INTELLECTUAL PRODUCT

Smart Art
Knowledge transfer toolkit

Teaching- adult learning

srlsmartart.eu 🐦 srlsmartart   📷 srlsmartart   **f** smartartproject

SMART
art

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SMART art

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Introduction

1

The materials presented here were developed within the Erasmus+ Project 2019-1-ES01-KA204-065615 funded by the European Union and coordinated by the University of Burgos in Spain. It also involved the participation of other Spanish (University of Oviedo, University of Valladolid and the company Bjaland), Portuguese (Universidad do Minho) and Maltese (the company Paragon) partners. Our project within the innovation framework and lasts for 36 months from 09/01/2019 to 08/31/22. The state of the art underlying it is society's advancement towards the use of both formal and non-formal education, based on the implementation of **lifelong learning training courses** on different topics. This learning is carried out via *b-Learning*. Meeting this challenge **needs non-formal online training that facilitates learning for students of different ages,** helping them achieve functional and **efficient** learning outcomes, encouraging interest, and **increasing motivation**.

In this context, the **SmartArt project aims to design an intelligent training environment in the area of Art History** that integrates a **Self-Regulated Learning design with the use** of **hypermedia resources including continuous systematic assessment of the learning process.** To this end, the partners propose the development of **two intellectual outputs, two learning activities and 3 multiplier events (Spain, Portugal and Malta).** The proposed intellectual results are O1: Self-regulated learning in SmartArt, and O2: Methodological guidelines for customizing the *Virtual Learning Environment* (VLE) to student profiles. This document refers to the development of the first intellectual product **O1. Self-Regulated Learning in SmartArt.** In addition, this product and its technological implementation is openly accessible on the project website **www.srlsmartart.eu** and includes access to an **interactive platform on which** the materials that will then be implemented **will be freely available for use.** These materials include **an avatar** that accompanies the learner on their learning journey ensuring **personalized development based on each learner's characteristics, enhancing personalized learning.**

As indicated, the objective is to particularly motivate adult learning of art history, hence the inclusion of **digitization tools and motivating learning techniques** such as **gamification and** the **inclusion of avatars.** This **regulates and facilitates learning by increasing motivation and advances in learning.** These materials can also be used at different stages of the educational system such as **Secondary Education, Further Education** and **University.** In addition, these materials have been implemented on an **interactive platform** (VLE) that is included on the project website **www.srlsmartart.eu.** All materials and interaction in the VLE are **open access** and **free** of **charge.**.

The objective is to particularly motivate adult learning of art history.

The objective of the first intellectual product, O1, has been pursued via the **creation of a virtual classroom "SmartArt"** that covers the following **specific objectives:** (a) to facilitate and improve access to learning of art history and to increase the application of related courses adapted to adult education in virtual environments; (b) to engage adults in learning the history of art in virtual environments; (c) to simplify the assessment of **adult learning skills and** attitudes in virtual settings; (d) to facilitate the teaching process of History to teachers in virtual settings; and (e) to implement systematic monitoring and evaluation mechanisms for all stakeholders (teachers, students and university services for mature students).

The innovation of the product lies in the **methodology and technology** used, i.e. an intelligent training classroom in art history that integrates a **self-regulated learning design based on the use** of **hypermedia resources, including a continuous, systematic evaluation of** the **learning process;** complemented by **motivation of learning and the increase of learning from intelligent mentoring systems**.

The partners involved in this project are Spanish (University of Oviedo, University of Valladolid and Bjaland company), Portuguese (Universidad do Minho) and Maltese (the Paragon company) and the project is coordinated by the University of Burgos.

University of Burgos members of the SmartArt project

Strategic partnership of the SmartArt project.

Theoretical framework

2

The learning project for adults in the field of Art History was designed following **meaningful learning** approaches (Ausubel, 1968) within a **constructivist** methodology [Vygotsky (1962), Piaget (1975)]. These methodological approaches have been consolidated in recent decades **in the field of** education. One of the most important methodologies for achieving this inclusion is the **Project-Based Learning (PBL) technique.** (Kirschner, Sweller, & Clark, 2006). This type of teaching aims to **develop meaningful and personalized learning through the resolution of practical situations** (Sáiz, García-Osorio, Díez-Pastor, & Martín-Antón, 2019). This type of learning **has been shown to** be much more effective than learning from exclusively memory-based approaches. In addition, in recent years **the inclusion of technological resources** called **Advanced Learning Technologies** (ALT) have facilitated the implementation of this pedagogical approach on interactive platforms, called **Learning *Management Systems*** (LMS) and the use of resources called **Smart Tutoring** within the LMS facilitate **continuous *guidance* for the** learner. These **resources include** avatars that help ***Self-Regulated Learning* (SRL)** and **process-oriented *feedback,*** not just products, (Hattie, 2013). All of this increases learner motivation (Azevedo, 2005; Zimmerman & Moylan, 2009).

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Why target adult education?

Lifelong education is one of the goals of **the Europe 2030 Project,** along with **the development of** citizens' digital literacy (for more information click **here**). The SmartArt project responds to both challenges by facilitating **effective learning** from the inclusion of materials that apply **SRL** through **gamification** and the insertion of **avatars** that **guide** and accompany the learner in the learning process, facilitating understanding and hence **motivation** (Zimmerman y Moylan, 2009). These materials, accompanied by technological resources (interactive platform, VLE), can be used individually by users or can be used by teachers and educators as support in **their usual** teaching practice. Increasingly, different types of institutions (universities, regional and local bodies) offer training courses aimed at adults within the framework of unregulated training (university extension courses, the university of experience, local authority courses and courses offered by other bodies, etc.). Therefore, this material, together with the

SmartArt project VLE, is an important resource for **adult learning,** this is endorsed by the latest research in both **methodological and technological resources** (Sáiz, Marticorena, and Garcia-Osorio, 2020). The ultimate goal is **to facilitate lifelong education** and **social inclusion** accessibly, simply, freely available to everyone, from the premise of **sustainable education** (Sáiz, Rodríguez, Marticorena, Zaparaín, and Cerezo, 2020).

These objectives are set out in the Erasmus+ Programme Guide (2020) as follows:

The ultimate goal is to facilitate lifelong education and social inclusion accessibly, simply, freely available to everyone

1

Improve the level of key skills and competences, taking into account in particular their relevance in the labour market and their contribution to the cohesion of society, in particular by increasing opportunities for mobility for learning reasons and strengthening cooperation between the world of education and training and the world of work.

2

Promote **improvements in quality, excellence in innovation and internationalization** in education and training institutions, in particular by enhancing transnational cooperation between education and training providers and other stakeholders.

3

Promote the emergence and **awareness of a European lifelong learning area** designed to complete national policy reforms and to support the modernization of education and training systems, in particular by promoting political cooperation and through better use of EU transparency and recognition tools and the dissemination of good practices.

4

Enhance the **international dimension of education and training, in particular through cooperation between the programme and the institutions of partner countries in the field of VET and higher education**, increasing the attractiveness of European higher education institutions and supporting EU external action, including their development objectives, by promoting

mobility and cooperation between the programme and the higher education institutions of partner countries and building the skills envisaged in partner countries.

5

Improving language teaching and learning and promoting the EU's wide linguistic diversity and intercultural awareness.

Methodology used in the development of materials

The materials in the different thematic units are based on the systematic use of *feedback* for both **conceptual and procedural content** and on the **evaluation of learning.** The strategies used to apply *feedback* are based on the use of **ALT resources** and **avatars encouraging development of SRL,** either in person or automated in the **VLE.** The work is based on Hattie's studies (2013); Hattie and Timperley (2007). These authors differentiated between **process-oriented *feedback*** and product-oriented feedback, considering them both essential elements in a continuous process. The effectiveness of **process-oriented *feedback*** encourages the **development of metacognitive strategies and self-regulatory learning (SRL)** processes. **Process-oriented feedback** and **SRL** respond to the following questions: **what, how, when, and where to learn.** SRL resources also provide learners with assistance in the learning process (Hattie, 2013), they:

1

Give students **clear explanations about what they are expected to** learn, also specifies **and** defines the **competencies that form the learning** object.

2

Provide students with accurate criteria about what is meant by **successful learning.**

3

Guarantee teaching that **reduces the distance between what students** know **and what they are expected** to learn.

4

Guarantee *feedback* in the steps aimed at reducing that distance.

In addition, the use of **SRL** ensures gradation of learning activities in a hierarchical order of difficulty by increasing the learner's **motivation** to continue learning. One tool that enhances this **sequencing** is the use of **feedback-based rubrics** (Saiz, Cuesta, Alegre, and Peñacoba, 2017).

Why use a *Learning Management System?*

As mentioned earlier, in the last ten years the use of LMSs has been very effective in the teaching-learning process, especially in adults (Cerezo, Sánchez-Santillan, Paule-Ruiz, and Nuñez, 2016). LMSs allow the use of hypermedia resources that facilitate the development of the **teaching-learning process.** In addition, these resources guide **SRL** and allow the learner to **regulate their own learning in a personalized way** as they include **planning, monitoring, control,** and **regulation which increases** learner **motivation**. LMSs can include many of the process- and **rubric-oriented feedback processes and procedures rubrics** that we discussed in the previous section (Saiz, Marticorena, García-Osorio, and Díez-Pastor, 2017). The ability to include hypermedia resources in LMSs makes it easier to implement **ALT** in an increasingly significant way. These resources, automated in the development of **process-oriented feedback, have been called intelligent tutoring** systems, **Smart Tutoring,** or **MetaTutoring,** when implementing **metacognitive self-regulation** (Azevedo et al., 2013). The development of resources to check the learning itself is called **self-assessment,** these resources include **questionnaires** and **crosswords** with **automated feedback (**product-oriented **feedback**) (Sáiz, García-Osorio, and Díez-Pastor, 2019). To design these activities in the LMS the educator or teacher should follow the steps referred to in Table 1.

Table 1. Design of learning activities (adapted from Sáiz, Arnaiz, y Escolar, 2020 p. 3).

ACTIVITY DESIGN	DESIGN MODULE	WHAT TO EVALUATE
What	What do I want to teach?	Learning goals
	What skills do I learners to develop?	Knowledge design
How	Designing learning tasks	Exams and tests to check learning achievements
Who	Who are the learning tasks aimed at? What's the learner like?	Knowing the prior knowledge
When and Where	Timeline of the development of learning tasks	Sequential graduation of learning task difficulty
	Studying learning behaviors in students	Process-oriented feedback planning

Why monitor the learning process?

Use of LMSs over the last ten years has been very effective in the **process of learning monitoring, particularly in adults** in university environments (Cerezo, Sánchez-Santillan, Paule-Ruiz, and Nuñez, 2016). LMSs provide a record of the interaction of the different actors involved (students and teachers) during the teaching-learning process. This is important because it allows us to discover **each learner's learning behaviors** and **monitor how that learning progresses** at the beginning, while it is being done, and at the end. These records can be extracted and processed using a variety of statistical programs and data analysis systems (Python libraries, WEKA, etc.) that allow the application of **data mining techniques,** which facilitate the prediction and clustering of learner behavioral patterns, among

other things. These results will make it easier for the teacher or educator to understand how their students learn and depending on their profiles and **learning styles**, the teacher will be able to apply different resources and aids aimed at offering a **personalized learning response to each student's specific learning needs** (Sáiz, Marticorena, and Garcia-Osorio, 2020).

Why customize learning?

