % were unsure, and 15.8 % partly disagreed.

20. I engaged with new technologies and ways of producing visual and audio data.



Of the 38 students responding, 2.6 % agreed, 23.7 % partly agreed, 44.7 % were unsure, 13.2 % partly disagreed and 15.8 % disagreed.

Part C. Reflecting on the school activity of the ARACNE project

In this part of the questionnaire, we ask you to evaluate the whole experience of the school activity and also evaluate your tutors and the ARACNE project instructors in relation to the school activity you participated in., by agreeing or disagreeing with the following statements. Please read the questions carefully and give a quick answer to each question (by stating what comes to your mind). Please answer all the questions.

5 means: agree

4 means: partly agree

2 means: partly disagree

1 means: disagree

Try not to answer **3** = Unsure, unless it is not possible to answer otherwise, or you think that the statement is irrelevant to you.

We ask to mark if you disagree (=1) or agree (=5) with each of the following statement.

	Agree	Partly Agree	Unsure	Partly Disagree	Disagree
21. The activity I participated in helped me develop a sense of appreciation for the place I was born.	5	4	3	2	1

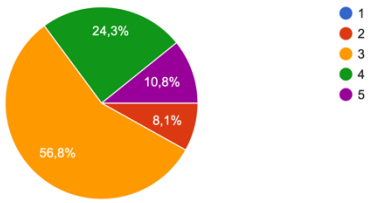
Of the 38 students responding, 13.2 % agreed, 26.3 % partly agreed, 42.1 % were unsure, 13.2 % partly disagreed and 5.3 % disagreed.

22. The activity I participated in familiarised me with silk, the silkworm and the mulberry tree.

Of the 38 students responding, 7.9 % agreed, more than one third (39.5 %) partly agreed, 47.4 % were unsure, 2.6 % partly disagreed and 2.6 % disagreed.

23. All the technical and practical aspects of the activity were clearly explained to me.

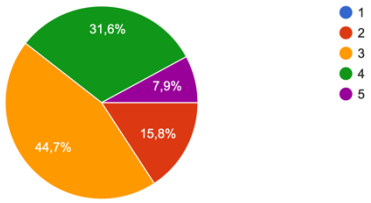
23. Vsi tehnični in praktični vidiki dejavnosti so mi bili razumljivo razloženi.
37 odgovorov



Of the 37 students responding, 10.8 % agreed, 24.3 % partly agreed, 56.8 % were unsure, and 8.1 % partly disagreed.

24. The activity I participated in provide me with better knowledge of the historical importance and the impact of silk production in society.

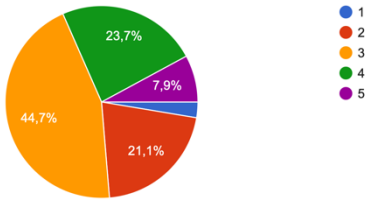
24. Dejavnost, v kateri sem sodeloval, mi je zagotovila boljše znanje o zgodovinskem pomenu in vplivu proizvodnje svile na družbo.
38 odgovorov



Of the 38 students responding, 7.9 % agreed, one third (31.6 %) partly agreed, 44.7 % were unsure, and 15.8 % partly disagreed.

25. The activity I participated in helped me appreciate better the role of insects in human society and culture.

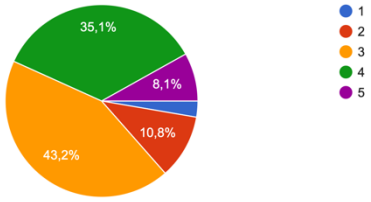
25. Dejavnost, v kateri sem sodeloval, mi je pomagala bolje razumeti pomen insektov v človeški družbi in kulturi
38 odgovorov



Of the 38 students responding, 7.9 % agreed, 23.7 % partly agreed, 44.7 % were unsure, 21.1 % partly disagreed and 2.6 % disagreed.

26. The activity I participated in helped me understand the historical reasons that made silk such an important aspect in the evolution of the European identity.

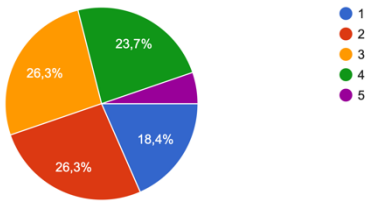
26. Dejavnost, v kateri sem sodeloval, mi je pomagala razumeti zgodovinske razloge, zaradi katerih je svila tako pomemben aspekt v razvoju evropske identitete.
37 odgovorov



Of the 37 students responding, 8.1 % agreed, more than one third (35.1 %) partly agreed, 43.2 % were unsure, 10.8 % partly disagreed and 2.7 % disagreed.

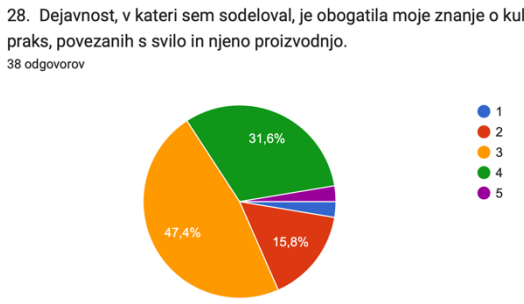
27. The activity I participated in motivated me into getting involved with silk production.

27. Dejavnost, v kateri sem sodeloval, me je motivirala, da se vključim v proizvodnjo svile
38 odgovorov



Of the 38 students responding, 5.3 % agreed, 23.7 % partly agreed, 26.3 % were unsure, 26.3 % partly disagreed and 18.4 % disagreed.

28. The activity I participated in enriched my knowledge of the cultural significance of traditions and practices related to silk and its production.



Of the 38 students responding, 2.6 % agreed, 31.6 % partly agreed, 47.4 % were unsure, 15.8 % partly disagreed and 1.2 % disagreed.

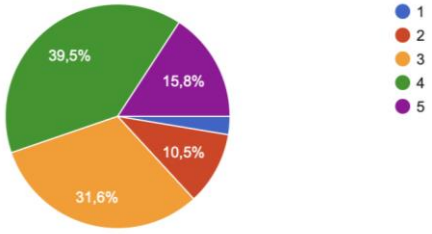
29. The activity I participated in inspired me to think of silk as a product that can has multiple uses.

Of the 38 students responding, 7.9 % agreed, 28.9 % partly agreed, 36.8 % were unsure, 23.7 % partly disagreed and 2.6 % disagreed.

30. I was not aware that my region had such rich history in silk production or mulberry cultivation.

30. Nisem vedel, da ima moja regija tako bogato zgodovino proizvodnje svile ali gojenja murve.

38 odgovorov



Of the 38 students responding, 15.8 % agreed, more than one third (39.5 %) partly agreed, 31.6 % were unsure, 10.5 % partly disagreed and 2.6 % disagreed.

Part D. Open-ended questions

1. What was the topic of the school activity related to?

Common answers:

Silk; sericulture; mulberries; historical points; silk art.

2. What was the most informative aspect of the school activity that you participated in?

Common answers:

Extracurricular activities; researching historical sources; data collecting; getting to know the history of places; proper handling of silk; the possibilities of using silk; lectures; use of the Adobe program; silk dyeing; design of silk products; silkworms; pattern design, I do not know.

3. What was the most mundane aspect of the school activity that you participated in?

Common answers:

Data search, mulberry search, drawing, using adobe program, creating patterns, mulberry tasting; I don't know.

4. Which part of the activity was the most challenging and difficult for you?

Common answers:

None; listening to a lecture; meet the professor's expectations; drawing on silk

5. What would you change if you had to do the activity again?

Common answers:

Nothing; I should improve my organization and planning of work; selected color of silk; I would try harder; I would work more thoroughly; I would not participate in the activity.

6. How do you rate the overall performance of your tutors and instructors in the school activity?

Common answers:

Good; they were very helpful, demanding and good; too excited and interfering.

7. Which part of the school activity needed better management?

Common answers:

None; scheduling meetings; scheduling work; finding data.

8. Why you think silk is considered a luxury item?

Common answers:

Because of the long and demanding process of obtaining it; because it has a shine; because of its animal origin; because it is beautiful and because of its properties.

9. Can you suggest some new ways on how humans can use silk?

Common answers:

Clothes, ornaments, hair ties, fashion accessories, scarves, jewelery, bedding, wedding and formal dresses.

10. Do you consider silk as an environmentally-friendly item?

Common answer:

Yes

Finally, please provide us with an overall rating of the activity that you participated in. Please rate the activity as objectively as you can and try not to give a very good score unless you feel that you should!

Very good		Quite good		Mediocre		Not so good		Rather bad
9	8	7	6	5	4	3	2	1

(35 responses)

9: 5 students

8: 6 students

7: 5 students

6: 6 students

5: 7 students

4: 3 students

3: 2 students

2: 1 student

1: 0 students

Annex V

Questionnaire analysis of Italian school activities in the ARACNE project

Questionnaire analysis of Italian school activities in the ARACNE project

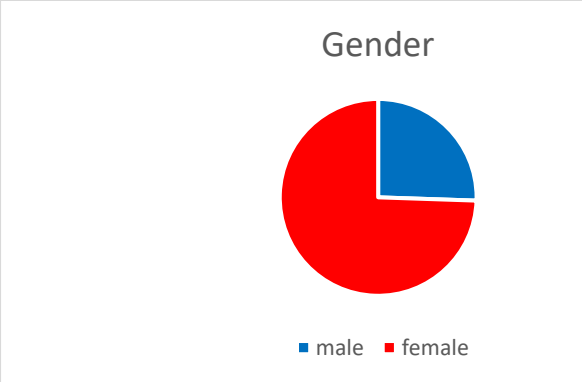
This questionnaire was designed as a means of evaluating the experience of student participants on the school activities of the ARACNE project in Italy, they participated in. In the first part students rated 30 statements on a Likert scale ranging from 5 (agree) to 1 (disagree). In the second part, students answered 10 open-ended questions. Please find the questionnaire and the responses of students to each of the statements or questions (pie charts). Percentages of responses given are presented in pie charts. In cases where percentages are not visible in the chart, please refer to the accompanying text for clarification.

Questionnaire

In this questionnaire you (the student) are asked to reflect on the knowledge that you acquired on silk and its historical, cultural and social aspects within your local community and within the broader European context. You are asked to provide your response to a set of 30 statements, divided in three parts, with each statement set on a Likert scale from 1 to 5. In the final fourth part, you are asked to answer a set of 10 questions by writing 1-3 sentences for each question. Once you completed the questionnaire, please hand it to your tutor or send it to him/her by email.

The questionnaire was completed by a total of 47 people.

Gender: F (74 %, red) / M 26 %, blue)



Year of Study (45 responses):
Third year of study: 31 students
Fourth year of study: 14 students

School of Study:
High school for fabric design: 16
High school for social economy: 16
High school for science: 12
Professional institute: 3

Part A: Before the school activity of the ARACNE project

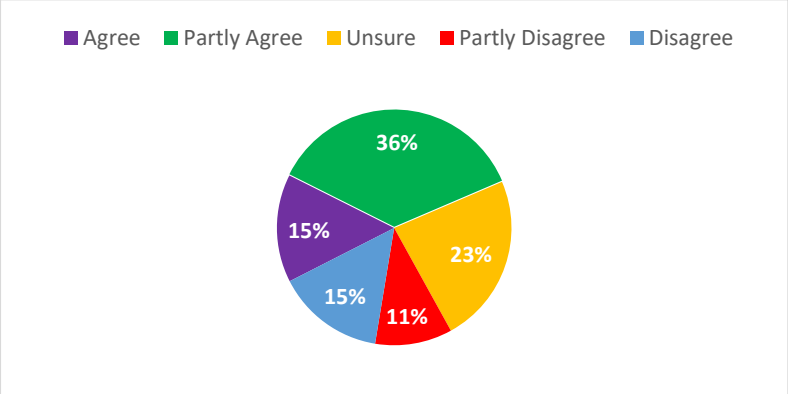
In this part of the questionnaire, we ask you to provide us with information about yourself and the organisers
of the school activity, by agreeing or disagreeing with the following statements. Please read the questions very
carefully and give a quick answer to each question (by stating what comes to your mind). Please answer all the questions.

