



TRAINER'S MANUAL



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ΧΑΡΟΚΟΠΕΙΟ ΠΑΝΕΠΙΣΤΗΜΙΟ
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THREADS CROSSING THE WARP

Trainer's Manual

INTRODUCTION

The purpose of this manual is to highlight the true knowledge of the weaving art through combined information from different countries of Europe.

It is no coincidence that according to Greek mythology weaving is the first art taught to people, by Athena, the Goddess of Wisdom. It is an art that is inextricably linked to the history of humankind and the evolution of human societies.

Weaving as an art has a rich tradition, but also a healing power as it "coordinates breathing with heart rhythm" (Kitsos Makris, Greek Folklorist, 1917-1988).

This manual aims to combine:

- Information from different European countries about weaving that uses local raw materials according to local tradition,
- A method for easy dissemination of information to different population groups (general population, socially vulnerable groups),
- Methodology for the implementation and training of integrated education/training programs in Weaving,
- Information on all stages/processes of weaving, through a holistic approach, worthy of its importance as part of the world intangible cultural heritage.

The major ambition is for this manual to systematically highlight the value of the weaving art, contributing to its rebirth and the systematic and documented record of experience and knowledge in this field. Unfortunately, the weaving art due to the social and economic crisis in recent years, is in danger of extinction, at least in our country.

Weaving as an art has rich history and tradition, but at the same time it also has sustainable future, a central element of the program we are implementing. Without exclusions, with respect primarily to the tradition of each country and the creative power of humankind, we aspire to Weaving having a future worthy of its past. Our vision is to bring Weaving back to the forefront as a living organism and not as a museum object.

1. THE ART OF WEAVING

History of Weaving



Weaving is one of the oldest decorative arts. It is a means of artistic expression, which also has a practical utility and which has been used for trade purposes since antiquity. Furthermore, as textiles have been spreading representations, symbols and images, they have always

depicted the cultural and social conditions, aesthetics, values and the way individual populations have lived in different periods of time.

Weaving has been practiced since the Neolithic era –some scientists even believe it was known since the Paleolithic era - as it has always been associated with human life. Like food, clothing has been a basic human requirement for survival. And woven fibers could provide some comfort, even in the primitive man's shelter. That's how weaving emerged, as the effective conversion of fiber into yarn and then yarn to fabric and that's how it gradually developed as one of mankind's fundamental technologies.

Not much is known of its origins, while there are only few remnants of tools and fabrics from the ancient times, due to their fragility and easy wear. In Greece, for instance, the climate of the Aegean area hinders the preservation of fabrics. The opposite happens in Egypt, where drought favors it, or in Central and Northern Europe, where fabrics are kept in humidity due to lack of air. The few fabrics that survived in Greece were usually found next to objects made of copper -such as weapons- and were preserved due to oxidation effects.

At first, man used to knit coarse linen fabrics with needles. The most ancient needles have been discovered in *Denisova Cave*, Siberia, and date 50,000 years back.

Respectively, the first dyed flax fibers, found in a prehistoric cave in Georgia, date *36,000 years* back. Among the oldest traces is also a figurine of Aphrodite "Venus of Lespugue", that dates *25,000 years* back and was discovered in southern France, in the Pyrenees; it depicts a fabric of a skirt made of twisted fibers. Finally, remnants of very fine linen and cordage have been found in *Guitarrero Cave*, Peru, dated *between 10100 and 9080 BCE*.



Archaic Roman Loom. Photo by Wolfgang Sauber, Museum Quintana Webstuhl Germany. Urnfield culture (1100-800 BC). Reconstruction of a loom.

Through time and with the experience acquired, man invented the first loom. The *first loom weights* have been found in Catal Huyuk, an ancient city in *Anatolia*, dating back to *7000 BC*. The use of the warp-weighted loom remains till present, although its particular form may have varied through the ages and locations.

The oldest archaeological findings of textile work are made of linen and were discovered in tombs in ancient Egypt, *in Tarkhan and Fayoum*, dating from around *5000 and 4000 BC*. Furthermore, a loom representation was also found on a

terracotta slab, dating back to *4400 BC*, as well as a *horizontal ground loom*, an item that first appeared around *3000 BC*.

In Greece, the oldest traces of weaving discovered, correspond to *basket weaving*; they date back to *6000 BC* and were found in the Neolithic settlement of *Nea Nicomedia*, in the North, one of the oldest human settlements in Europe. Other archeological traces discovered in the prehistoric Aegean are related to flax (seeds, fabrics) and wool (bones, fabrics, figurines). Typical of the latter is a neolithic clay figurine of a woman with an infant in her arms, dated back to *4800-4500 BC*, on which, patterns of the decoration probably reflect creations of the textile art.

Heading towards the historical era, the art of weaving flourished.