The **personalization of learning** is about the teacher adapting to each learners pace of learning. This may seem very complicated in face-to-face learning environments, but **is much more versatile in non-face-to-face environments** that implement ALT and hypermedia resources in LMSs. This adaptation to each learner's characteristics and needs will increase learning successes, the cost-effective use of resources and ultimately the **sustainability of education** (Sáiz, García-Osorio, Díez-Pastor, Martín-Antón, 2019; Saiz, Rodriguez, Marticorena, Zaparaín, and Cerezo, 2020). In addition, **personalizing learning using the resources** described above is especially useful in the field of **adult teaching, in** what is called **life-long education** (Sáiz, Rodríguez, Marticorena, Zaparaín, and Cerezo, 2020). This form of teaching-learning is increasingly necessary, as the knowledge society is advancing rapidly, and **unregulated education offers** citizens **much-needed and accessible training** and **updating of knowledge and skills.** That is why providing pedagogical materials and designs that facilitate successful learning is an government obligation, as is **the cost-effective use** and **sustainability** of those resources. In this context, the use of the procedures and resources already listed has been shown to be an effective practice for achieving **effective learning.** These objectives relate to the search for a sustainable society and are set out in The 2030 Agenda for Sustainable Development and the SDGs (for more information click here).

hese objectives relate to the search for a sustainable society and are set out in The 2030 Agenda for Sustainable Development and the SDGs.

Research groups involved in the SmartArt strategic group

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One of the strengths of the **SmartArt Project is that members** of **8 Research Groups** from different knowledge areas **collaborate in it**: Learning Psychology (ADIR, DATAHES, GIE179, GIPDAE), Educational Psychology (ADIR, DATAHES, GIE179, GIPDAE), Artificial Intelligence and Data Mining (DATAHES, ADMIRABLE), Educational Engineering (IEGENGE), and History, Heritage and Geography (GEOTER). Therefore, the **interdisciplinary nature of the development** of the SmartArt project in those areas means that the project addresses aspects of educational methodology, learning strategies, data analysis from the use of data mining techniques, and artificial intelligence in the development of content related to art history and cultural heritage.

Research Groups from the University of Burgos

ADMIRABLE Research Group
https://investigacion.ubu.es/grupos/1817/detalle

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Note: The joint publications of this group with the DATAHES Research Group are marked with an asterisk in the DATAHES section

DATAHES Research Group
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Nota: *Publicaciones en colaboración con miembros de los Grupos ADMIRABLE, ADIR, GIE Nº 179, iE-NERGIA y PART.

GEOTER Research Group
https://investigacion.ubu.es/grupos/1802/detalle
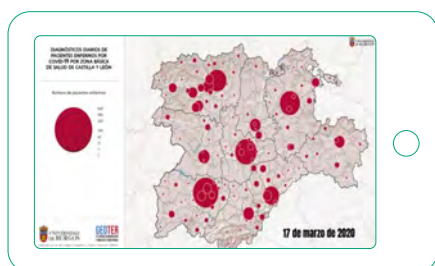
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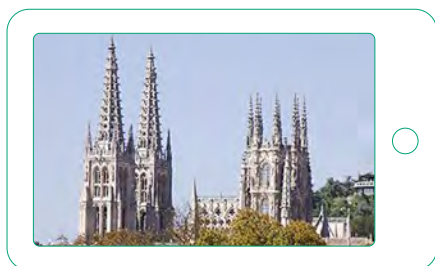
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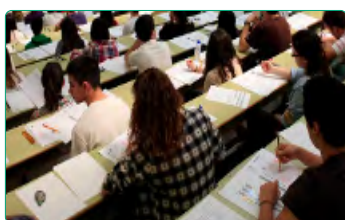
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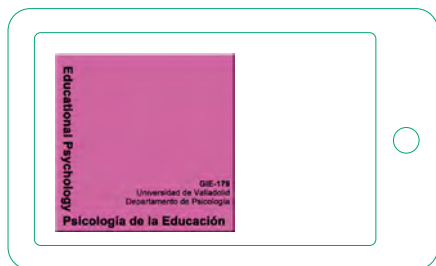
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Section summary

Lifelong education is a right of all citizens and an obligation of those responsible in the authorities in each country.

Technology and advances in educational instruction provide tools that will help educational leaders respond to education throughout life.

Pedagogical design accompanied by innovative methodological and technological resources facilitates access to learning for various groups and increases motivation, encouraging the achievement of effective learning.

Learning activities

4

4.1
Presentation of the theme The Medieval Monastery. Concept and development

What is their significance?

The **medieval monastery** is a subject of special interest in the History of Western Art as it is one of the elements that most effectively contributed to forging a common foundation. Hence the founder of one of the most widespread major monastic orders, Saint Benedict of Nursia, was appointed Patron of Europe.

Why study them?

They continue to be important to this day, because of their historical, artistic and cultural importance.

Medieval monasteries are the subject of preferential attention and protection in their respective countries. They are recognized internationally in many cases as World Heritage Sites.

It is therefore particularly important to address, from a general perspective, their most defining characteristics as an architectural typology with outstanding socio-cultural value.

How will we work on the subject?

The theme on the monastery will be divided into three thematic units:

Lesson 1.1.
The medieval monastery: origins, concept, functions, Benedictines, and Cistercians.

Lesson 1.2.
The medieval monastery: situation, spatial organization and cloister.

Lesson 1.3.
The medieval monastery: cloistered topography.

The Medieval Monastery. Concept and development

General Goals
- Understand the concept of the medieval monastery.
- Distinguish its many functions.
- Learn about the two main European monastic orders: Benedictine and Cistercian.
- Analyze how they organized their space.
- Discover the functions and meaning of the monastery's most defining element: the cloister.

Specific Goals
- Establish the characteristics of **cloistered topography.**
- Differentiate between how C**istercian and Benedictine monasteries** organized their space.

Competences
- Understand what the medieval monastery is..
- Distinguish their many functions..
- Differentiate between the two main European monastic orders: Benedictine and Cistercians.
- Understand how space was organized.
- Understand the concept of a cloister.

Evaluation criteria
Before doing the training task, it is useful to know how much is already known about the topic. We recommend completing the following survey.

EVALUATION CRITERIA	ASSESSMENT SCALE				
1. Define what the medieval monastery is.	1	2	3	4	5
2. Differentiate the different types of medieval monasteries.	1	2	3	4	5
3. Identify differences between the two European monastic orders: Benedictine and Cistercian.	1	2	3	4	5
4. dentify similarities between the two European monastic orders: Benedictine and Cistercian.	1	2	3	4	5
5. Differentiate between the organazation of space in the monastery (Benedictines and Cistercians).	1	2	3	4	5
6. Define the functions and meaning of the cloister.	1	2	3	4	5
7. Distinguish the characteristics of cloistered topography.					

4.2
Lesson 1.1.

The medieval monastery: origins, concept, functions, Benedictines and Cistercians

Content

THE MEDIEVAL MONASTERY I: CONCEPT AND MAIN FUNCTION

Its main function is religious, as PLACES OF COMMON LIVING, UNDER A RULE

We can define a monastery as A CITY OF GOD

MONASTIC RULE: set of rules governing the life of the community.
The best known is that of Saint Benedict of Nursia

Saint Benedict of Nursia. Detail from the triptych La Madonna y el Niño, Giovanni Bellini, 1488. Sacristy, Frairi, Venice (Italy).

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THE MEDIEVAL MONASTERY I

Sketch based on the plan of Sankt-Gallen, model of spatial organization of these cities of God (Plan preserved in the monastery of Sankt-Gallen, Switzerland)

View area of the monastery of Eberbach. Hesse (Germany)

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THE MEDIEVAL MONASTERY I: OTHER FUNCTIONS

- ORGANIZATIONAL AND TERRITORIAL DOMAIN centres.

- ECONOMIC CENTRES (these cities of God are economically self-sufficient and are also centres of religious lordships)

- CULTURAL AND INTELLECTUAL CENTRES: they keep the knowledge (libraries) and reproduce it and produce it through the *scriptorium*.

In addition to the religious function they played prominent roles in the Romanic world

SCRIPTORIUM: PLACE TO WRITE

View of the abbey of Mount Oliveto Maggiore. Asciano (Italy))

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THE MEDIEVAL MONASTERY I: THE MONASTERY AND SOCIETY

In summary, monasteries reflected the society of the time, a FEUDAL SOCIETY, in which the material and the spiritual were closely linked

Aerial view of Tibães monastery in Braga (Portugal), founded in the 11th century, renovated in the 17th and 18th centuries

Representation of social classes as a pyramid

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THE MEDIEVAL MONASTERY I: THE BENEDICTINES

- The RULE that regulated the monastic of this moment was that of SAINT BENEDICT OF NURSIA (VI century) based on a basic principle: ora et labora (pray and work).

- In the IX century, SAINT BENEDICT OF ANIANO modified the rule to adapt to new needs, reducing manual work, which passed, for the most part, to servants and laity, dedicating themselves to prayer and study.

That's why they're called BENEDICTINES

Saint Benedict of Nursia and Saint Benedict of Aniano. Abbey of Saint-Guilhem-le-Desert (France).

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THE MEDIEVAL MONASTERY I: THE BENEDICTINES

In the 10TH century, the French abbey of CLUNY, founded in 910, combined the care of the liturgy and the ceremonial WITH the practice of theology, history, poetry, etc.

Cluny Abbey Church View
Drawing by Etienne Martellange, 1617 (BNF)

It was the most influential Benedictine abbey, spreading throughout much of Europe and attracting numerous donations and riches

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The Medieval Monastery I: the Cistercians

- The great power achieved by the Cluniacen monks led them to move away from monastic ideals and this led to a reform for the recovery of the original essence of the rule.
- This reform, promoted by St Roberto de Molesmes, was carried out by St Bernard of Claraval in the early 12th century.

To differentiate themselves from the Benedictines, who wore black, the new order will carry the white habit

Christ hugging St. Bernard. Francisco Ribalta (Museo del Prado)

The Medieval Monastery I: the Cistercians

- The reform movement carried out by St. Bernard gave rise to a new order, the Cistercian.
- Its name derives from the French abbey where the reform was made, with the abbey of Clairvaux or Claraval, also in France, being its main reference centre.

Perspective of the abbey of Cîteaux. Eugenie Viollet-le-Duc, 1856.

The Medieval Monastery I: the Cistercians

The Cistercian rule is defined by the revaluation of manual labor and sobriety.

Their communities were organized into monks/nuns, oriented to prayer and worship, and in legos/legas dedicated more to manual and domestic tasks

Chapter Hall of Fontenay Abbey (France), founded in 1119

THE MEDIEVAL MONASTERY I

Before we move forward on this issue we will see that everything has been made clear through a simple task from the virtual Platform

https://ubuvirtual.ubu.es/mod/hotpot/attempt.php?id=2997296

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Checking knowledge in Lesson 1.1.
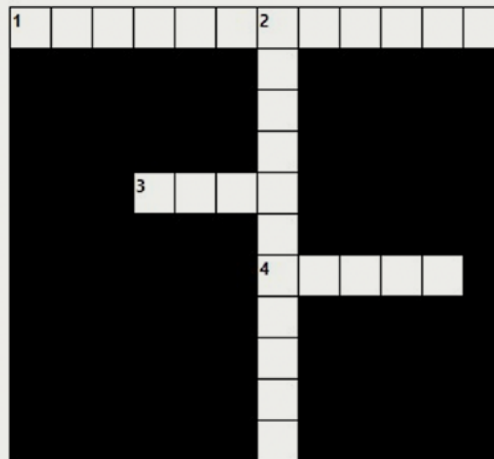
Across: 1: Monks belonging to the order of St. Benedict
Down: 2: Members of an order that reformed the Benedictines spread by St. Bernard:
Across: 3: Set of rules governing monastic life:
Across: 4: Powerful Benedictine monastic centre founded in the 10th century whose influence spread throughout Europe:

Check

4.3

The medieval monastery: situation, spatial organization and the cloister

THE MEDIEVAL MONASTERY II: SITUATION

The monasteries of the Romanesque were founded in IDYLLIC ENVIRONMENTS, near sources and springs, where community life and spiritual peace were possible.