5 means: agree
4 means: partly agree
2 means: partly disagree
1 means: disagree

Try not to answer **3** = Unsure, unless it is not possible to answer otherwise, or you think that the statement is irrelevant to you.

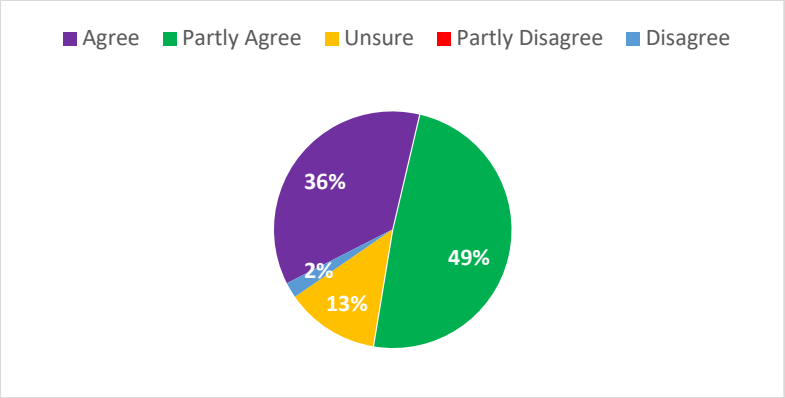
We ask to mark if you disagree (=1) or agree (=5) with each of the following statements

	Agree	Partly Agree	Unsure	Partly Disagree	Disagree
31. The school activity was presented to me in an engaging way.	5	4	3	2	1



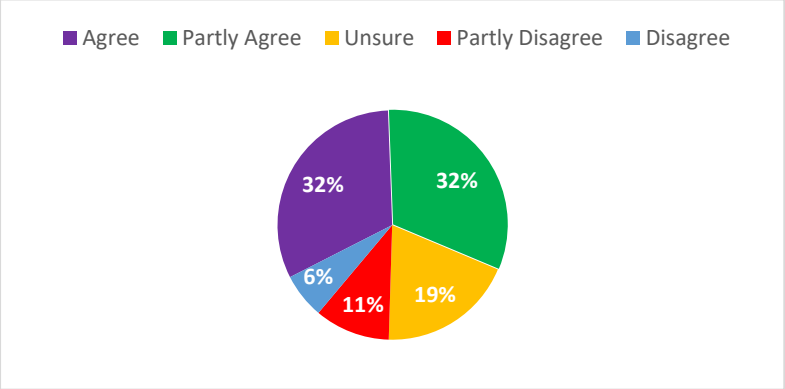
Of the 47 students responding, 15% agreed, more than one third (36 %) partly agreed, 23 % were unsure and 15% disagreed.

32. I am very eager to participate in cultural school activities and learning excursions.



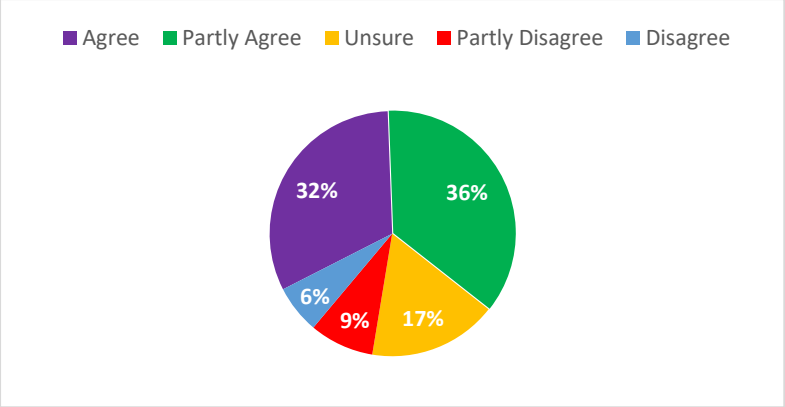
Of the 47 students responding, 36% agreed, 49% partly agreed, 13% were unsure and 2% disagreed.

33. I joined in because my classmates joined in as well.



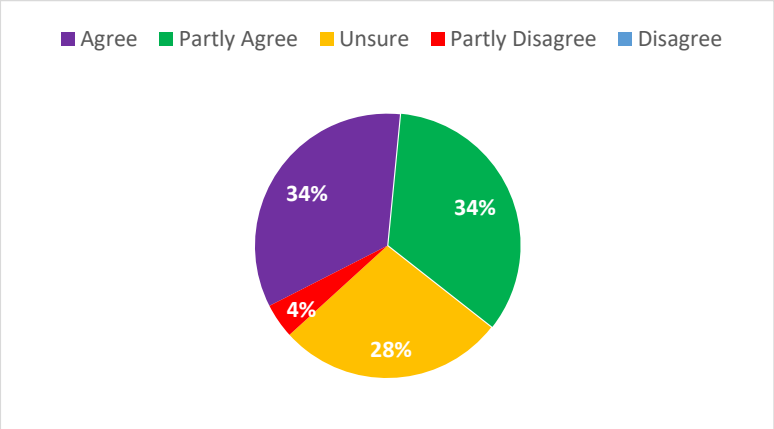
Of the 47 students responding, 32 % agreed, 32% partly agreed, 19% were unsure, 11% partly disagreed and 6% disagreed.

34. I became confident about the activity after meeting the other tutors and instructors.



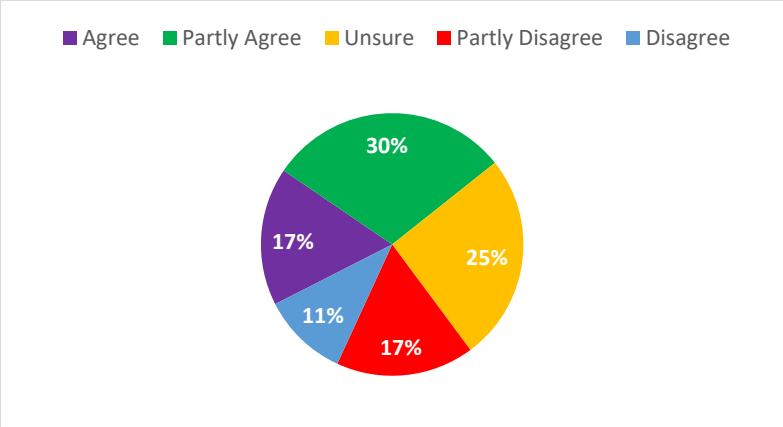
Of the 47 students responding, 32% agreed, 36% partly agreed, 17 % were unsure, 9% partly disagreed and 6 % disagreed.

35. I am interested in learning more about my cultural heritage.



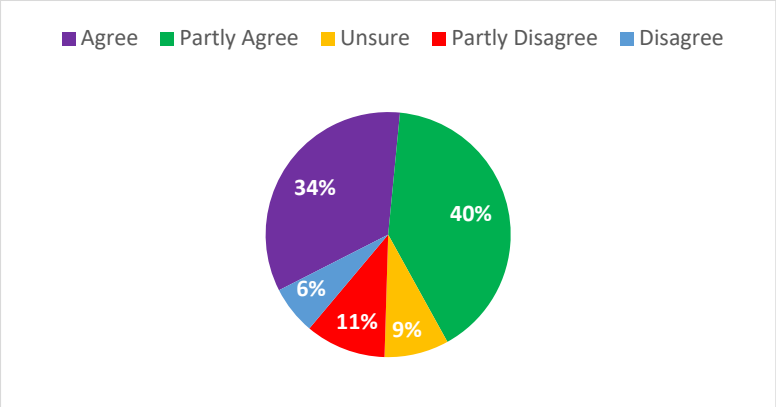
Of the 47 students responding, 34% agreed, 34% partly agreed, 28% were unsure, 4% partly disagreed and nobody disagreed.

36. I was motivated by the presentation and content of the activity.



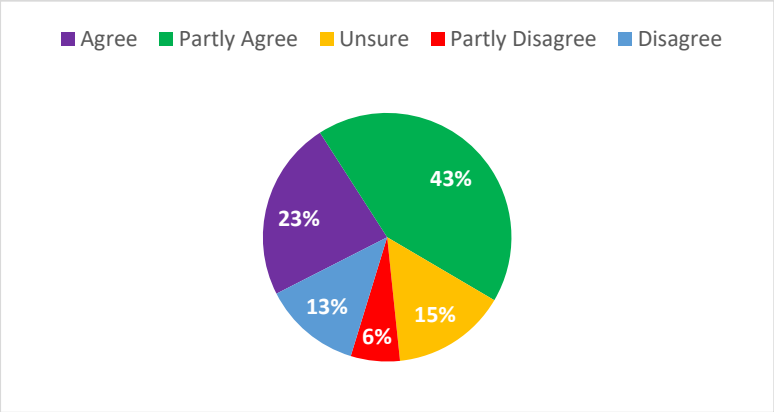
Of the 47 students responding, 17% agreed, 30% partly agreed, 25% were unsure, 17% partly disagreed and 11% disagreed.

37. My school fosters such activities, and my teachers are keen on participating in such activities.



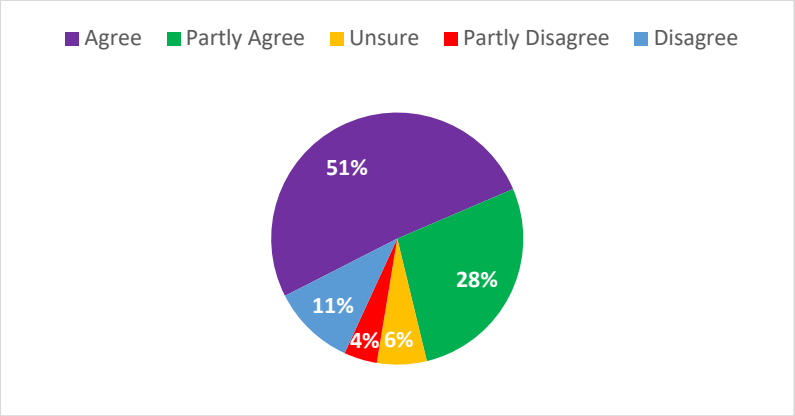
Of the 47 students responding, more than one third (34 %) agreed, 40% partly agreed, 9% were unsure, 11% partly disagreed and 6% disagreed.