In Mesopotamia, wool was the basic raw material and weavers proved highly skillful. Processing the yarn and weaving were women's responsibility, while men dyed the fabric; large rectangular pieces, which they wrapped around the body. Jews also used to weave, using raw materials from plants, as well as hair from goats and camels' skin. From Mesopotamia, Phoenicians spread weaving within the Mediterranean populations.

In Egypt, flax was the predominant raw material. Weavers developed various techniques, manufacturing light and often transparent linen fabrics.

Weaving was also practiced by Aegean Civilizations. Minoans used flax and wool, also implementing various techniques on their *vertical loom*. Their fabrics were known for their delicacy and fine quality.



Weaving developed particularly in ancient Greece, where it held an important place in the life and social role of women. Weaving was part of housework and the duty of women and slaves, who prepared all textiles needed to cover family needs. Gradually, this

handicraft developed into

a type of cottage industry, carried out in specialized workshops, which, in turn, developed into powerful guilds. Textiles were exchanged in the context of trade, which had started flourishing.



*Recreated loom with ancient loomweights from Aiane
Archaeological Museum of Aiani/Aιανή, Kozani, Greece*

In that period, the *traditional vertical loom with the warp, held by stone and terracotta weights* and dating from the *12th century BC*, was technically perfected. Ancient Greeks made excellent quality fabrics from wool and linen. They added decorative, colorful designs by painting, embroidery or weaving. Garments were also decorated with geometric shape patterns or trimmed with colorful border designs.

The importance of weaving in these early societies is also reflected through the depiction of *Heroic Mythological women as weavers and Goddesses* protecting the craft. The

Egyptians worshipped *Neith*, weaver goddess and symbol of

the eternal feminine and nature. The Germans turned to *Freya, Frigg* and *Hulda*. The Ancient Greeks proclaimed *Goddess Athena* patron of weaving. According to myths, she was challenged by a skillful and arrogant weaver, *Arachne*, and punished her by transforming her into a spider. The Ancient Greeks also believed in the *Three Fates*, Goddesses-weavers, who processed and cut the thread of life, thus determining the evolution and duration of human life. Poet Homer also praised *Queen Penelope*, who weaved during the day and unraveled at night, awaiting the return of her beloved husband Odysseus.

Weaving reached its peak in the Byzantium, where real masterpieces were created. Imperial workshops were famous for their high-quality textiles; woven tapestries and richly embroidered fabrics, with decoration that often include figurative scenes.



Altar Cloth or Podesa | Byzantine | The Metropolitan Museum of Art

Embroidered religious scenes were also used for vestments and hangings. They used silk threads in bright colors, adorned with gold threads and their decoration was so elaborate that resembled embroidery. Textiles were state property and were intended for the emperor, the court, rich churches, as well as foreign rulers, to whom they were offered as gifts in the context of diplomacy.

Constantinople became the first significant silk-weaving center in Europe. Silk was one of the most important commodities in Byzantine economy, used by the state both as a means of payment and diplomacy. It was originally bought from China, raw. When, later,

during the reign of Justinian, silkworms were brought in, the process expanded and developed into imperial monopoly; processing was carried out exclusively in imperial factories and sold only to authorized buyers.

After the capture of Constantinople in 1204 by forces of the Fourth Crusade and the establishment of the Latin Empire in Byzantine territories, Byzantine silk industry decreased. Crusaders brought Byzantine works of art to Europe and in 1147, they even captured weavers of silk workshops of Corinth and Thebes along with their equipment, establishing workshops in Western Europe.

At the same time, in the Islamic world, where religion requires that “faithful” people are covered down to the ankle, the need for cloth production was increased. Weaving was performed by skilled craftsmen instead of slaves. *Looms became more advanced, as pedals were incorporated* to facilitate the operation.

In the early Middle Ages, most fabrics were woven at home for family use. By its late period, most fabrics were made by professional craftsmen and purchased through trade. Until the *12th century*, the *loom* used throughout Europe was that with a *vertical frame*.



European style horizontal loom, circa 1800, at the Millicent Rogers Museum

Since then, and especially during the period of Byzantine great prosperity, the *horizontal counter-balance loom* started being used and its technology has not changed much till now. For many centuries weaving tools remained identical; *horizontal looms* were used *for fabrics, while tapestries and carpets* continued to be woven on the *vertical loom*.

Yet, as these looms were very expensive, weaving became a profession. The craftsmen who possessed equipment were self-employed. Those who could not afford

it were employed by workshops, this being

the first step toward factories with hourly wage laborers.

The Industrial Revolution changed the picture. In 1733, *John Kay* invented the *flying shuttle*, which enabled weaving of wider fabric, whereas it made it faster as well. At the same time, the opening of Bridgewater Canal in 1761 allowed unlimited cotton supply in Manchester. The *first factories for weaving* were built in 1785. In 1786, *Cartwright* patented the first mechanically driven chassis, driven by a steam engine, which formed the basis of industrial production.