View of the monastery of San Juan and its adjacent orchards, 17th century, Burgos, AMBu., PL-375

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Content

THE MEDIEVAL MONASTERY II: SITUATION AND ORGANIZATION OF SPACE

- Its SPACE ORGANIZATION seeks to respond to the needs of that community life.
- Experience variants based on:
  - Topography
  - Weather conditions
  - The importance of the community, etc..
- But they always respond to a COMMON SPATIAL DISTRIBUTION MODEL.

The model revolves around

CLOISTER

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THE MEDIEVAL MONASTERY II: THE CLOISTER AND ITS FUNCTIONS

- The CLOISTER becomes the nucleus of the monastery, in its heart.
- Allows distribution of the remaining dependencies.

Each of the four sides of the cloister is called PANDA

16

Cloister of the monastery of Santa María de Ripoll. Gerona (Spain))

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THE MEDIEVAL MONASTERY II: THE CLOISTER AND ITS FUNCTIONS

Cloisters are places of physical and spiritual transit, as they acted as a space distributor but also welcomed the deceased.

17

Cloister of St. Peter's of Moissac Abbey (France))

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THE MEDIEVAL MONASTERY II: THE CLOISTER AND ITS SYMBOLIC MEANINGS

The cloisters are constituted in a microcosm that summarizes the four elements that formed the world according to Greek philosophy:

Earth	Water	Air	Fire
18	19	20	21
Interior garden	Well or central fountain	Open spaces	Humanized spaces

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THE MEDIEVAL MONASTERY II: THE CLOISTER AND ITS SYMBOLIC MEANINGS

22

- The center of the cloisters, divided into four parts, allowed to plant species from the different places of the world, which were then used in monastic pharmacies.
- They were also a solar clock and the benchmark that regulated the passage of the stations for those who did not come from between their walls.

Fontevrault Abbey (France)

THE MEDIEVAL MONASTERY II: THE CLOISTER AND ITS SYMBOLIC MEANINGS

22

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Fontevrault Abbey (France)

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THE MEDIEVAL MONASTERY II: THE CLOISTER AND ITS SYMBOLIC MEANINGS

Paradise Garden. Master of the Garden of Paradise, ca. 1410
St.L.E.'s Museum, Frankfurt am Main (Germany))

23

"The cloister prefigures the PARADISE […] The closed cloister evokes the image of heaven, in which the righteous are separated from sinners, so those who profess religious life are far from the laity in the cloister. The monastery foreshadows heavenly paradise"

Honorius Augustodunensis, 12th century

The monastic cloister has a strong symbolism, but perhaps this description, from the early 12th century, is one of the most beautiful images.

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THE MEDIEVAL MONASTERY II

We will finish soon, but first, we will see that we are understanding the most important aspects through a second task from the virtual Platform

24

https://ubuvirtual.ubu.es/mod/hotpot/attempt.php?id=2997299

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20

35

Checking the knowledge in Lesson 1.2
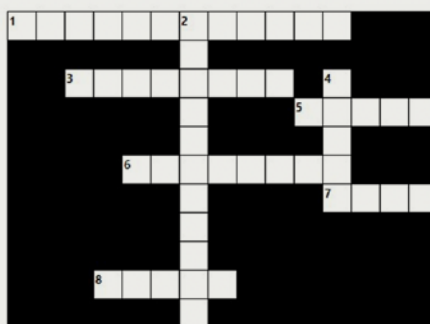
Check

Across: 1: Monks belonging to the order of St. Benedict

Down: 2: Members of an order that reformed the Benedictines spread by St. Bernard

Across: 3: Space around which the organization of the monastery revolves

Down: 4: One of the four elements that form the ancient world, according to Greek philosophy, present in the cloister through the fountain or well

Across: 5: Each of the crossings or sides of a cloister

Across: 6: The cloister is a prefiguration of the …

Across: 7: Set of rules governing monastic life

Across: 8: Powerful monastic centre founded in the 10th century whose influence spread throughout Europe

4.4
Lesson 1.3.
The medieval monastery: cloistered topography

Content

MEDIEVAL MONASTERY III: CLOISTERED TOPOGRAPHY

Bedroom of the monastery of Santes Creus. Tarragona (Spain)) — 27

The BEDROOMS were common and often used to be, over the chapter room

28
Eberbach Monastery Winery. Hesse (Germany)

23

THE MEDIEVAL MONASTERY III: DIFFERENCES BETWEEN BENEDICTINES AND CISTERCIANS

Cistercians adopted the basic model of space distribution of Benedictines but introduced novelties.

The most obvious: the REFECTORY DISPOSITION perpendicular to the cloister panda rather than parallel. But there's more, take a good look.

Refectory of the monastery of Santa María de Huerta. Soria (Spain)

29

monasterio cisterciense

0   20 m

major altar
altar mayor
chapter room
monastic choir
novitiate
fountain
monk's refectory
layman's choir
atrium
Cilla (warehouse)
Church
layman's refectory
monk's area
layman's area

IGLESIA
ZONA DE LOS MONJES
monaster y cloister
ZONA DE LOS LEGOS

30   Type floor of a Cistercian monastery

24

THE MEDIEVAL MONASTERY III: DIFFERENCES BETWEEN BENEDICTINES AND CISTERCIANS

I'm going to give some clue to better appreciate the other differences

- Is the space of the church equally distributed in the two cases?
- How many refectory are there in each case?
- Where do the legos from the Cistercian monasteries come to the church?

N ←

31

monasterio cisterciense

1 - biblioteca
2 - auditorium
3 - escalera al dormitorio

0   20 m

IGLESIA
ZONA DE LOS MONJES
CLAUSTRO
ZONA DE LOS LEGOS

32   Type floor of a Cistercian monastery

Plant of the Benedictine monastery of Santo Domingo de Silos before its renovation. Burgos (Spain)

25

38

THE MEDIEVAL MONASTERY III

And a final test to go over the whole topic before we say goodbye. We'll find it on the virtual Platform

https://ubuvirtual.ubu.es/mod/hotpot/attempt.php?id=2997299

Checking knowledge in Lesson 1.3.
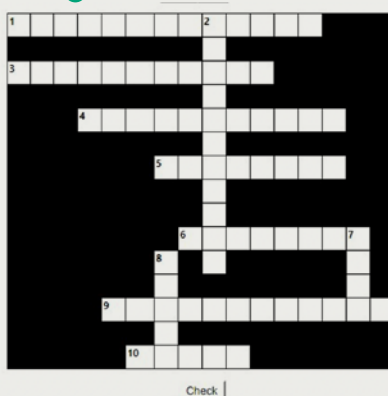
Across: 1: If in a Benedictine monastery the refectory is arranged parallel to the cloister's bay, in a Cistercian monastery it will be …
Down: 2: Room dedicated to the meeting of the monastic community located on the east side
Across: 3: Members of an order that reformed the Benedictines spread by St. Bernard
Across: 4: Space reserved in the monastery for copying or writing books
Across: 5: The cloister is a prefiguration of the …
Across: 6: Space around which the organization of the monastery revolves
Down: 7: Set of rules governing monastic life
Down: 8: Each of the crossings or sides of a cloister
Across: 9: Monks belonging to the order of St. Benedict
Across: 10: One of the four elements that form the ancient world, according to Greek philosophy, present in the cloister through the fountain or well

4.5
Evaluation procedures

What to evaluate?

The materials presented, referring to knowledge about the medieval monastery, can be used in regulated or unregulated teaching-learning processes, i.e. they can be used in teaching **aimed at adults that is given** through courses or activities that lead to obtaining a qualification, or can be used in training activities that do not involve certification. In either case, it is essential to assess both conceptual and procedural competences. Such an assessment may be carried out externally, i.e. by those responsible for the training activity, or internally by the learner themselves **(self-assessment)**, or both **(combined assessment).**

How to evaluate?

There are diverse forms of evaluation, generally either quantitative or qualitative procedures. Both **evaluation procedures** are necessary, and currently most innovative pedagogical methods use **both within what are** called mixed **evaluation methods** (Saiz, School, and Rodríguez-Medina, 2019). Therefore, both will be used in this work. The headings for the evaluation of learner skill development is given in Appendix 1. These headings contain quantitative and qualitative evaluation criteria.

When to evaluate?

Research in evaluation and educational didactics (Saiz, Escolar, and Rodríguez-Medina, 2019) recommends the use of three evaluation timepoints: before the start of the training activity, during the training activity, and after completion. The records of these three evaluation timepoints will show the learner's progress **(summative evaluation)** and the progression of the learning throughout the process **(formative evaluation)**. Both types of evaluation are necessary and complementary.

¿Para qué evaluar?

Learning is evaluated in order to understand the teaching-learning process and is based on the results of studying the strengths and weaknesses of the process. This data will provide the teacher and the learner with tools for reflection on the practice itself. In the light of that reflection they can make any necessary modifications within a process of continuous improvement.

Evaluation rubrics are presented below. These rubrics were produced following the Bloom Taxonomy for the digital age (for more information click here).

4.6
Generalization activities

In any learning process it is advisable to include activities which are complementary to those done during the learning process in order to reinforce the content. These activities complement the training and activate the processes of generalizing what has been learned, which enhances sounder, more effective learning.

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THE MEDIEVAL MONASTERY

For those who want to light more things or deepen what has already been analyzed, in the next pictures you will find ADDITIONAL MATERIAL

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THE MEDIEVAL MONASTERY

Time of day	Office
First light (3,00 h.)	Laudes
Dawn (6,00 h.)	Prime / Dawn mass / Chapter office
Mid-morning (9,00 h.)	Terce / Mass/ Work
Midday (12,00 h.)	Sext / Mass / Work
Mid-afternoon (15,00 h.)	Nones / Work
Sunset (18,00 h.)	Vespers / Evening meal
End of the day (21,00 h.)	Compline / Retiring
Midnight (24,00 h.)	Matins

THE MEASUREMENT OF TIME

"Idleness is the enemy of the soul; and therefore the brethren ought to be employed in manual labor at certain times...When they live by the labor of their hands, as our fathers and the apostles did, then they are really monks".

Chapter XLVIII, The Rule of Saint Benedict

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THE MEDIEVAL MONASTERY

SELECTION OF PASSAGES FROM THE ST. BENEDICT'S RULE TO KNOW THEIR CHARACTERISTICS AND OTHER FUNCTIONS

"It must be established so that, if possible, everything necessary is within the enclosure, water, mill, garden and different trades in order to prevent the monks from getting lost in the outside world "

Chapter LXVI, Rule of Saint Benedict

"First and foremost, care must be taken care of the sick, serving them as if they truly were Christ, because He himself said, I was sick and you visited me. There is a place especially dedicated to the sick and to his service a God-fearing brother, diligent and solicitous who will offer the sick the use of the bathroom whenever it comes; but give more difficulty to the healthy and young above all. Also grant meat to the sick and the weak, so that they may repair their forces"

Chapter XXXVIII, Rule of Saint Benedict

"To all the guests who show up at the monastery must be welcomed as Christ, for him he will say one day: "I was a pilgrim and you hosted me". All will be given the same honor, "above all to the brethren of the faith" and to foreigners [...] The hostess will be entrusted to a brother whose soul is possessed by the fear of God. There must be enough beds prepared in it. And always be run the house of God, prudently by prudent people"

Chapter LII, Rule of Saint Benedict

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THE MEDIEVAL MONASTERY

TEXT ON THE SYMBOLIC MEANING OF MONASTIC CLOISTERS

"In this cloister, there are four sides: self-deprecation, contempt for the world, love for one's neighbour, and love of God. Each side has a row of columns, for self-deprecation results in the humiliation of the ore, the affliction of the flesh, humility in the word, and things like that. The basis of all columns is patience. In the cloister, the various dependencies represent the various virtues: the hospital is the compassion of the soul, the chapter room is the secret of the heart, the refectory is the pleasure of the holy meditation, the pantry is the Holy Scripture, the bedroom is the clean conscience, the oratory is the immaculate life, the orchard of trees and plants is the whole of virtues , the living water well is the watering of the gifts that mitigate thirst and will completely extinguish it in the future"

Mitrale, Sicardo, Bishop of Cremona (1185-1215)

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THE MEDIEVAL MONASTERY

TEXTS OF ST BERNARD ON THE EXCESS OF BENEDICTINE MONASTERIES
APOLOGISE TO ABBOT WILLIAM OF SAINT THIERRY, 1125

"... those of us who have already left the people, those of us who have left for Christ the riches and treasures of the world in order to win Christ, we have everything for garbage. Everything that attracts for its beauty, which pleases for its sonority, what intoxicates with its perfume, which flatters its flavor, which delights in its touch. Anyway, everything that satisfies body gratification.
And can we now pretend that these things excite our devotion? What purpose would we pursue with it? May the fools be stunned or that the naïve leave us their offerings? Perhaps it is that we live even as the heathen and have assimilated their conduct by surrendering to their idols. Or by speaking with all sincerity and without fear, will not all this of our greed, which is an idolatry, be born? Because we are not looking for the good we can do, but the donations that are going to enrich us. If you ask me, how? I'd answer: in a very original way. There is a skillful art that consists of sowing money to multiply. It is reversed to produce. Splurting it is tantamount to enriching yourself. Because the mere contemplation of so much sumptuousness, which comes down simply to wonderful vanities, moves men to offer donations rather than to pray. In this way, wealth generates wealth. Money attracts money, because I don't know what secret, where more riches are held, the more tastefully offered the alms.