38. It was the first time that I participated in such an activity so I thought I should join in.



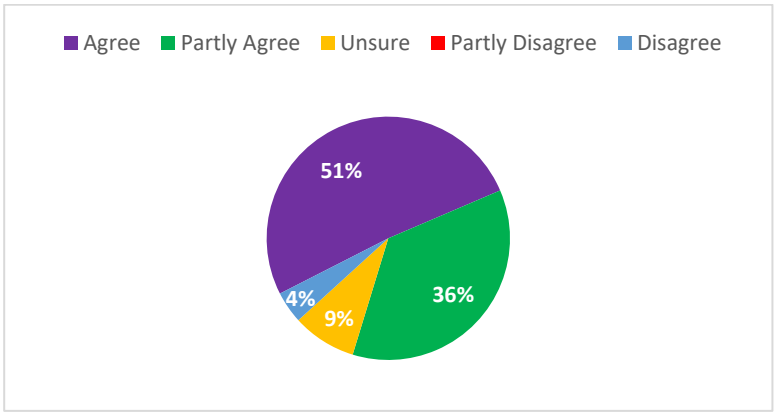
Of the 47 students responding, 23% agreed, 43% partly agreed, 15% were unsure, 6% partly disagreed and 13% disagreed.

39. I was not aware that my region had such rich history in silk or mulberry cultivation



Of the 47 students responding, more than half agreed (51%), 28% partly agreed, 6% were unsure, 4% partly disagreed and 11% disagreed.

40. As it was designed and presented, the school activity appeared quite challenging



Of the 47 students responding, more than half agreed (51%), 36% partly agreed, 9% was unsure and 4% partly disagreed.

Part B. During the school activity of the ARACNE project

In this part of the questionnaire, we ask you to provide us with information about the skills and competencies you gained during the school activity by agreeing or disagreeing with the following statements. Please read the questions carefully and give a quick answer to each question (by stating what comes to your mind). Please answer all the questions.

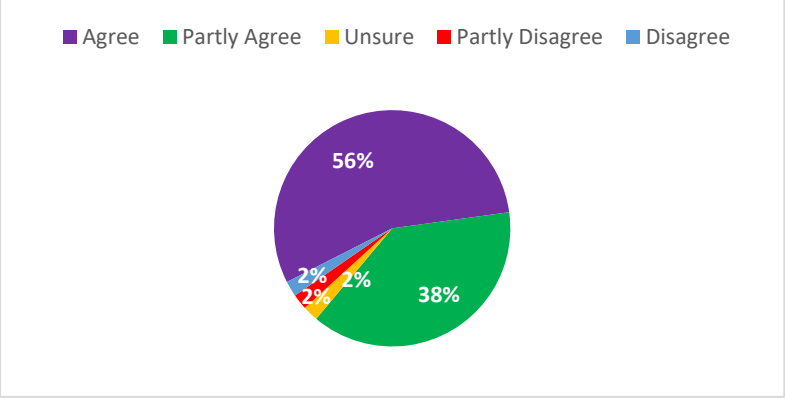
5 means: agree
4 means: partly agree
2 means: partly disagree
1 means: disagree

Try not to answer **3** = Unsure, unless it is not possible to answer otherwise, or you think that the statement is irrelevant to you.

We ask to mark if you disagree (=1) or agree (=5) with each of the following statement.

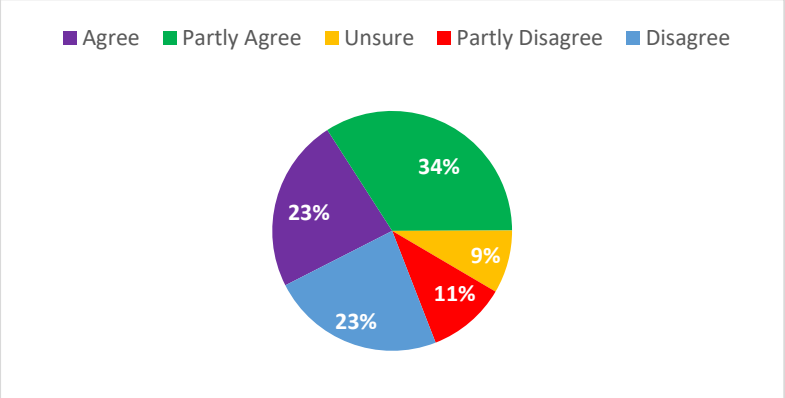
	Agree	Partly Agree	Unsure	Partly Disagree	Disagree
	5	4	3	2	1

41. I collaborated with my fellow students and form a common understanding of the school activity.



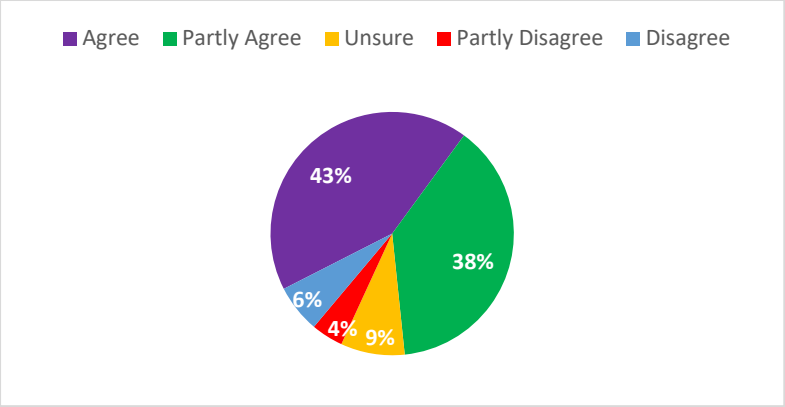
Of the 47 students responding, 56% agreed, 38% partly agreed, 2% were unsure, 2% partly disagreed and 2% disagreed.

42. I was given a choice of topics for the school activity.



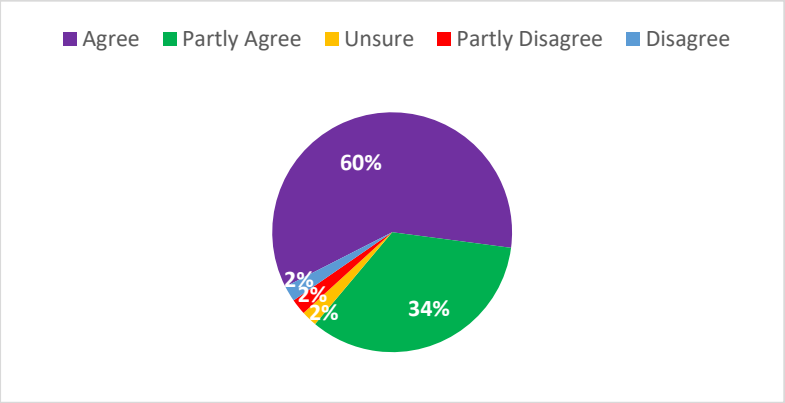
Of the 47 students responding, 23% agreed, 34% partly agreed, 9% were unsure, 11% and 23% disagreed.

43. I collaborated well with my tutors and learned from them many things about the task I worked on.



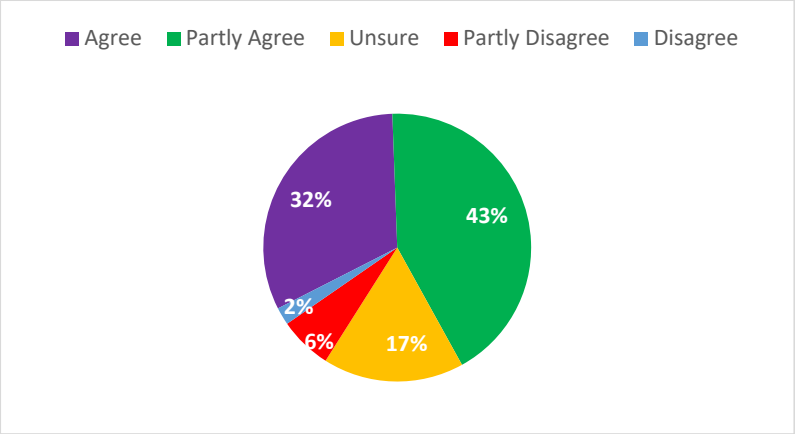
Of the 47 students responding, 43% agreed, 38% partly agreed, 9% were unsure, 4% partly disagreed and 6% disagreed.

44. I acquired knowledge about silk and its cultural, historical and artistic importance.



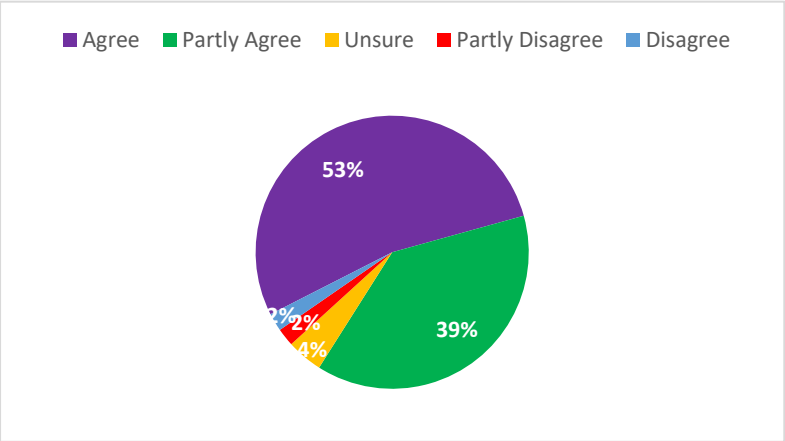
Of the 47 students responding, more than half agreed 60%, 34% partly agreed, 2 % were unsure, 2% partly disagreed and 2% disagreed.

45. I was introduced and talked with experts on the field of sericulture and silk production.



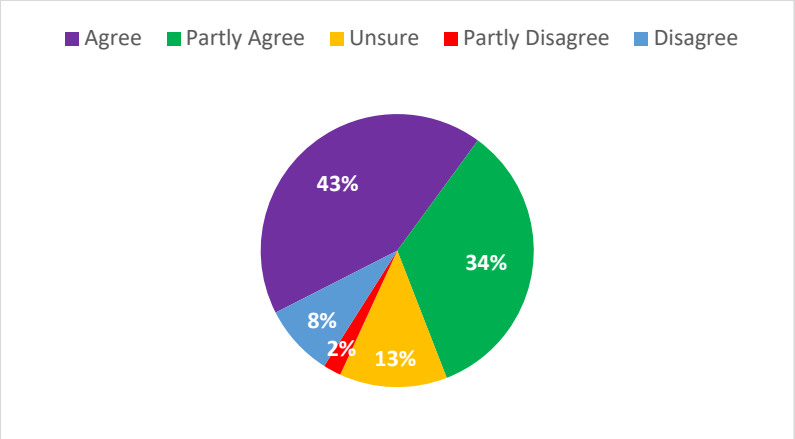
Of the 47 students responding, 32% agreed, 43% partly agreed, 17% were unsure, 6% partly disagreed and 2% disagreed.

46. I acquired knowledge about the production of silk and the traditions associated with it.



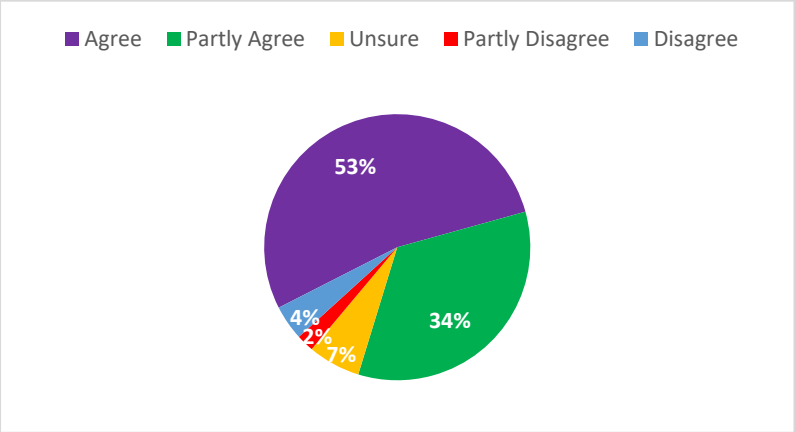
Of the 47 students responding, more than half agreed (53%), one third (39%) partly agreed, 4% were unsure, 2% partly disagreed and 2% disagreed.