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THE MEDIEVAL MONASTERY

TEXTS OF ST BERNARD ON THE EXCESS OF BENEDICTINE MONASTERIES
APOLOGISE TO ABBOT WILLIAM OF SAINT THIERRY, 1125

" The relics are covered in gold and their eyes are unluzz, but their pockets open. Beautiful images of a saint or saint are displayed, and the faithful believe that it is more powerful the more overloaded he is of polychromy. Men are crowded to kiss him, they invite them to deposit their offering, they are stunned by art, but they leave without admiring their holiness. They do not hang from the walls simple crowns, but large curdled wheels of rhinestones, surrounded by rutile lamps for their light and by their rich stones set. And we can also see real bronze trees, which rise in the form of immense chandeliers, worked in delicate filigrees, gleaming for their numerous candles and precious stones."

6

THE MEDIEVAL MONASTERY

TEXTS OF ST BERNARD ON THE EXCESS OF BENEDICTINE MONASTERIES
APOLOGISE TO ABBOT WILLIAM OF SAINT THIERRY, 1125

"What are you looking for with all this? The compunction of the converts or the admiration of the visitors? Vanity of vanities. Vanity or foolishness? The church burns in its walls with light and is dying of misery in its poor. Cover his stones with gold and leave his children naked. With what belongs to the poor, the rich are recreated. They find where to please the curious and have nothing to feed on those in need. And on top of that, we don't even respect the images of the saints that swarm even the pavement that footed our feet. More than once you spit in an angel's mouth or shake your shoes on the face of a saint. If we come to not being able to do without images on the floor, why should they be painted so carefully? It's beautifying what's going to break right away. It's painting what's going to be trodden. Why so much a cousinly image becoming dusting continuously? What good is this to the poor, monks, and spiritual men?
Unless we answer that poet's question with the words of the Psalm: "Lord, I love the beauty of your house, the place where your glory resides." In that case I would tolerate it, for although riches are harmful to the superficial and the greedy, they are not harmful to simple and devoted men."

7

THE MEDIEVAL MONASTERY

TEXTS OF ST BERNARD ON THE EXCESS OF BENEDICTINE MONASTERIES
APOLOGISE TO ABBOT WILLIAM OF SAINT THIERRY, 1125

"But in the capitals of the cloisters, where the brothers do their reading, what reason do they have so many ridiculous monsters, so much deformed beauty and so much artistic deformity? Those filthy monkeys, those fierce lions, those horrible centaurs, those animal-bodied depictions and covers, and men's faces, those pint-painted tigers, those soldiers fighting, those hunters with horns... You can also find many human bodies hanging from one head, and a single trunk for several heads. Here a quadruped with a snake tail, there a fish with a quadruped head, or a beast with horse fronts and its mountain goat hindquarters. Or that other bug with horns on his head and horse shape in the other half of his body. Everywhere appears so great and prodigious variety of the most diverse whims, that monks are more pleased to read in the marbles than in the codices, and spend all day admiring so much detail without meditating on God's law. Oh, my God! Since we become insensitive to so much foolishness, how does it not hurt so much waste?"

https://mercaba.org/DOCTORES/BERNARDO/apologia_dirigida_al_abad_guille.htm

8

THE MEDIEVAL MONASTERY

OTHER MONASTIC ORDERS

- **THE PREMONSTRATENSIANS:**
They are an order of regular canons, under the rule of St Augustine, founded by St Norberto in 1120 who emphasize what is called the "cure of souls": liturgical service to the churches and ministry of charity and the word. That is, they insist on the apostolic purpose (preaching). The order was extended throughout Europe but mainly it was extended by France and Central Europe. In Spain they had a smaller presence although they had around 40 foundations. Its main center was the abbey of Prémontré, from where they take its name.

1

Saint Norbert, founder of the Premonstratensians, Maarten Pepyn, 1637. Cathedral of Our Lady of Antwerp (Belgium)

THE MEDIEVAL MONASTERY

OTHER MONASTIC ORDERS: THE PREMONSTRATENSIANS

2

3

Cloister of the former premonstratensian monastery of Santa María la Real in Aguilar de Campoo, Palencia (Spain)

Premonstratensian Monastery of Strahov, Prague(Czech Republic), founded in the mid-12th century and expanded during the Renaissance and Baroque

10

THE MEDIEVAL MONASTERY

OTHER MONASTIC ORDERS

4

- **THE CARTHUSIANS:**
They were founded by Saint Bruno in 1084. They are characterized by austerity, silence and strict compliance with standards. They combine the contemplation, prayer, and manual work they practice in their individual cells and in the orchard associated with each of them. Its rule is based on that of Saint Benedict with his own nuances. Its poverty and simplicity of life contrasts with the great construction ensembles that they raised under the patronage of kings and nobles throughout Europe. Its period of greatest extension was the fourteenth and fifteenth centuries, reaching 195 foundations, 21 in Spain. The main center was the Rogue Charter near Grenoble.

San Bruno, founder of the Order of the Carthusians, Manuel Pereira, 1635, Charterhouse of Miraflores, Burgos (Spain))

11

THE MEDIEVAL MONASTERY

OTHER MONASTIC ORDERS: **THE CARTHUSIANS**

Plant type of Carthusian monastery, Clermont, drawn by Eugène Viollet-le-Duc, 1856.

The plants of the Charters are very easy to distinguish, because they have a large cloister around which the cells of each monk are located. The churches are single nave and are divided into two sectors for Carthus' Fathers and Brothers

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THE MEDIEVAL MONASTERY

OTHER MONASTIC ORDERS: **THE CARTHUSIANS**

Garden of the great cloister to which the cells of the Carthusians access. Charterhouse of Valbona (France)

View of the Grande Chartreuse, near Grenoble (France)

THE MEDIEVAL MONASTERY

OTHER MONASTIC ORDERS

- **THE HIERONYMITES:**
They are a contemplative order that, following the ideal of life withdrawn from Saint Jerome, arose in the fourteenth century following the order of St Augustine. Its origin is Spanish and is an order of Spain that also spread in Portugal and Latin America. The ideal of life is based on prayer, silence, loneliness and work. As happened to the Carthus, this aspect contrasts with the great monumentality of its architectural ensembles, enjoying the favor of kings and nobles. It developed widely from the sixteenth century, to which belong some of its most outstanding examples.

Saint Jerome in the company of Saint Paula and Saint Eustachia, Francisco de Zurbarán, National Gallery of Art, Washington (USA)

THE MEDIEVAL MONASTERY

OTHER MONASTIC ORDERS: **THE HIERONYMITES**

Church of the Hieronymite monastery of Santa María de Belem (Portugal)

Cloister of the Hieronymite monastery of Santa María de Belem (Portugal)

THE MEDIEVAL MONASTERY

IMPORTANT CHRONOLOGICAL MILESTONES

270	Saint Anthony retreats to the Nitria desert.
354	Saint Augustine is born, author of the oldest Western monastic rule.
480	Saint Benedict of Nursia is born, author of the rule on which most of the monastic orders of the West are based.
529	San Benito begins his life in community in Monte Cassino (Italy).
816-7	Plano de Santk Gallen, first graphic representation of a Benedictine monastery.
910	Cluny Foundation
1084	Saint Bruno founded the Charter.
1093	Saint Roberto de Molesmes founded Cîteaux, origin of Cistercians.
1112	St. Bernard begins his life in the cistercian.
1115	Clairvaux Abbey Foundation.
1120	Saint Norbert founded Prémontré, home of the Premonstratensians.
1373	Pope Gregory XI approves the order of the Hieronymites.

REFERENCIAS DE LAS IMÁGENES

1. Saint Norbert, founder of the Premonstratensians, Maarten Pepyn, 1637. Cathedral of Our Lady of Antwerp (Belgium). (By Marten Pepijn - Web Gallery of Art: Image info about artwork, Public domain, https://commons.wikimedia.org/w/index.php?curid=11265156)
2. Cloister of the former premonstratensian monastery of Santa María la Real in Aguilar de Campoo, Palencia (Spain). Creative Commons License. (By Metta - Self-work, CC BY-SA 3.0, https://commons.wikimedia.org/w/index.php?curid=243952831)
3. Premonstratensian Monastery of Strahov, Prague (Czech Republic), founded in the mid-12th century and expanded during the Renaissance and Baroque Creative Commons License. (By Balou46 – Self-work, CC BY-SA 3.0, https://commons.wikimedia.org/w/index.php?curid=29223533)
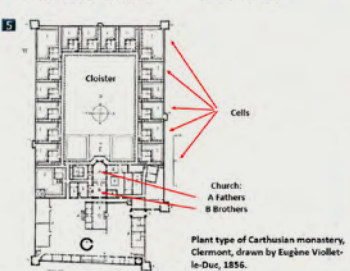4. Saint Bruno, founder of the order of the Carthusian, Manuel Pereira, 1635, Charterhouse of Miraflores, Burgos (Spain). Creative Commons License. (By Jose Luis Filpo Cabana – Self-work, CC BY 3.0, https://commons.wikimedia.org/w/index.php?curid=30382870)
5. Plant type of Carthusian monastery, Clermont, drawn by Eugène Viollet-le-Duc, 1856. (By Eugène Viollet-le-Duc - File:Viollet-le-Duc - Dictionnaire raisonné de l'architecture française du XIe au XVIe siècle, 1854-1868, tome 1.djvu, Public domain. https://commons.wikimedia.org/w/index.php?curid=292235)
6. View of La Grande Chartreuse, near Grenoble (France). Creative Commons License. (By Patrick Giraud - from Frensh Wikipedia: w:fr:Image:La_Grande_Chartreuse_02.jpg, CC BY-SA 2.5, https://commons.wikimedia.org/w/index.php?curid=507223)
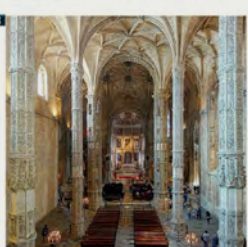7. Garden of the great cloister to which the cells of the Carthusians access. Charterhouse from Valbona (France). Creative Commons License (By Calips – Self-work, CC BY-SA 4.0, https://commons.wikimedia.org/w/index.php?curid=344058913)
8. Saint Jerome in the company of Saint Paula and Saint Eustachia, Francisco de Zurbarán, National Gallery of Art, Washington (USA). Creative Commons License. (By Francisco de Zurbarán - The Yorck Project (2002) 10.000 Meisterwerke der Malerei (DVD-ROM), distributed by DIRECTMEDIA Publishing GmbH. ISBN: 3936122202., Public domain. https://commons.wikimedia.org/w/index.php?curid=180177)
9. Church of the Hieronymite Monastery of Santa María de Belem (Portugal). Creative Commons License. (By Volvet – Self-work, CC BY-SA 4.0, https://commons.wikimedia.org/w/index.php?curid=47816783)
10. Cloister of the Hieronymite Monastery of Santa María de Belem (Portugal). Creative Commons License. (By Lacobrigo – Self-work, CC BY-SA 3.0, https://commons.wikimedia.org/w/index.php?curid=11239930)

Section summary

Thematic units
for learning about
the origin and
development
of monasteries are
presented.