47. I acquired new skills and competencies related to silk production and its importance in our society.



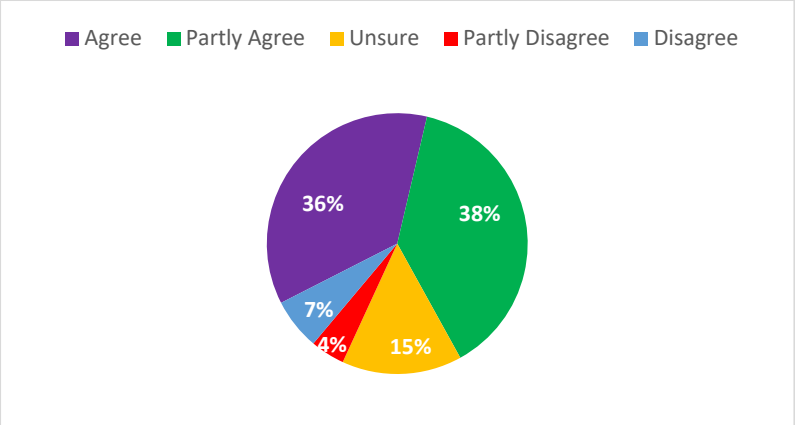
Of the 47 students responding, 43% agreed, 34% partly agreed, 13% were unsure, 2% partly disagreed and 8% disagreed.

48. I acquired knowledge about my heritage and the cultural history of my place.



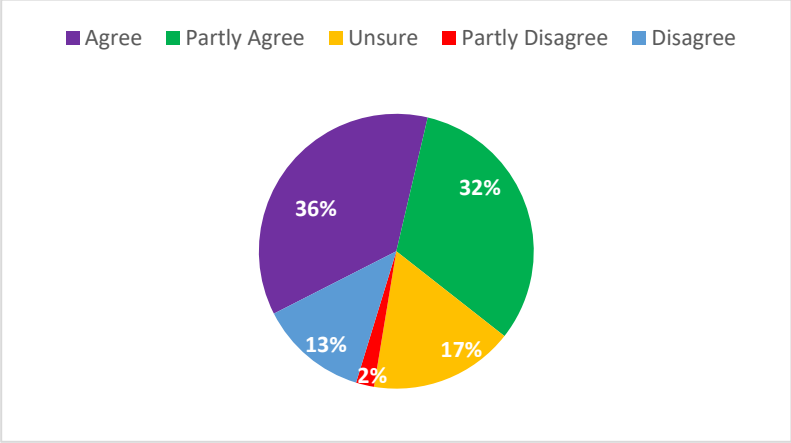
Of the 47 students responding, 53% agreed, 34% partly agreed, 7% were unsure, 2% partly disagreed and 4% disagreed.

49. I acquired knowledge beyond the school curriculum.



Of the 47 students responding, 36% agreed, 38% partly agreed, 15% were unsure, 4% partly disagreed and 7% disagreed.

50. I engaged with new technologies and ways of producing visual and audio data.



Of the 47 students responding, 36% agreed, 32% partly agreed, 17% were unsure, 2% partly disagreed and 13% disagreed.

Part C. Reflecting on the school activity of the ARACNE project

In this part of the questionnaire, we ask you to evaluate the whole experience of the school activity and also evaluate your tutors and the ARACNE project instructors in relation to the school activity you participated in., by agreeing or disagreeing with the following statements. Please read the questions carefully and give a quick answer to each question (by stating what comes to your mind). Please answer all the questions.

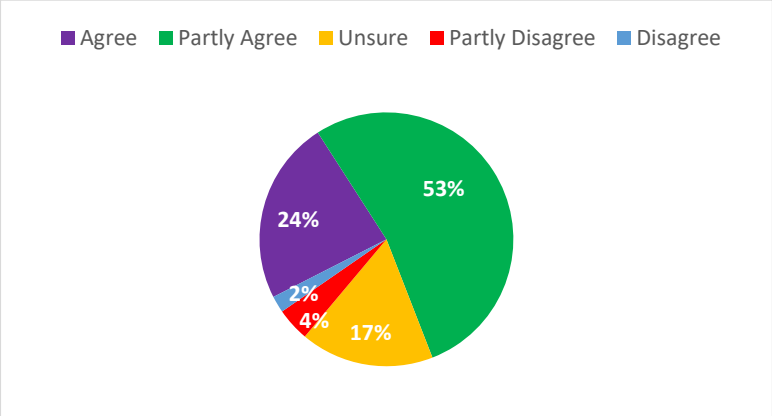
5 means: agree
4 means: partly agree
2 means: partly disagree
1 means: disagree

Try not to answer **3** = Unsure, unless it is not possible to answer otherwise, or you think that the statement is irrelevant to you.

We ask to mark if you disagree (=1) or agree (=5) with each of the following statement.

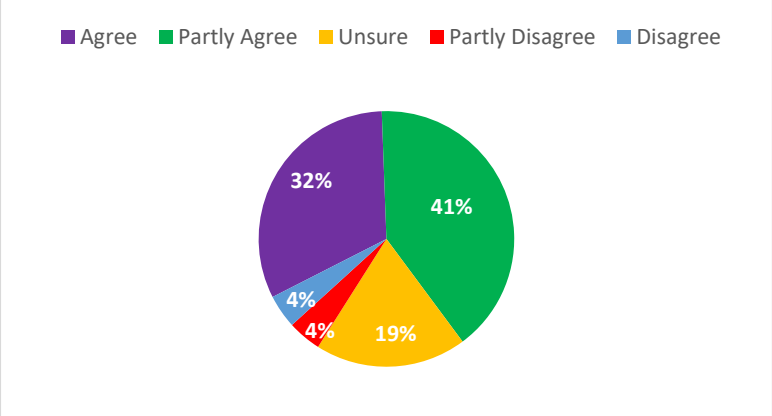
	Agree	Partly Agree	Unsure	Partly Disagree	Disagree
	5	4	3	2	1

51. The activity I participated in helped me develop a sense of appreciation for the place I was born.



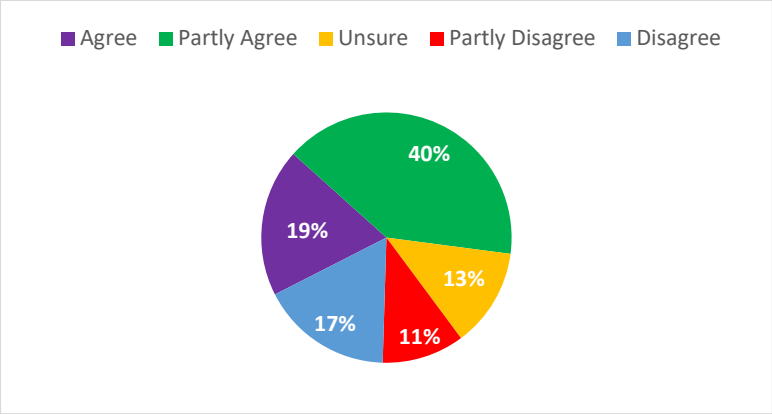
Of the 47 students responding, 24% agreed, 53% partly agreed, 17% were unsure, 4% partly disagreed and 2% disagreed.

52. The activity I participated in familiarised me with silk, the silkworm and the mulberry tree.



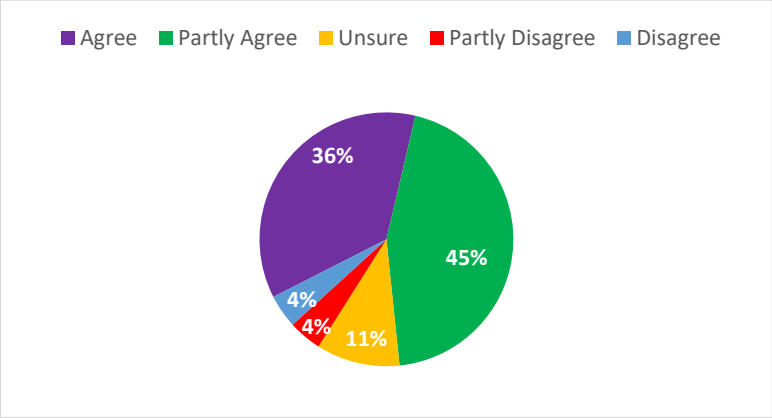
Of the 47 students responding, 32% agreed, 41% partly agreed, 19% were unsure, 4% partly disagreed and 4% disagreed.

53. All the technical and practical aspects of the activity were clearly explained to me.



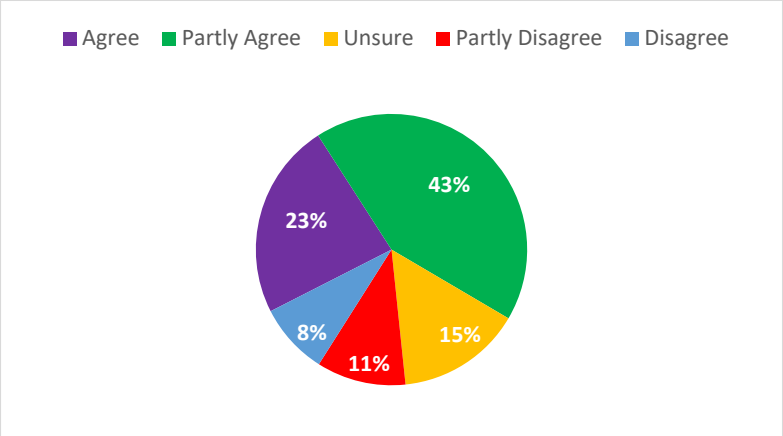
Of the 47 students responding, 19% agreed, 40% partly agreed, 13% were unsure, 11% partly disagreed and 17% disagreed.

54. The activity I participated in provide me with better knowledge of the historical importance and the impact of silk production in society.



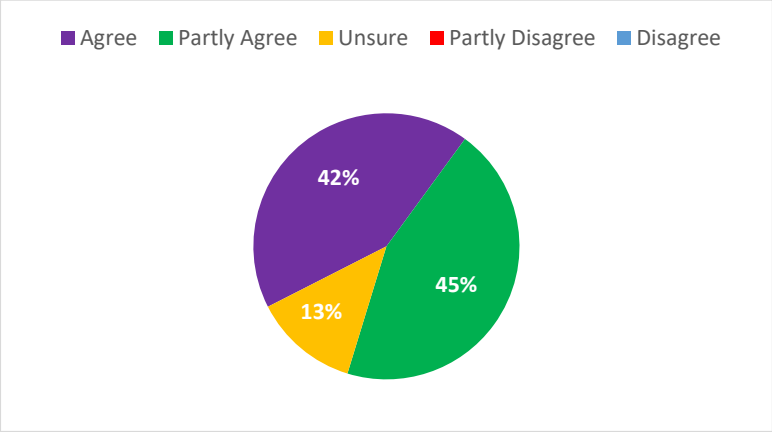
Of the 47 students responding, 36% agreed, 45% partly agreed, 11% were unsure, 4% partly disagreed and 4% disagreed.

55. The activity I participated in helped me appreciate better the role of insects in human society and culture.



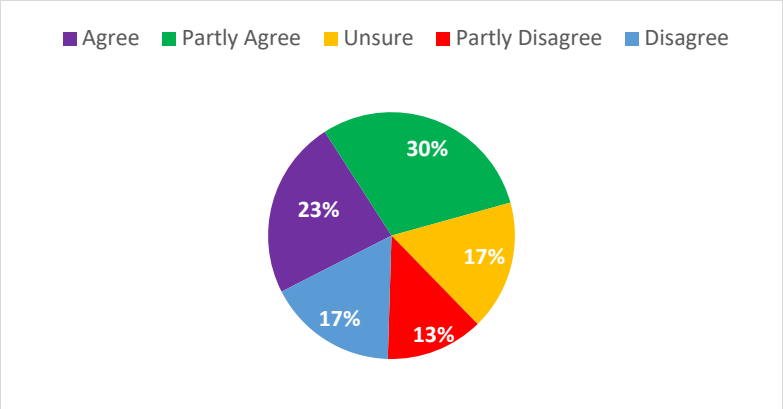
Of the 47 students responding, 23% agreed, 43% partly agreed, 15% were unsure, 11% partly disagreed and 8% disagreed.

56. The activity I participated in helped me understand the historical reasons that made silk such an important aspect in the evolution of the European identity.



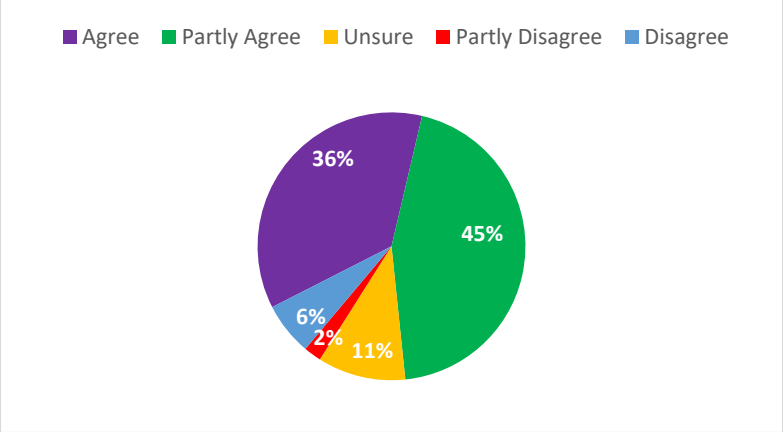
Of the 47 students responding, 42% agreed, 45% partly agreed and 13% were unsure. Nobody disagreed.

57. The activity I participated in motivated me into getting involved with silk production.



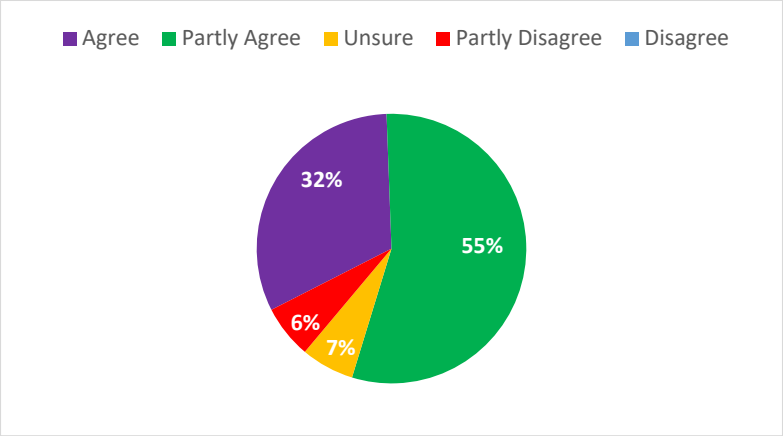
Of the 47 students responding, 23% agreed, 30% partly agreed, 17% were unsure, 13% partly disagreed and 17% disagreed.

58. The activity I participated in enriched my knowledge of the cultural significance of traditions and practices related to silk and its production.



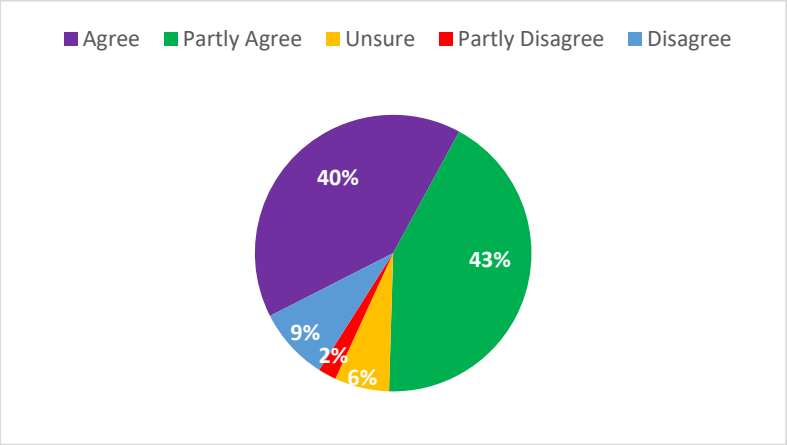
Of the 47students responding, 36% agreed, 45% partly agreed, 11% were unsure, 2% partly disagreed and 6% disagreed.

59. The activity I participated in inspired me to think of silk as a product that can has multiple uses.



Of the 47 students responding, 32% agreed, 55% partly agreed, 7% were unsure and 6% partly disagreed.

60. I was not aware that my region had such rich history in silk production or mulberry cultivation.



Of the 47 students responding, 40% agreed, 43% partly agreed, 6% were unsure, 2% partly disagreed and 9% disagreed.

Part D. Open-ended questions

11. What was the topic of the school activity related to?

Common answers:
Silk history; sericultural activity; mulberry mapping; Silk route.

12. What was the most informative aspect of the school activity that you participated in?

Common answers:

Educational tour in particular the visit to the state archive (21), history of silk in the territory (9), meeting with experts (4), computer work and data organization (3), research for mulberry trees (3), research in the library and archives (2), the ability to organise (1), teamwork (1)

13. What was the most mundane aspect of the school activity that you participated in?

Common answers:
Nothing (12), I don't know (8), classroom lessons (5), data editing (5), information research (3), English translation (3), mapping on ArcGIS (3), teamwork (1).

14. Which part of the activity was the most challenging and difficult for you?

Common answers:
ArcGIS mapping (27); information research (8), organize and editing data (4).

15. What would you change if you had to do the activity again?

Common answers:
More meetings with the expert to explain how to use the ArcGIS platform (12), nothing (9), timing of activities (more time available) (5), the division of roles in the work group (5), less repetitive and more varied topics (4), I don’t know (4), make the objectives clearer (3).

16. How do you rate the overall performance of your tutors and instructors in the school activity?

Common answers:
Good (29); very good (10), superficial (4).

17. Which part of the school activity needed better management?

Common answers:
ArcGIS mapping (19), None (10); scheduling meetings (4); the division of roles and topics (4); finding and editing data (2).

18. Why you think silk is considered a luxury item?

Common answers:

Because of the long and demanding process of obtaining it (29), because of its animal origin (10), Now it's not like that anymore (4), because it is not produced everywhere and is not widespread compared to other synthetic fabrics (2).

19. Can you suggest some new ways on how humans can use silk?

Common answers:
Bio-medical field, shoes, clothing

20. Do you consider silk as an environmentally-friendly item?

Common answer:
Yes (34), no (8)

Finally, please provide us with an overall rating of the activity that you participated in. Please rate the activity as objectively as you can and try not to give a very good score unless you feel that you should!

Very good		Quite good		Mediocre		Not so good		Rather bad
9	8	7	6	5	4	3	2	1

(47 responses)

9: 5 students
8: 6 students
7: 5 students
6: 6 students
5: 7 students
4: 3 students
3: 2 students
2: 1 student
1: 0 students

Annex VI

Questionnaire analysis of Greek school activities in the ARACNE project

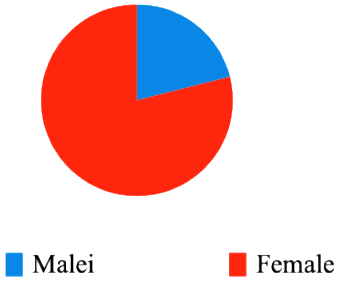
Questionnaire analysis of Greek school activities in the ARACNE project

This questionnaire was designed as a means of evaluating the experience of student participants on the school activities of the ARACNE project in Slovenia, they participated in. In the first part students rated 30 statements on a Likert scale ranging from 5 (agree) to 1 (disagree). In the second part, students answered 10 open-ended questions. Please find the questionnaire and the responses of students to each of the statements or questions (pie charts). Percentages of responses given are presented in pie charts. In cases where percentages are not visible in the chart, please refer to the accompanying text for clarification.

Questionnaire

In this questionnaire you (the student) are asked to reflect on the knowledge that you acquired on silk and its historical, cultural and social aspects within your local community and within the broader European context. You are asked to provide your response to a set of 30 statements, divided in three parts, with each statement set on a Likert scale from 1 to 5. In the final fourth part, you are asked to answer a set of 10 questions by writing 1-3 sentences for each question. Once you completed the questionnaire, please hand it to your tutor or send it to him/her by email.

Gender: F (79 %, red) / M 21 %, blue)



Year of Study (19 responses):
Junior high school:
Third year of study: 7 students
Second year of study: 1 student
High school:
First year of study: 5 students
Second year of study: 6 students

School of Study:
Junior high school: 8
High school: 11

Part A: Before the school activity of the ARACNE project

In this part of the questionnaire, we ask you to provide us with information about yourself and the organisers

of the school activity, by agreeing or disagreeing with the following statements. Please read the questions very

carefully and give a quick answer to each question (by stating what comes to your mind). Please answer all the questions.

5 means: agree

4 means: partly agree

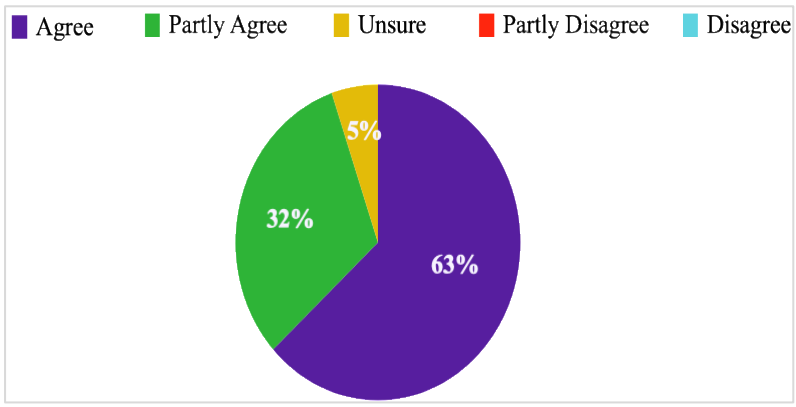
2 means: partly disagree

1 means: disagree

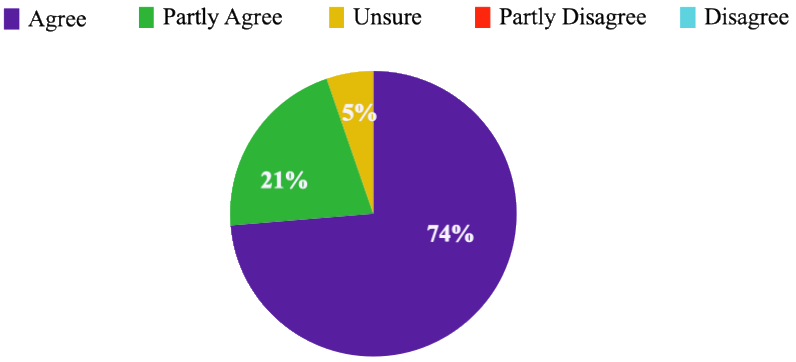
Try not to answer **3** = Unsure, unless it is not possible to answer otherwise, or you think that the statement is irrelevant to you.