Validation of materials and evaluation questionnaires

5

5.1
Validation of learning activities

The materials presented in the topics (Lesson 1.1., Lesson 1.2, Lesson 1.3) and the learning verification tools used in each were validated through expert judgment. The materials were evaluated using an *ad hoc* questionnaire, presented in Table 2. This questionnaire has 10 closed questions assessed on a Likert scale of 1 to 5, along with 3 open questions.

QUESTIONNAIRE FOR THE VALIDATION OF MODULE 1. SMARTART PROJECT

This questionnaire is part of the validation process for the content of the SmartArt Virtual Classroom within the European project 2019-1-ES01-KA204-065615 and includes questions with Likert-type response where 1 means "not at all" or "bad" and 5 means "all" or "excellent", as well as open text questions. We appreciate your participation in advance.

I agree to participate in this questionnaire and have been informed of the objectives and use of data.	YES	NO			

QUESTIONS					
1. Assessment of the module's methodology in relation to the objectives and the content.	1	2	3	4	5
2. Assessment of the module's methodology in relation to evaluation criteria.	1	2	3	4	5
3. Assessment of activity comprehension questions.	1	2	3	4	5
4. Avatar dialogues make learning self-regulation easier.	1	2	3	4	5
5. The images accompanying the text illustrate the content.	1	2	3	4	5
6. Evaluation rubrics are	1	2	3	4	5
7. Evaluation rubrics are clear.	1	2	3	4	5
8. Evaluation criteria align with competencies.	1	2	3	4	5
9. The supplementary material makes it easier to understand the module.	1	2	3	4	5
10. *Serious games* techniques facilitate conceptual understanding.	1	2	3	4	5
11. The Module uses inclusive language.	1	2	3	4	5
12. What would you include in the Module?					
13. What would you delete from the Module?					
14. Briefly describes the strengths and weaknesses of the Module.					

Table 2. Design of learning activities (adapted from Sáiz, Arnaiz, y Escolar, 2020 p. 3).

The results of the judges' responses to the closed questions is given in Figure 1

Figure 1. Judges' responses to the questionnaire's open questions for the validation of Module 1. SmartArt Project.

Table 3 presents the descriptive statistics of the answers to the questionnaire's open questions for the validation of Module 1. SmartArt Project.

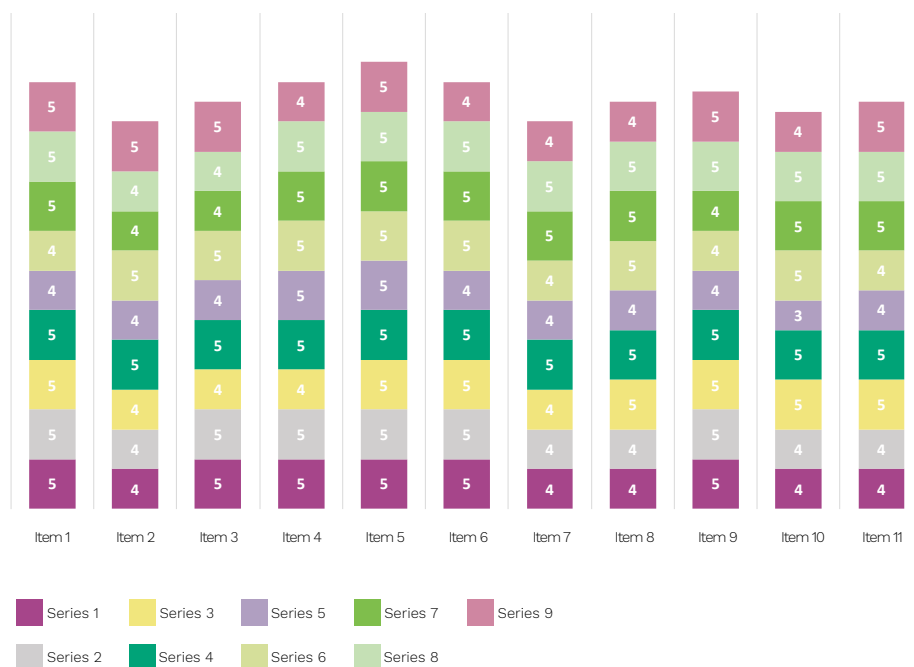|	Item 1	Item 2	Item 3	Item 4	Item 5	Item 6	Item 7	Item 8	Item 9	Item 10	Item 11
Mean	4,78	4,33	4,56	4,78	5,00	4,78	4,33	4,56	4,67	4,44	4,56
SD	0,44	0,50	0,53	0,44	0,00	0,44	0,50	0,53	0,50	0,73	0,53

Note. SD = Standard Deviation.

Table 3. Descriptive statistics of the answers to the Questionnaire's open questions for the validation of Module 1. SmartArt Project.

The judges' responses to the open questions were analyzed by performing a qualitative analysis using the Atlas.ti tool v.8.

5.2.
Validation of self-assessment questionnaire activities

Self-assessment instruments were validated through expert judgement. Six experts were chosen from the Universities of Oviedo, do Minho, and Valladolid. The judges were experts in scale-up and evaluation testing. The original questionnaire was analyzed in pairs at each university. The comments about each of the 24 questions in the initial questionnaire were then analyzed using the Atlas.ti v.8 qualitative analysis tool. The procedure was as follows: first the evaluation statements from each university were categorized for each question. These categories were then grouped into 4 code groups (change the response options, change the wording, correct wording, high difficulty level). The results of this are given in Table 4. Overall results indicated that the grouping "change response options" had a response rate of 15.41%, the grouping "change the wording" had a response rate of 1.33%, the correct wording grouping had a response rate of 70.74%, and the "high difficulty level" grouping had a response rate of 12.51%. Frequency analysis in each grouping by evaluating university is shown in Table 5. In addition, the inter-rater agreement index was C-0.82. In addition, the degree of agreement by criterion in each group categorization was Group 1 (Change the response options) r .99; Group 2 (Change the wording) r .98; Group 3 (Correct wording) r .99; Group 4 (High Difficulty Level) r x 1.00. We can therefore conclude that there is good evidence of validity of the materials and evaluation questionnaires.

Table 4. Frequency analysis in the code grouping with respect to the self-assessment questionnaire.

UNIVERSITY OF MINHO

	n = 25			
	Absolute	Relative to the row	Relative to the column	Relative to the table
Change the response options	3	25,95%	12,00%	4,00%
Change the wording	1	100,00%	4,00%	1,33%
Correct wording	18	33,93%	72,00%	24,00%
High difficulty level	3	31,99%	12,00%	4,00%
Totals	25	33,33%	100,00%	33,33%

UNIVERSITY OF OVIEDO

	Absolute	Relative to the row	Relative to the column	Relative to the table
		n = 23		
Change the response options	5	47,01%	21,74%	7,25%
Change the wording	0	0,00%	0,00%	0,00%
Correct wording	18	30,73%	65,22%	25,00%
High difficulty level	3	34,74%	13,04%	4,17%
Totals	26	33,33%	100,00%	33,33%

UNIVERSITY OF VALLADOLID

	Absolute	Relative to the row	Relative to the column	Relative to the table
		n = 24		
Change the response options	3	27,03%	12,50%	4,17%
Change the wording	10	0,00%	0,00%	0,00%
Correct wording	19	75,00%	75,00%	25,00%
High difficulty level	3	12,50%	12,50%	4,17%
Totals	35	100,00%	100,00%	33,33%

TOTALS

	Absolute	Relative to the row	Relative to the table
Change the response options	11	100,00%	15,41%
Change the wording	1	100,00%	1,33%
Correct wording	55	100,00%	70,74%
High difficulty level	9	100,00%	12,51%
Totals	76	100,00%	100,00%

Table 5. Frequency analysis in the grouping of codes by evaluation university.

	UM	UNOVI	UVA
Change the response options	3	5	11
Change the wording	1	0	1
Correct wording	18	18	55
High difficulty level	3	3	9
Totals	25	26	76

Note. UM = University of Minho; UNOVI = University of Oviedo; UVA = University of Valladolid.

Finally, as the evaluation indicated splitting the self-assessment questionnaire into two questionnaires, one for basic knowledge and one for advanced knowledge, the original questionnaire was divided into two self-assessment questionnaires: Self-Assessment Questionnaire 1. Basic Level and Self-Assessment Questionnaire 1. Advanced level.

Section summary

The **validation process** of the evaluation materials and questionnaires used in the thematic units about the concept and development of monasteries is presented using the inter-judge method.

Conclusions

6

The first intellectual product (O1) of the European SmartArt project offers art history education professionals materials that were produced by an interdisciplinary process by participating partners in the project who are members of research groups in the fields of Art History, the Psychology of Instruction, Computer Engineering and Technology and Data Mining. In addition, these materials have been tested using interdisciplinary inter-judge validation. These materials are driven via the project website **www.slrsmartart.eu** on an open access interactive platform (VLE). This documentation, functionality, and website is of great interest to both adult learners and teachers in different stages of the educational system (Adult Education, Higher Education, Further Education and Secondary Education) in formal and informal education. Future studies will test how useful it is, which will be presented in the form of evaluation reports about its usefulness and aspects to improve, as part of a process of continuous improvement.

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Appendix 1

Rubrics
for evaluation

COMPETENCIAS	CRITERIOS DE EVALUACIÓN
CONCEPTUAL Know the basic artistic facts and the different languages, procedures and techniques of artistic production throughout history	- Identifies the characteristics and elements of that make up medieval monastic ensembles. - Recognizes the vocabulary of the proposed topic. - Differentiates the characteristics and elements of the medieval Benedictine and Cistercian monastic ensembles.
PROCEDURAL Knowing how to critically reason and use analysis and synthesis procedures.	- Contrasts the characteristics of the Benedictine medieval monastic ensembles with those of Cistercians and those of other architectural typologies of this period. - Generalizes the characteristics and elements that make up medieval monastic ensembles to common references.
PROCEDURAL Ability to apply Knowledge on History and Heritage to the resolution of practical problems.	- Classifies the characteristics of medieval monastic ensembles and their main variants according to given categories. - Identifies in an image of a medieval monastery the characteristics and elements established as its own. - Applies theoretical knowledge about the characteristics and elements of a medieval monastic ensemble and its main variants to the identification of images.
ATTITUDINAL Respect and value cultural heritage Enjoy cultural heritage	- Shows an attitude of respect for the cultural heritage of humanity. - Shows enjoyment of knowledge of humanity's cultural heritage.

EVALUATION CRITERION	CLEARLY INSUFFICIENT	NOT ACCEPTABLE	GOOD	VERY GOOD	EXCELLENT
	0	1-2	3	4	5
Identifies the characteristics and elements that make up the medieval monastic ensembles.	Identifies characteristics and elements (less than 30%) that make up the medieval monastic ensembles.	Identifies characteristics and elements (39%-30%) that make up the medieval monastic ensembles.	Identifies characteristics and elements (40%-59%) that make up the medieval monastic ensembles.	Identifies characteristics and elements (60%-79%) that make up the medieval monastic ensembles.	Identifies characteristics and elements (80% - 100%) that make up the medieval monastic ensembles.
	0	1-2	3	4	5
Recognizes the vocabulary of the proposed topic.	Significant errors are seen in the recognition of the vocabulary of the subject and the proposed topic.	Does not clearly or exhaustively recognize the vocabulary of the proposed topic.	Clearly recognizes the vocabulary of the proposed topic without significant errors.	Clearly recognizes the vocabulary of the proposed topic.	Clearly and com-prehensively recognizes the vocabulary of the proposed topic.