We ask to mark if you disagree (=1) or agree (=5) with each of the following statements

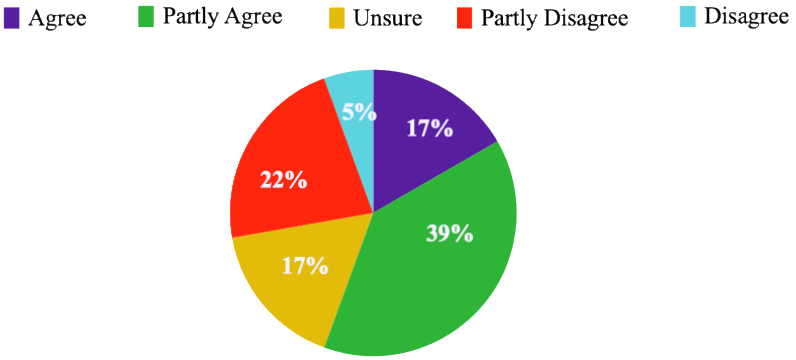
	Agree	Partly Agree	Unsure	Partly Disagree	Disagree
61. The school activity was presented to me in an engaging way.	5	4	3	2	1



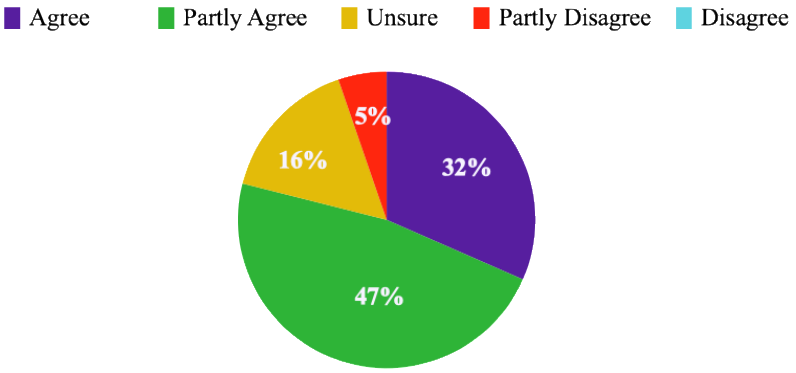
62. I am very eager to participate in cultural school activities and learning excursions.



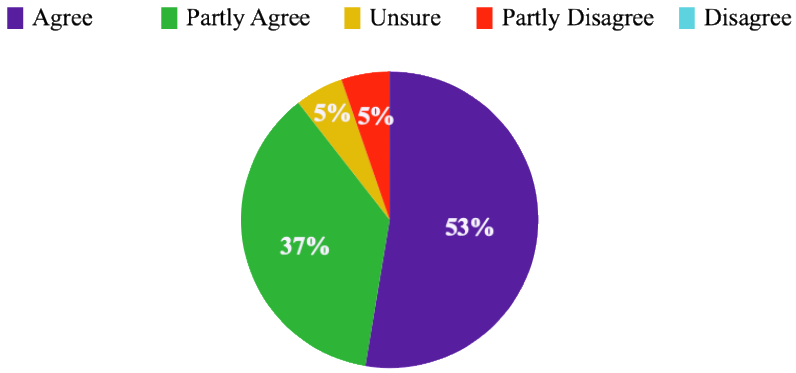
63. I joined in because my classmates joined in as well.



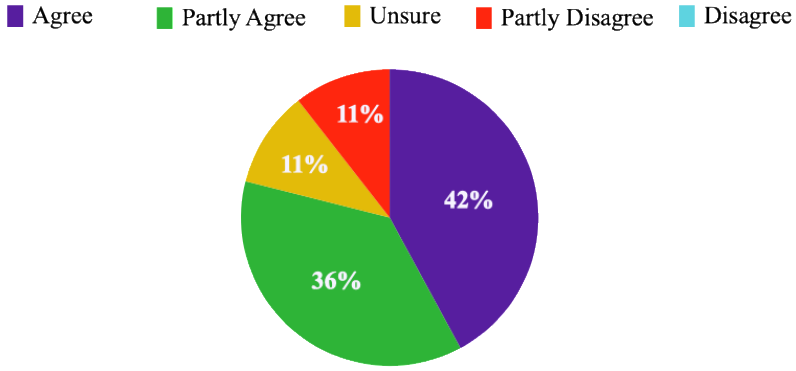
64. I became confident about the activity after meeting the other tutors and instructors.



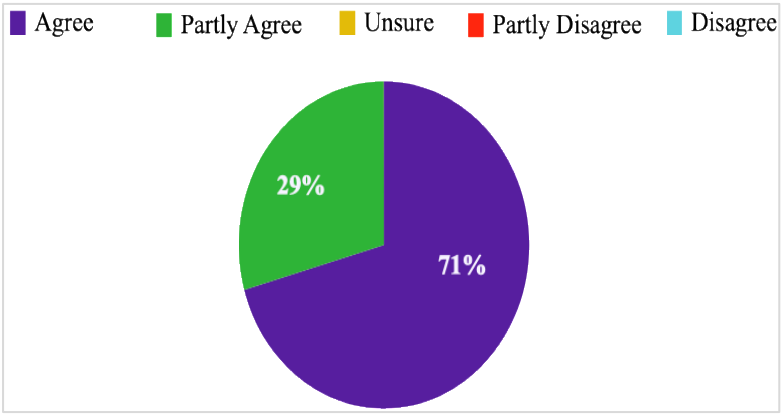
65. I am interested in learning more about my cultural heritage.



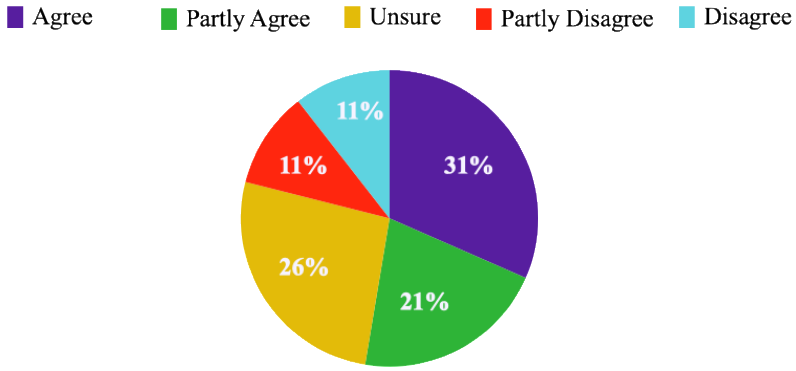
66. I was motivated by the presentation and content of the activity.



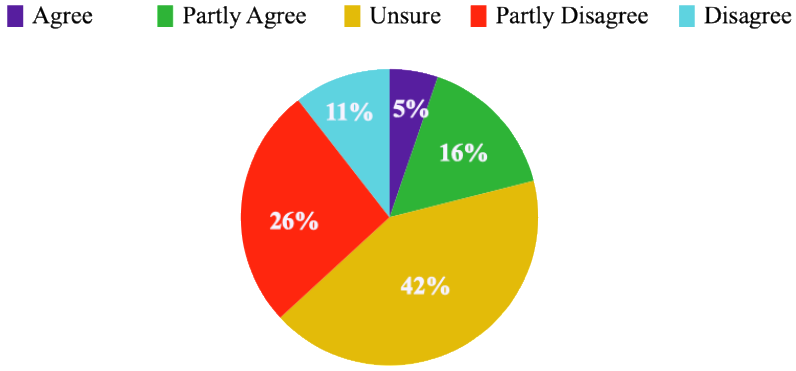
67. My school fosters such activities, and my teachers are keen on participating in such activities.



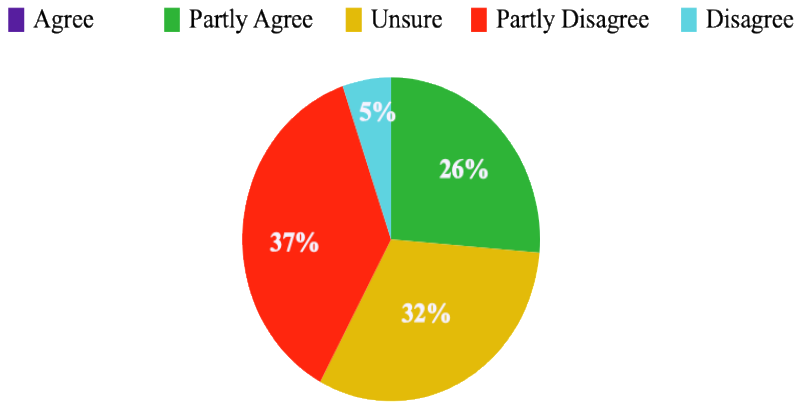
68. It was the first time that I participated in such an activity so I thought I should join in.



69. I was not aware that my region had such rich history in silk or mulberry cultivation.



70. As it was designed and presented the school activity appeared quite challenging.



Part B. During the school activity of the ARACNE project

In this part of the questionnaire, we ask you to provide us with information about the skills and competencies you gained during the school activity by agreeing or disagreeing with the following statements. Please read the questions carefully and give a quick answer to each question (by stating what comes to your mind). Please answer all the questions.

5 means: agree

4 means: partly agree

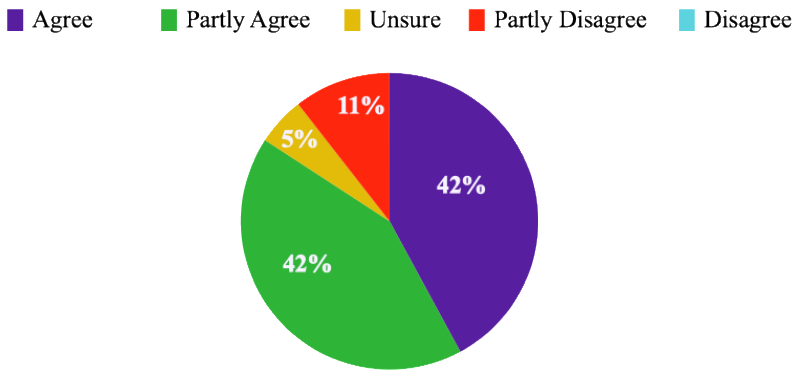
2 means: partly disagree

1 means: disagree

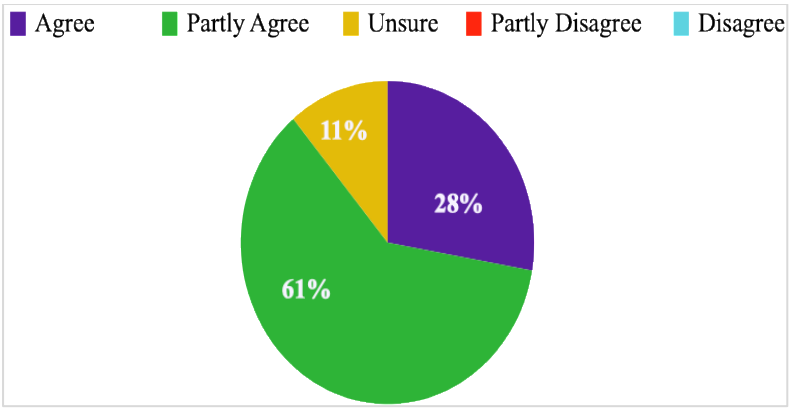
Try not to answer **3** = Unsure, unless it is not possible to answer otherwise, or you think that the statement is irrelevant to you.

We ask to mark if you disagree (=1) or agree (=5) with each of the following statement.

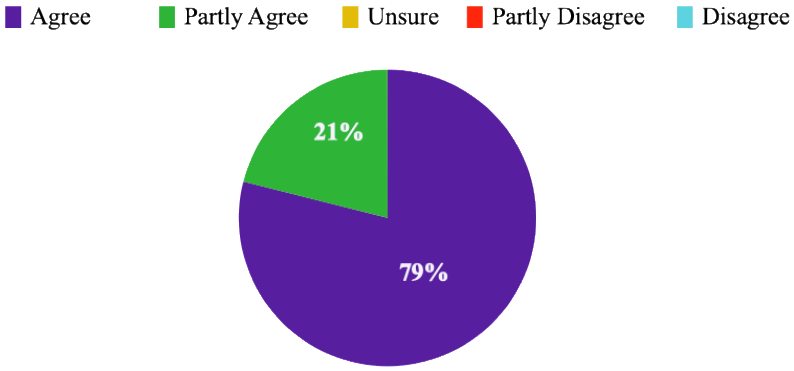
	Agree	Partly Agree	Unsure	Partly Disagree	Disagree
71. I collaborated with my fellow students and form a common understanding of the school activity.	5	4	3	2	1



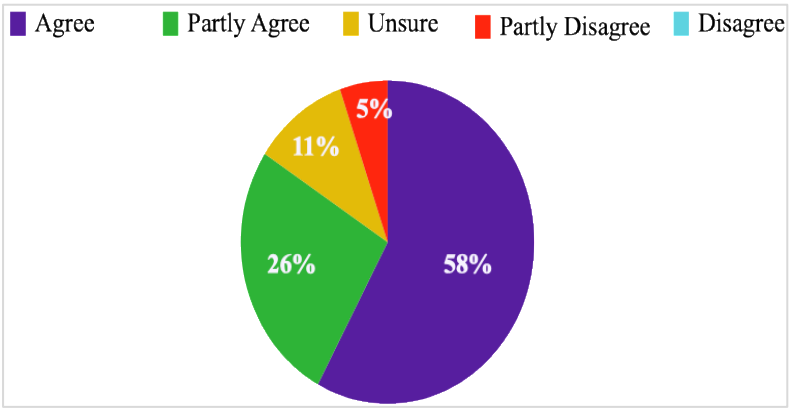
72. I was given a choice of topics for the school activity.



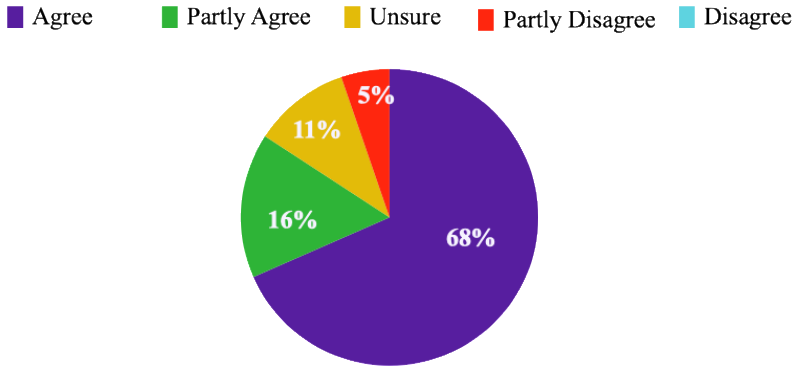
73. I collaborated well with my tutors and learned from them many things about the task I worked on.



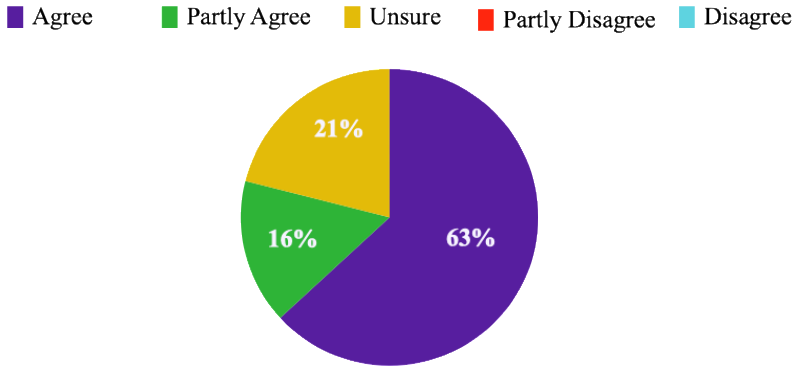
74. I acquired knowledge about silk and its cultural, historical and artistic importance.



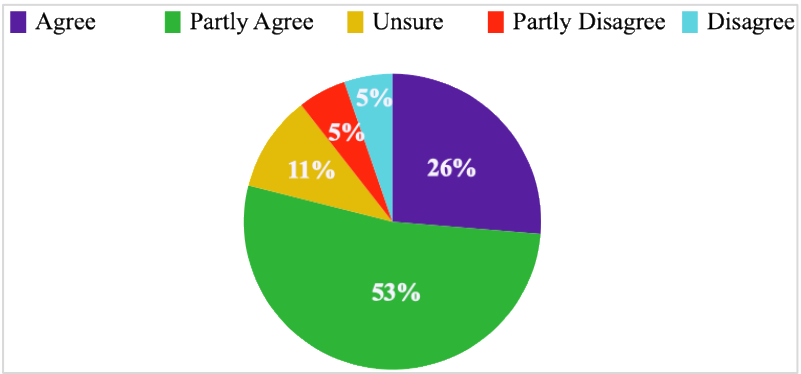
75. I was introduced and talked with experts on the field of sericulture and silk production.



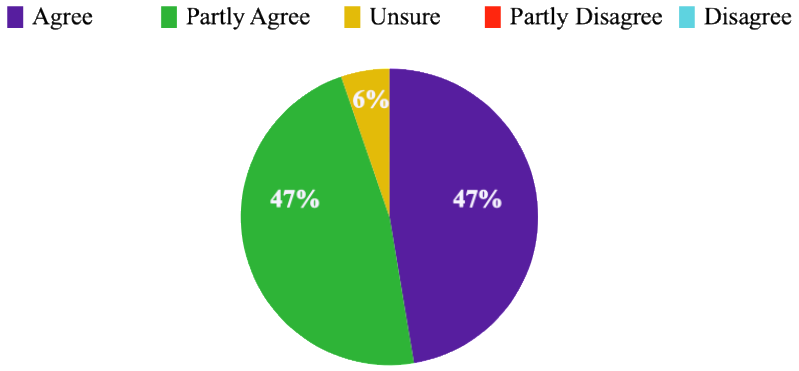
76. I acquired knowledge about the production of silk and the traditions associated with it.



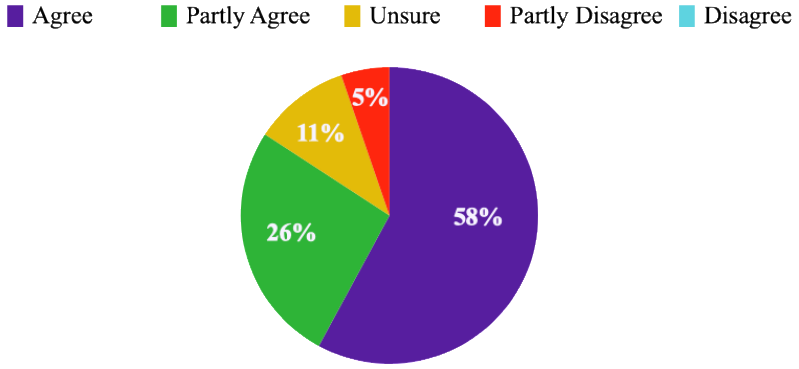
77. I acquired new skills and competencies related to silk production and its importance in our society.



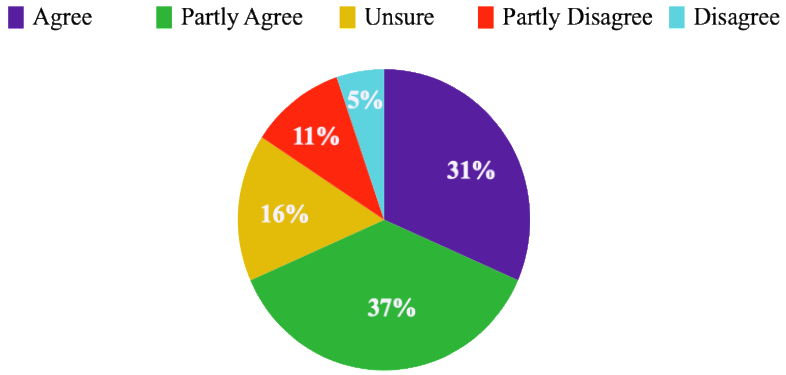
78. I acquired knowledge about my heritage and the cultural history of my place.



79. I acquired knowledge beyond the school curriculum.



80. I engaged with new technologies and ways of producing visual and audio data.



Part C. Reflecting on the school activity of the ARACNE project

In this part of the questionnaire, we ask you to evaluate the whole experience of the school activity and also evaluate your tutors and the ARACNE project instructors in relation to the school activity you participated in., by agreeing or disagreeing with the following statements. Please read the questions carefully and give a quick answer to each question (by stating what comes to your mind). Please answer all the questions.