EVALUATION CRITERIA	EXCELLENT	VERY GOOD	GOOD	NOT ACCEPTABLE	CLEARLY INSUFFICIENT
	0	1-2	3	4	5
Differentiates the characteristics and elements of the medieval Benedictine and Cistercian monastic ensembles.	Does not differentiate (less than 30%) the characteristics and elements that make up the medieval Benedictine and Cistercian monastic ensembles, makes particularly significant errors, making it difficult to recognize them within the different types of monasteries, even in the simplest examples.	Does not differentiate (39%-30%) the characteristics and elements that make up the medieval Benedictine and Cistercian monastic ensembles, which makes it difficult to recognize within the different types of monasteries.	Differentiates (40%-59%) the more general characteristics and elements of those that make up the Benedictine and Cistercian medieval monastic ensembles, which allows them to recognize their most basic examples within the different types of monasteries.	Clear differentiation (60%-79%) of the characteristics and elements that make up the medieval Benedictine and Cistercian monastic ensembles, offering no significant questions about their recognition within the different types of monasteries.	Clear, accurate differentiation (80% to 100%) of the characteristics and elements that make up the Benedictine and Cistercian monastic ensembles, with no hesitation in their recognition within the different types of monasteries.
	0	1-2	3	4	5
Contrasts the characteristics of the Benedictine medieval monastic ensembles with those of Cistercians and those of other architectural typologies of this period.	Significant errors contrasting between the characteristics and elements of the medieval monastic ensembles with those of other architectural typologies of this period that reveal significant gaps in understanding of the whole subject.	Significant errors contrasting the characteristics of the Benedictine medieval monastic ensembles with those of the Cistercians and with those of other architectural typologies of this period.	Contrasts the characteristics of the Benedictine medieval monastic ensembles with those of Cistercians and those of other architectural typologies of this period, with some minor errors.	Clearly contrasts the characteristics of the Benedictine medieval monastic ensembles with those of the Cistercians and those of other architectural typologies of this period.	Clearly and accurately contrasts the characteristics that make up the medieval Benedictine monastic ensembles with those of the Cistercians and with those of other architectural typologies of this period, even in more complex examples.
	0	1-2	3	4	5
Generalizes the characteristics and elements that make up medieval monastic ensembles to common references	Fails to generalize the characteristics and elements that make up medieval monastic ensembles to extract common references, makes significant errors.	Fails to generalize the characteristics and elements that make up medieval monastic ensembles to extract common references, makes some significant errors.	Generalizes the characteristics and elements that make up medieval monastic ensembles, managing to extract common references with some minor errors.	Generalizes the characteristics and elements that make up medieval monastic ensembles, managing to extract common references clearly and accurately.	Generalizes the characteristics and elements that make up the medieval monastic ensembles, managing to extract common references clearly, precisely and completely, in a logical and coherent manner.

CRITERIO DE EVALUACIÓN	CLEARLY INSUFFICIENT	NOT ACCEPTABLE	GOOD	VERY GOOD	Excellent
	0	1-2	3	4	5
Classifies the characteristics of medieval monastic sets and their main variants according to given categories.	Classifies the characteristics of medieval monastic sets and their main variants (80% to 100%) depending on a given category.	Classifies the characteristics of medieval monastic sets and their main variants (60%-79%) depending on a given category.	Classifies the characteristics of medieval monastic ensembles and their main variants (40%-59%) depending on a given category.	Classifies the characteristics of medieval monastic ensembles and their main variants (39%-30%) depending on a given category.	Classifies the characteristics of medieval monastic sets and their main variants (less than 30%) depending on a given category.
5%	0	1-2	3	4	5
Identifies in an image of a medieval monastery the characteristics and elements established as belonging to it.	Clearly and accurately identifies the characteristics and elements established belonging to medieval monasteries in an image of a medieval monastery even in particularly complex cases.	Clearly identifies the characteristics and elements established as belonging to a medieval monastery in an image of a medieval monastery.	Identifies the characteristics and elements established as belonging to a medieval monastery in an image of a medieval monastery, with some minor errors.	Identifies the characteristics and elements established as belonging to a medieval monastery in an image of a medieval monastery, with some significant errors.	Does not identify the characteristics and elements established as belonging to a medieval monastery in an image of a medieval monastery, makes significant errors revealing poor understanding of this architectural typology.
	0	1-2	3	4	5
Applies theoretical knowledge about the characteristics and elements of a medieval monastic ensemble and its main variants to the identification of images.	Clearly and accurately applies theoretical knowledge about the characteristics and elements of a medieval monastic ensemble and its main variants to the identification of particularly complex images.	Clearly and accurately applies theoretical knowledge about the characteristics and elements of a medieval monastic ensemble and its main variants to the identification of images.	Applies theoretical knowledge about the characteristics and elements of a medieval monastic ensemble and its main variants to the identification of images, with some minor errors.	Does not apply theoretical knowledge about the characteristics and elements of a medieval monastic ensemble and its main variants to the identification of the most basic images, makes significant errors.	Does not apply theoretical knowledge about the characteristics and elements of a medieval monastic ensemble and its main variants, even to identify the most basic images, makes very significant errors that reveal a lack of understanding of this medieval architectural typology.

Appendix 2

Self-assessment
instruments for
acquired conceptual
and procedural
concepts

1.

Question: Is it possible to define a monastery as a city by and for men?

True ☐ False ☐

2.

Question: Match the functions that monasteries play with one of the aspects that define them

Religious/spiritual ●   ● Territorial domination

Economic ●   ● Guardians of Knowledge

Cultural ●   ● Self-sufficient character

Space organization ●   ● Common living places
under one rule

3.

Question: The set of rules governing the life of a monastic community is called, (mark the correct answer with a cross).

Compass ☐   Chapter ☐   Rule ☐   *Scriptorium* ☐

4.

Question: Monasteries reflect the kind of society of the time, the struggle of classes.

True ☐ False ☐

5.

Question: Match each saint with their main contribution.

Saint Bernardo ●   ● Reformer of the Benedictine order
in the ninth century

Saint Benedict of Nursia ●   ● Cistercian order diffuser

Saint Roberto de Molesmes ●   ● Founder of the Benedictine rule

Saint Benedict of Aniano ●   ● Reformer of the Benedictine order
in the twelfth century and founder
of the Cistercian

6.

Question: The basic principle of Benedictine rule was: (mark the correct answer with a cross).

Ora ☐   Labora ☐   *Labora et Ora* ☐   *Ora et Labora* ☐

7.

Question: Match each abbey with the order to which it belonged.

Benedictine ●   ● Clairvaux

Cistercian ●   ● Carhtusian

                                ● Cluny

                                ● Prémontré

8.

Question: Match each concept with its corresponding explanation.

Cluny Abbey ●   ● It is based on the basic principle:
                              ora et labora

Cistercian rule ●   ● Reducing the time spent working
                              manually by monks

Reform of Saint Benedict of Aniano ●   ● Care for the liturgy
                                          and the ceremonial

Rule of Saint Benedict of Nursia ●   ● Revaluation of manual work
                                          and sobriety

9.

Question: The natural characteristics of the environment were not taken into account in the foundation of a monastery.

True ☐   False ☐

10.

Question: Although there may be variations depending on the environment, there is a common model of the spatial organization of monasteries.

True ☐   False ☐

11.

Question: Match each part or element of a monastery with its function.

Cloister ●   ● Each of the four sides of a cloister

Panda ●   ● Community meeting place where the chapter

Chapter hall ●   of the Order is read daily

Refectory ●   ● Dining room

Scriptorium ●   ● Space where the amanuense copied

              or wrote the books

              ● Quadrangular space around which

              the monastic space is organized

12.

Question: The cloister does not perform funeral functions.

True ☐   False ☐

13.

Question: The cloister can be considered as the heart of the monastery.

True ☐   False ☐

14.

Question: Put a cross next to all those concepts or ideas related
to a cloister.

☐ Room where the books of the monastery are kept
☐ Microcosm
☐ Paradise's Prefigure
☐ Places where the chapter is read
☐ Lobby meeting space
☐ Solar watch
☐ Reflecting the four parts of the world
☐ Dining room
☐ Meeting of the four elements that formed the world in Greek philosophy

15.

Question: The most prominent monasteries could have a library and *scriptorium*, but never a pharmacy.

True ☐   False ☐

16.

Question: In no monastery was there a hostelry.

True ☐   False ☐

17.

Question: The spatial organization of Benedictine monasteries and Cistercians is different.

True ☐   False ☐

18.

Question: Match the refectory arrangement with the order that uses it.

Parallel to the axis of the church ●   ● Benedictine and Cistercian
Transverse to the axis of the church ●   ● Benedictine
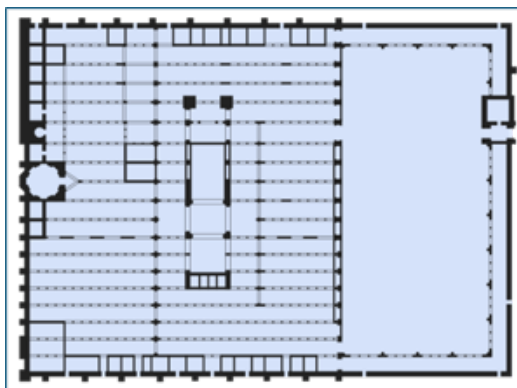   ● Cistercian

19.

Question: Choose those elements that make up a monastery.

☐ Cloister
☐ Qibla
☐ Throne Room
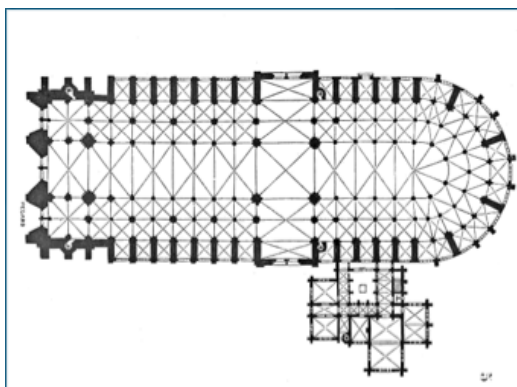☐ Chapter hall
☐ Tower of homage
☐ Refectory
☐ Church

20.

Question: Which of the following floorplans is a monastery?

Note. Taken from Américo Toledano - Own work, CC BY-SA 3.0, https://commons.wikimedia.org/w/index.php?curid=27277767

Note. Taken from The Public Domain, https://commons.wikimedia.org/w/index.php?curid=346071

Note. Taken from The Public Domain, https://commons.wikimedia.org/w/index.php?curid=71311

20.

Question: Match each image with a component of a monastic ensemble.

Note. Taken de Jjpetite - Own work, CC BY-SA 4.0, https://commons.wikimedia.org/w/index.php?curid=3722514

●   ● Refectory

Note. Taken from ecelan- Self-published work by ecelan, CC BY 2.5, https://commons.wikimedia.org/w/index.php?curid=1295208

●   ● Chapter hall

Taken fromno machine-readable author provided. Disdero assumed (based on copyright claims). - No machine-readable source provided. Own work assumed (based on copyright claims)., CC BY-SA 2.5, https://commons.wikimedia.org/w/index.php?curid=762751

●   ● Bedroom

Note. Taken de Ecelan - Own work, CC BY-SA 4.0, https://commons.wikimedia.org/w/index.php?curid=10545529
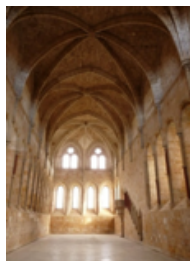
●   ● Cloister

Note. Taken de User:AnTeMi from wikipedia - Wikipedia; article: Monastery ofSantes Creus, CC BY-SA 3.0, https://commons.wikimedia.org/w/index.php?curid=1540838

●   ● Church

Self-Assessment Questionnaire 2.
Advanced level

1.

Question: Match each space with its most characteristic orientation.

Chapter hall ●   ● North

Refectory ●   ● East
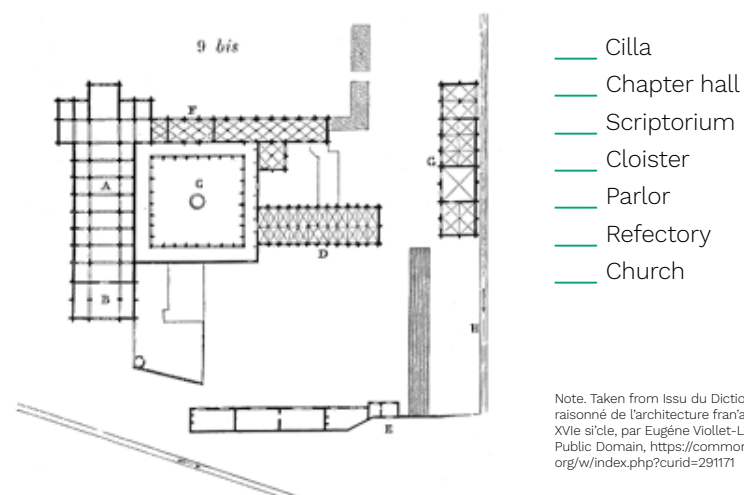
Church ●   ● West

Warehouse ●   ● South

2.

Question: Choose four aspects that differentiate a Cistercian monastery from a Benedictine one.

☐ Situation of the chapter room in the Levante panda

☐ Presence of *scriptorium*

☐ Disposition of the refectory in a transverse way to the panda

☐ Situation of the church to the west of the cloister

☐ Lacks cloister

☐ Existence of two refectory

☐ Presence of a street or alley of the converts immediately to the panda of the west

☐ Dispenses from refectory

☐ Reserve the ship's foot area (end zone) for the Laypeople

☐ They have hostelry

3.

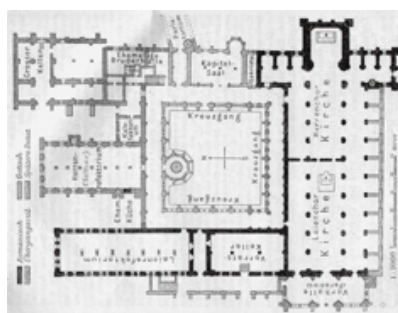**Question:** On the floorplan, match the letters with a component.

____ Cilla

____ Chapter hall

____ Scriptorium

____ Cloister

____ Parlor

____ Refectory

____ Church

Note. Taken from Issu du Dictionnaire raisonné de l'architecture fran'aise du XIe au XVIe si'cle, par Eugéne Viollet-Le-Duc, 1856., Public Domain, https://commons.wikimedia. org/w/index.php?curid=291171

4.

Question: Match each floorplan with the type of monastery it belongs to.
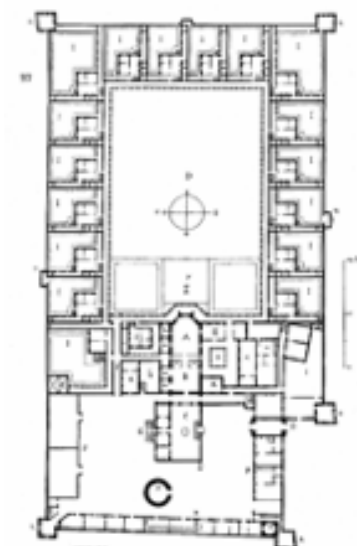

Note. Taken from User Stefan Kühn on de.wikipedia - Originally from de.wikipedia; description page is (was) here, Public domain, https://commons.wikimedia.org/w/index.php?curid=719301

●   ● Carthusian

Note. Taken from José-Manuel Benito - Own work, Public domain, https://commons.wikimedia.org/w/index.php?curid=519044

●   ● Cistercian

Note. From Eugéne Viollet-le-Duc - File:Viollet-le-Duc - Dictionnaire raisonné de l'architecture fran'aise du XIe au XVIe siécle, 1854-1868, take 1.djvu, Public domain, https://commons.wikimedia.org/w/index.php?curid=292735

●   ● Benedictine

5.

Question: Organize the aspects below into three blocks.

1
Block 1.
What defines
a Benedictine
monastery

☐

Wall to which prayer
is directed

☐

Temple divided into
two sections

☐

Tower of homage

☐

Existence of an alley
for laypeople or
converts to access
the church

2
Block 2.
What defines a
Cistercian
monastery

☐

Patio
for ablutions

☐

Prayer room with
numerous ships

☐

Tower from which
prayer is called

☐

Unrified temple

3
Block 3.
It doesn't belong
to a monastery

☐

Two refectories

☐

A single refectory

☐

Transverse refectory
to the cloister

☐

A refectory parallel
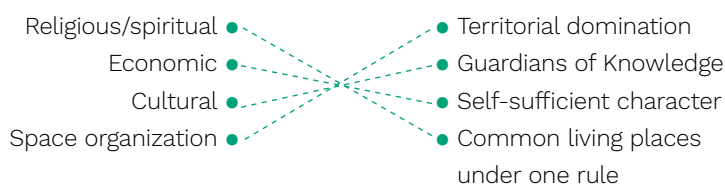to the church

Self-Assessment Questionnaire 1.
Basic level
Answers

1.

Question: Is it possible to define a monastery as a city by and for men?

True ☐   False **X**

2.

Question: Match the functions that monasteries play with one of the aspects that define them

Religious/spiritual ●········· ● Territorial domination

Economic ●········· ● Guardians of Knowledge

Cultural ●········· ● Self-sufficient character

Space organization ●········· ● Common living places under one rule

---

3.

Question: The set of rules governing the life of a monastic community is called, (mark the correct answer with a cross).
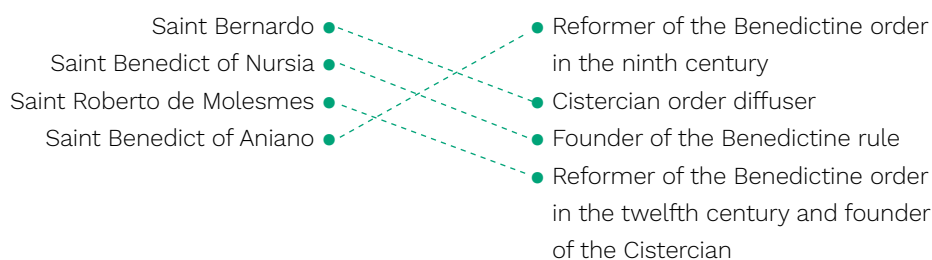
Compass ☐   Chapter ☐   Rule **X**   *Scriptorium* ☐

4.

Question: Monasteries reflect the kind of society of the time, the struggle of classes.

True ☐   False **X**

5.

Question: Match each saint with their main contribution.

Saint Bernardo ●········· ● Reformer of the Benedictine order in the ninth century

Saint Benedict of Nursia ●········· ● Cistercian order diffuser

Saint Roberto de Molesmes ●········· ● Founder of the Benedictine rule

Saint Benedict of Aniano ●········· ● Reformer of the Benedictine order in the twelfth century and founder of the Cistercian
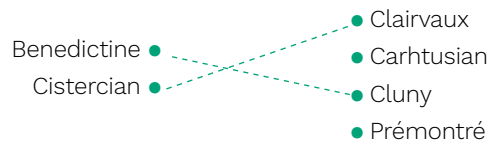

6.

Question: The basic principle of Benedictine rule was: (mark the correct answer with a cross).
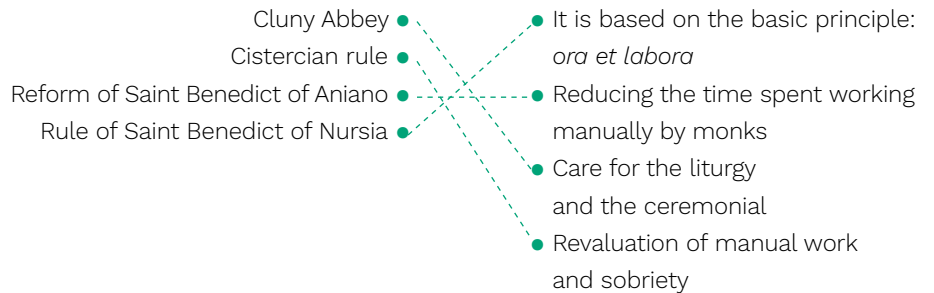
Ora ☐   Labora ☐   *Labora et Ora* ☐   *Ora et Labora* **X**

7.

Question: Match each abbey with the order to which it belonged.

Benedictine ●
Cistercian ●
● Clairvaux
● Carhtusian
● Cluny
● Prémontré

8.

Question: Match each concept with its corresponding explanation.

Cluny Abbey ●
Cistercian rule ●
Reform of Saint Benedict of Aniano ●
Rule of Saint Benedict of Nursia ●

● It is based on the basic principle: *ora et labora*
● Reducing the time spent working manually by monks
● Care for the liturgy and the ceremonial
● Revaluation of manual work and sobriety

9.

Question: The natural characteristics of the environment were not taken into account in the foundation of a monastery.

True ☐   False **X**

10.

Question: Although there may be variations depending on the environment, there is a common model of the spatial organization of monasteries.

True **X**   False ☐

11.

Question: Match each part or element of a monastery with its function.

Cloister ● — ● Each of the four sides of a cloister

Panda ● — ● Community meeting place where the chapter of the Order is read daily

Chapter hall ● — ● Dining room

Refectory ● —

Scriptorium ● — ● Space where the amanuense copied or wrote the books

● Quadrangular space around which the monastic space is organized

12.

Question: The cloister does not perform funeral functions.

True [ ]   False [X]

13.

Question: The cloister can be considered as the heart of the monastery.

True [X]   False [ ]

14.

Question: Put a cross next to all those concepts or ideas related to a cloister.

[ ] Room where the books of the monastery are kept
[X] Microcosm
[X] Paradise's Prefigure
[ ] Places where the chapter is read
[ ] Lobby meeting space
[X] Solar watch
[X] Reflecting the four parts of the world
[ ] Dining room
[X] Meeting of the four elements that formed the world in Greek philosophy

15.

Question: The most prominent monasteries could have a library and *scriptorium*, but never a pharmacy.

True ☐   False **X**

16.

Question: In no monastery was there a hostelry.

True ☐   False **X**

17.

Question: The spatial organization of Benedictine monasteries and Cistercians is different.

True **X**   False ☐

18.

Question: Match the refectory arrangement with the order that uses it.

Parallel to the axis of the church ● ---------- ● Benedictine and Cistercian
Transverse to the axis of the church ● ---------- ● Benedictine
                                                 ● Cistercian
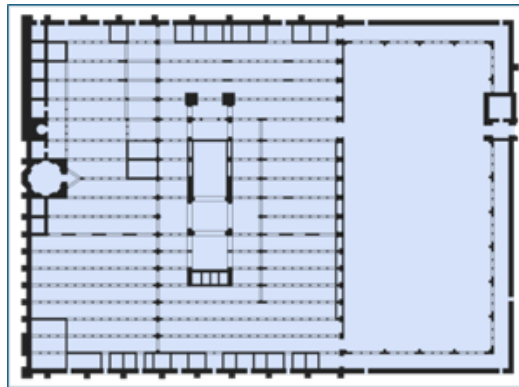
19.

Question: Choose those elements that make up a monastery.