5 means: agree

4 means: partly agree

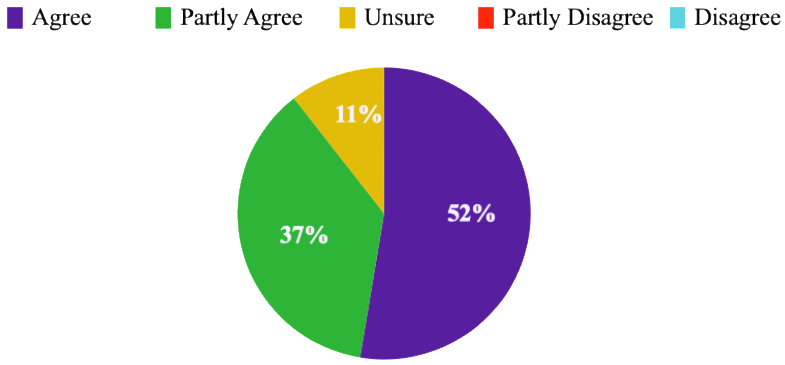
2 means: partly disagree

1 means: disagree

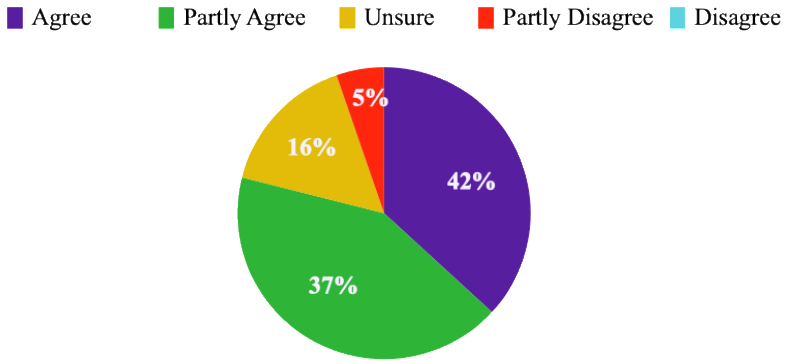
Try not to answer **3** = Unsure, unless it is not possible to answer otherwise, or you think that the statement is irrelevant to you.

We ask to mark if you disagree (=1) or agree (=5) with each of the following statement.

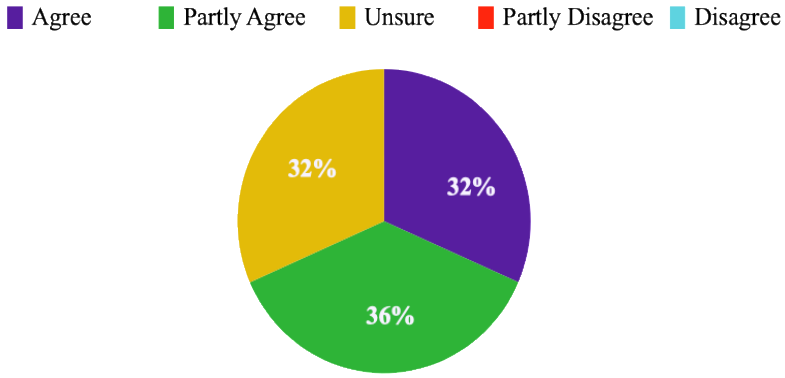
	Agree	Partly Agree	Unsure	Partly Disagree	Disagree
81. The activity I participated in helped me develop a sense of appreciation for the place I was born.	5	4	3	2	1



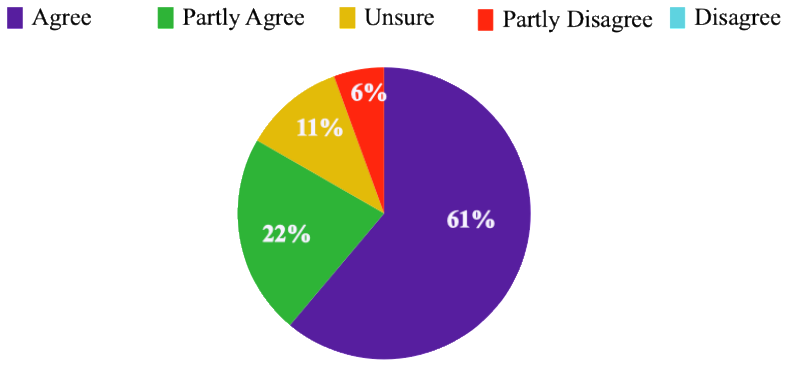
82. The activity I participated in familiarised me with silk, the silkworm and the mulberry tree.



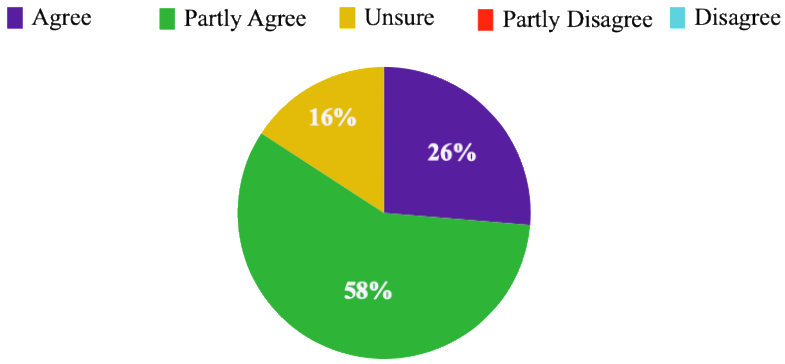
83. All the technical and practical aspects of the activity were clearly explained to me.



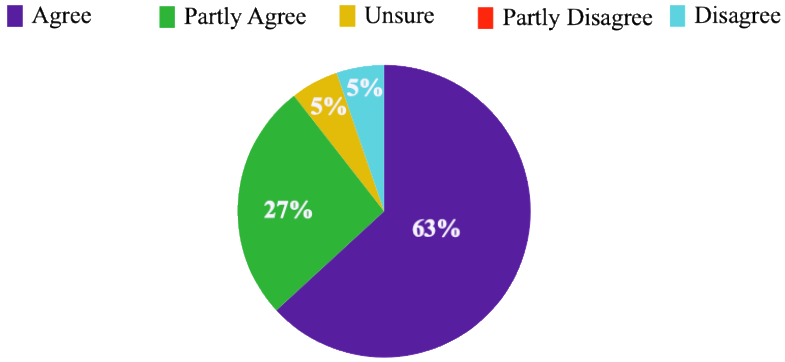
84. The activity I participated in provide me with better knowledge of the historical importance and the impact of silk production in society.



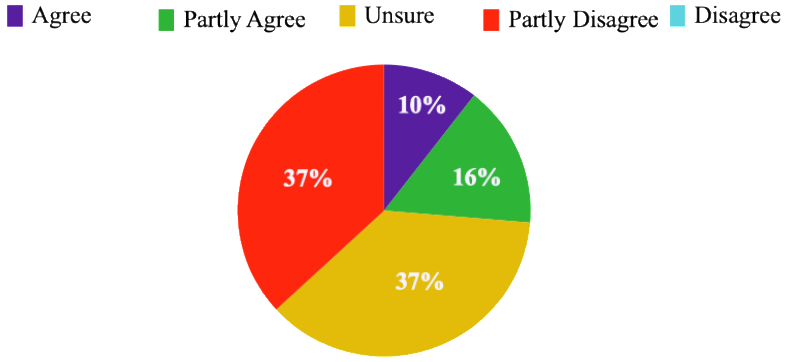
85. The activity I participated in helped me appreciate better the role of insects in human society and culture.



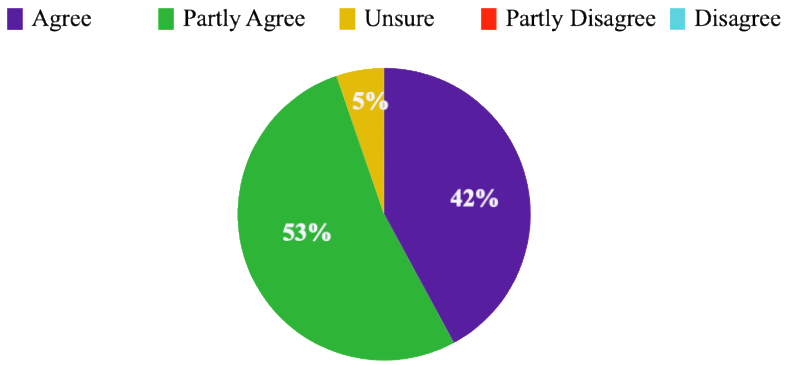
86. The activity I participated in helped me understand the historical reasons that made silk such an important aspect in the evolution of the European identity.



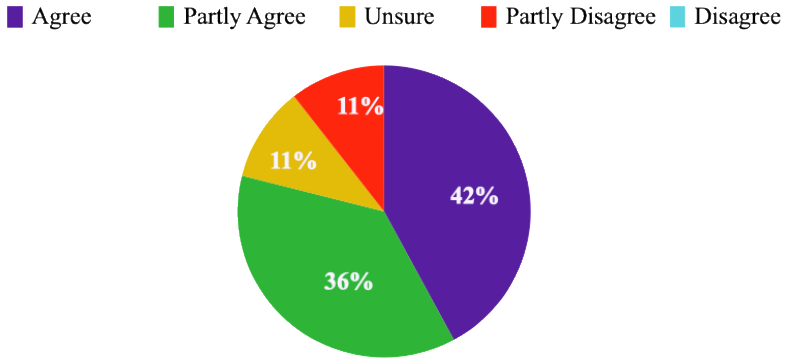
87. The activity I participated in motivated me into getting involved with silk production.



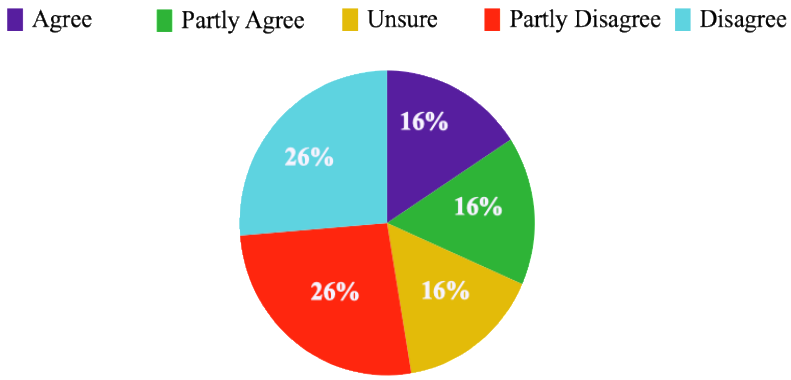
88. The activity I participated in enriched my knowledge of the cultural significance of traditions and practices related to silk and its production.



89. The activity I participated in inspired me to think of silk as a product that can has multiple uses.



90. I was not aware that my region had such rich history in silk production or mulberry cultivation.



Part D. Open-ended questions

21. What was the topic of the school activity related to?

Common answers:

22. What was the most informative aspect of the school activity that you participated in?

23. What was the most mundane aspect of the school activity that you participated in?

24. Which part of the activity was the most challenging and difficult for you?

25. What would you change if you had to do the activity again?

26. How do you rate the overall performance of your tutors and instructors in the school activity?

27. Which part of the school activity needed better management?

28. Why you think silk is considered a luxury item?

29. Can you suggest some new ways on how humans can use silk?

30. Do you consider silk as an environmentally-friendly item?

Finally, please provide us with an overall rating of the activity that you participated in. Please rate the activity as objectively as you can and try not to give a very good score unless you feel that you should!

Very good		Quite good		Mediocre		Not so good		Rather bad
9	8	7	6	5	4	3	2	1

(18 responses)

9: 4 students

8: 3 students

7: 8 students

6: 3 students

References

1. Manlio Celso Piva, 2015, Geolocalizziamo la Grande Guerra. Piattaforma didattica per la georeferenziazione del fronte italo-austriaco in Teach Different! Proceedings della multiconferenza EMEMITALIA2015, a cura di Marina Rui, Laura Messina, Tommaso Minerva, p.559 link.
2. Daniele Agostini, Manlio Celso Piva, 2018, Progetto di sperimentazione didattica: "Geolocalizziamo la Grande Guerra". Percorsi e trincee sul fronte del Monte Grappa e del fiume Piave in Per un atlante della Grande Guerra, a cura di Carla Masetti, p.109.