X Cloister
☐ Qibla
☐ Throne Room
X Chapter hall
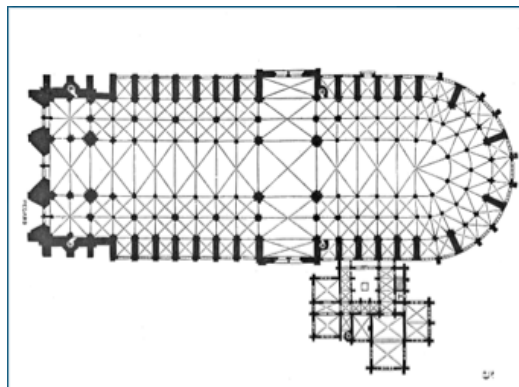☐ Tower of homage
X Refectory
X Church

20.

Question: Which of the following floorplans is a monastery?

Note. Taken from Américo Toledano - Own work, CC BY-SA 3.0, https://commons. wikimedia.org/w/index.php?curid=27277767

Note. Taken from The Public Domain, https://commons.wikimedia.org/w/index. php?curid=346071

X

Note. Taken from The Public Domain, https://commons.wikimedia.org/w/index. php?curid=71311

20.

Question: Match each image with a component of a monastic ensemble.

• Refectory

• Chapter hall

• Bedroom

• Cloister

• Church

1.

Question: Match each space with its most characteristic orientation.

Chapter hall ● North
Refectory ● East
Church ● West
Warehouse ● South

2.

Question: Choose four aspects that differentiate a Cistercian monastery from a Benedictine one.

☐ Situation of the chapter room in the Levante panda
☐ Presence of *scriptorium*
☒ Disposition of the refectory in a transverse way to the panda
☐ Situation of the church to the west of the cloister
☐ Lacks cloister
☒ Existence of two refectory
☒ Presence of a street or alley of the converts immediately to the panda of the west
☐ Dispenses from refectory
☒ Reserve the ship's foot area (end zone) for the Laypeople
☐ They have hostelry

3.

Question: On the floorplan, match the letters with a component.
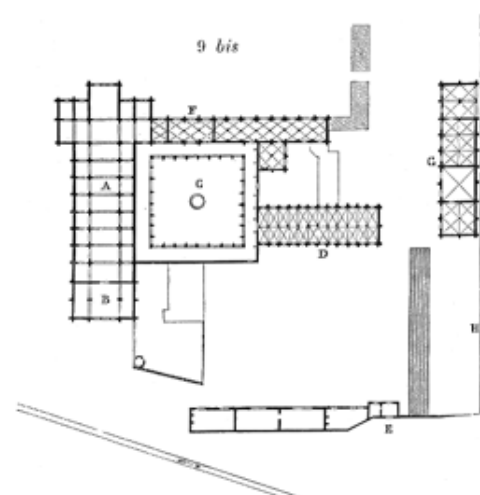

____ Cilla
_F_ Chapter hall
____ Scriptorium
_C_ Cloister
____ Parlor
_D_ Refectory
_A_ Church

Note. Taken from Issu du Dictionnaire raisonné de l'architecture fran'aise du XIe au XVIe si'cle, par Eugéne Viollet-Le-Duc, 1856., Public Domain, https://commons.wikimedia.org/w/index.php?curid=291171

Self-Assessment Questionnaire 2.
Advanced level

4.

Question: Match each floorplan with the type of monastery it belongs to.

Note. Taken from User Stefan Kühn on de.wikipedia - Originally from de.wikipedia; description page is (was) here, Public domain, https://commons.wikimedia.org/w/index.php?curid=719301

Note. Taken from José-Manuel Benito - Own work, Public domain, https://commons.wikimedia.org/w/index.php?curid=519044
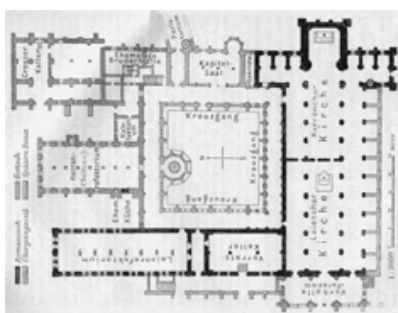
Note. From Eugéne Viollet-le-Duc - File:Viollet-le-Duc - Dictionnaire raisonné de l'architecture fran'aise du XIe au XVIe siécle, 1854-1868, take 1.djvu, Public domain, https://commons.wikimedia.org/w/index.php?curid=292735
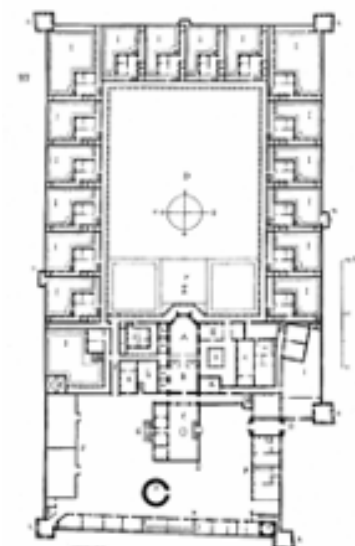
- Carthusian

- Cistercian

- Benedictine

Self-Assessment Questionnaire 2.
Advanced level

4.

Question: Organize the aspects below into three blocks.

1	**2**	**3**
Block 1. What defines a Benedictine monastery	Block 2. What defines a Cistercian monastery	Block 3. It doesn't belong to a monastery

3
Wall to which prayer is directed

3
Patio for ablutions

2
Two refectories

2
Temple divided into two sections

3
Prayer room with numerous ships

1
A single refectory

3
Tower of homage

3
Tower from which prayer is called

2
Transverse refectory to the cloister

2
Existence of an alley for laypeople or converts to access the church

1
Unrified temple

1
A refectory parallel to the church

Appendix 3

Satisfaction assessment tools with the teaching-learning process

REGISTRATION SHEET
FOR THE EVALUATION OF COMPETENCES IN THE LESSONS OF THE MONASTERY

NAME	
SURNAME	
DATE OF BIRTH	
WORKING SITUATION	
TYPE OF TRAINING ACTIVITY	
CITY	
COUNTRY	

Evaluation criteria are measured on a Likert scale of 1 to 5 where 1 means nothing and 5 totally.

EVALUATION CRITERIA	RATING SCALE					IMPORTANCE
1. Identifies the characteristics and elements that make up the medieval monastic sets.	1	2	3	4	5	
2. Recognizes the vocabulary of the proposed topic.	1	2	3	4	5	
3. Differentiates the characteristics and elements that make up the Benedictine and Cistercian medieval monastic ensembles.	1	2	3	4	5	
4. Contrasts the characteristics of the Benedictine medieval monastic ensembles with those of Cistercians and those of other architectural typologies of this period.	1	2	3	4	5	
5. Generalizes the characteristics and elements of medieval monastic ensembles to common references	1	2	3	4	5	
6. Classifies the characteristics of medieval monastic sets and their main variants according to given categories.	1	2	3	4	5	
7. dentifies in an image of a medieval monastery the characteristics and elements established as its own.	1	2	3	4	5	
8. Applies theoretical knowledge on the characteristics and elements of a medieval monastic ensemble and its main variants to the identification of images.	1	2	3	4	5	

SATISFACTION QUESTIONNAIRE
WITH THE THEMATIC UNITS
ON THE MONASTERY

NAME	
SURNAME	
DATE OF BIRTH	
WORKING SITUATION	
TYPE OF TRAINING ACTIVITY	
CITY	
COUNTRY	

Closed Questions are presented on a Likert scale of 1 to 5 where 1 means nothing and 5 totally.

EVALUATION CRITERIA	RATING SCALE				
1. In your opinion, the objectives of the subject have been clear.	1	2	3	4	5
2. At your discretion, the concepts worked on in the subject have become clear.	1	2	3	4	5
3. In your discretion, practical activities have helped to understand theoretical concepts.	1	2	3	4	5
4. The feedback given by the avatar has been accurate.	1	2	3	4	5
5. The expectations you had when you enrolled in this course have been met.	1	2	3	4	5
6. At your discretion the use of the VLE virtual platform has helped in the learning process.	1	2	3	4	5
7. The degree of overall satisfaction with the activities carried out has been	1	2	3	4	5
8. You would recommend doing these activities.	1	2	3	4	5
9. Do you think it is appropriate to remove something in the activity on the monastery?					
10. Do you think it is appropriate to include something in the activity on the monastery?					

Glossary

Glossary

Generalization activities: These are learning activities that have a similar structure to the activities that have served as the basis for learning, although including varying degrees of difficulty.

Advanced Learning Technologies: A methodology that is based on the development of learning from the use of Technology 4.0 resources.

Lifelong learning: This references the acquisition of knowledge that a person engages in throughout life, can be in a regulated or unregulated mode.

Self-Regulated Learning: A methodology that facilitates learning from personal or technological resources that guide the learner during the learning process.

Project-Based Learning: A learning methodology that focuses on learning development from the resolution of a task, problem, or project. It is carried out in a collaborative environment and involves the implementation of theoretical knowledge applied to the resolution of a practical task.

Effective learning: Refers to achieving secure, deep, continuous learning in addition to being correct.

Personalized learning: A learning design that is based on the adaptation of learning content to the characteristics of the learner related to their learning style and prior knowledge of the subject matter.

Significant learning: Focuses on the acquisition of knowledge based on the construction of learning and not simply on memorization.

Avatar: An animated figure that regulates the learning process.

Self-assessment: In learning environments, the assessment that the learner themselves performs about the process and product of their own learning.

b-Learning: Learning that takes place in virtual environments or platforms in combination with face-to-face learning spaces.

Non-regulated education: A type of teaching that is not aimed at obtaining official qualifications for professional development.

Regulated education: A type of teaching that is aimed at obtaining official qualifications for professional development.

Sustainable education: The planning of personal and material resources from the principles of non-duplication and optimization.

Continuous evaluation: A type of systematic evaluation that is based on an evaluation of the learning process and not just the product.

Formative assessment: A type of systematic evaluation in which the teacher gives feedback to the learner on every relevant aspect of their learning process.

Summative assessment: The feedback the teacher gives the learner about the final learning product.

Process-oriented feedback: The feedback that the teacher or learning manager gives the learner about the execution of the task that focuses on giving information to about the entire learning process (start-development-final) and not just about the product or end result.

Gamification: A learning methodology based on the use of serious games usually in technological environments.

Digitizing tools: Resources based on learning techniques using new technologies that serve to present tasks from multiple channels (visual, auditory, text, or interaction between all of them).

Heteroevaluation: Evaluation is carried out by different personal or technological agents on a learning process or product.

Social inclusion: Refers to providing resources that provide access to standardized learning environments to different people regardless of their personal and social educational needs.

Interdisciplinary: Referring to collaborative work teams composed of professionals from different disciplines. Interdisciplinary work makes it easier to achieve a more complete product which will be more useful in social application.

Learning Management System: Learning managers implemented through interactive and modular learning platforms such as the Moodle environment.

Motivation: The student's interest in the learning process and the achievement of satisfactory results, it relates to intrinsic motivation based on self-effort.

Teaching-learning process: The interactive process between the teacher and the learner throughout instruction. This process can be enhanced in face-to-face or non-face-to-face mode through the use of technological resources.

Evaluation rubrics: An evaluation methodology based on the establishment of evaluation criteria for the competencies to be acquired by the learner. The measurement of competences is based on the use of a scale that can be quantitative or qualitative or both.

Self-Regulated Learning: A learning methodology based on the personalized construction of learning through self-regulatory resources whether human, technological or both.

Bloom Taxonomy for the Digital Age: Based on Bloom's original classification of varying degrees of learning in relation to the development of cognitive and metacognitive competencies that include learning terms of the digital age.

Smart Tutoring: Involves a personalized tutoring process through the use of technological resources.

Virtual Learning Environment: Learning managers or LMS.

Abbreviations

ABP Aprendizaje Basado en Proyectos
ALT *Advanced Learning Technologies*
LMS *Learning Management System*
SRL *Self-Regulated Learning*
SmartArt *Self-Regulated Learning in SmartArt*
VLE *Virtual Learning Environment*