The most significant invention in the textile sector may have been the machine by Frenchman *Jacquard* in 1803. This device fitted to the loom and allowed automatic movement of single warp threads by means of a perforated card. It thus simplified the process of manufacturing textiles with complex patterns, but also reduced the need for manpower. Despite the negative reactions, it soon became widespread. Printing was carried out with natural dyes at first, while synthetic dyes appeared in the second half of the 19th century.

Ever since, textile industry has developed tremendously and seems to be wiping out handicraft. Thus, today, efforts are being made to revive the traditional art of weaving and develop employment opportunities. Personalities, Institutions, International Organizations and the States themselves have realized the significance of intangible cultural heritage and elaborate measures, in order to breathe new life into it.

Weaving is not only related to household economy and local trade; the materials, the designs and the weavers' techniques have a lot to reveal; not only about the use of individual textiles, but basically about the lifestyle, the aesthetic standards and the values of each era. The loom is a tool of culture and its products are unique specimen of each country's folk culture. That's why every country should focus on rejuvenating, enhancing and highlighting the traditional cultural experience. The art of weaving has a future.

Weaving and Economic Life

The art of weaving has existed since antiquity, as the primitive man needed clothing to protect himself from cold and a comfortable place to rest. Over time, weaving evolved into an art, which enjoyed great commercial value and in which, a significant part of the

active population of countries was occupied. Today, weaving represents people's tradition, while, it is associated with the fashion industry.

The beginning of weaving dates back to the *Neolithic era*, at the end of which, man settled permanently in specific areas, creating the first -somewhat organized- societies. That's when he made the first loom, replacing the needles he used to knit his initial linen fabrics.

Weaving, using raw materials from plants and animals, became known among Mediterranean populations. In ancient Greece it developed significantly. It was the women's duty and responsibility to produce fabrics for the family. In wealthy houses, slaves were taught to handle the loom and, apart from household needs, their delicate textiles were intended for presents to prominent personalities.

Through time, this domestic occupation developed into a sort of cottage industry and soon, specialized textile workshops popped up, in which slaves and freed former slaves worked day and night. Workshops gradually evolved into strong guilds and textiles were exchanged for other goods in the marketplace. *Weaving was no longer performed solely for self-consumption. The commercial aspect had interfered.*

Weaving had a prominent position in ancient society, which is why ancient Greeks had appointed Goddess Athena as its protector. Weaving was also particularly important for the economy of City-States, as revealed by Palace's efforts to control production and distribution of raw materials and textiles. Thus, in most Cities, the Authorities had established a system of detailed inventories and administrative control of raw materials -mainly wool and flax- quantities, while they even controlled craftsmen and the entire production cycle. They also imposed taxes on production, decided what quantities would be distributed to various professions and finally, exported any surplus within the area of the East Mediterranean.

The significance of weaving in local society is also revealed by the fact that *40% of the population* was, apparently, permanently employed in weaving. Furthermore, the fact that textiles had a *very high exchange value* in the marketplace, ranking third after gold and copper, also proves the importance of weaving in economy. No wonder why, poet Homer wrote that "talented weavers were the most valuable spoils of war".

Romans followed weaving tradition and, from the 4th and 5th century B.C., they established large state weaving mills and enacted through legislation craftsmen's

remuneration, according to their gender and raw materials they processed. Once again, weavers were mostly women.

In Egypt weaving must have been a male task, possibly as the differently constructed handlooms, required muscular strength. The value of textiles was once again recognized and, from the 2nd century B.C., the State imposed special taxes on textiles. It is also possible that raw materials were a state monopoly.

The art of weaving was also developed in the Muslim Caliphates. Textile workshops operated in palaces and apart from covering their own needs, they also created luxurious fabrics, decorated with epigrams and religious symbols, intended as diplomatic gifts to foreign rulers and eminent people.

Textile industry also flourished in the Byzantium, especially after the introduction of silkworm from China. Women covered household needs, while slaves used to weave for feudal lords. Free craftsmen also existed, organized in guilds, who exchanged their textiles in the marketplace.



Weaving reached its peak in Italy (Florence, Venice, Parma) during the 14th century and in France (Lyon) in the end of the 16th century. In the end of the 17th century, French weavers moved to England because of the wars and contributed in the development of textile industry. The famous cashmere was then created.

The handloom was soon to be threatened. The first machinery was invented around 1801 by the French weaver *Jacquard* and since then, the picture has changed radically, laying the foundations for the development of the textile industry.

During the Industrial Revolution, in mid-19th century, countries acquired colossal textile mills, producing huge quantities of fabrics in various qualities and designs, including prints. The majority of workers remained women.

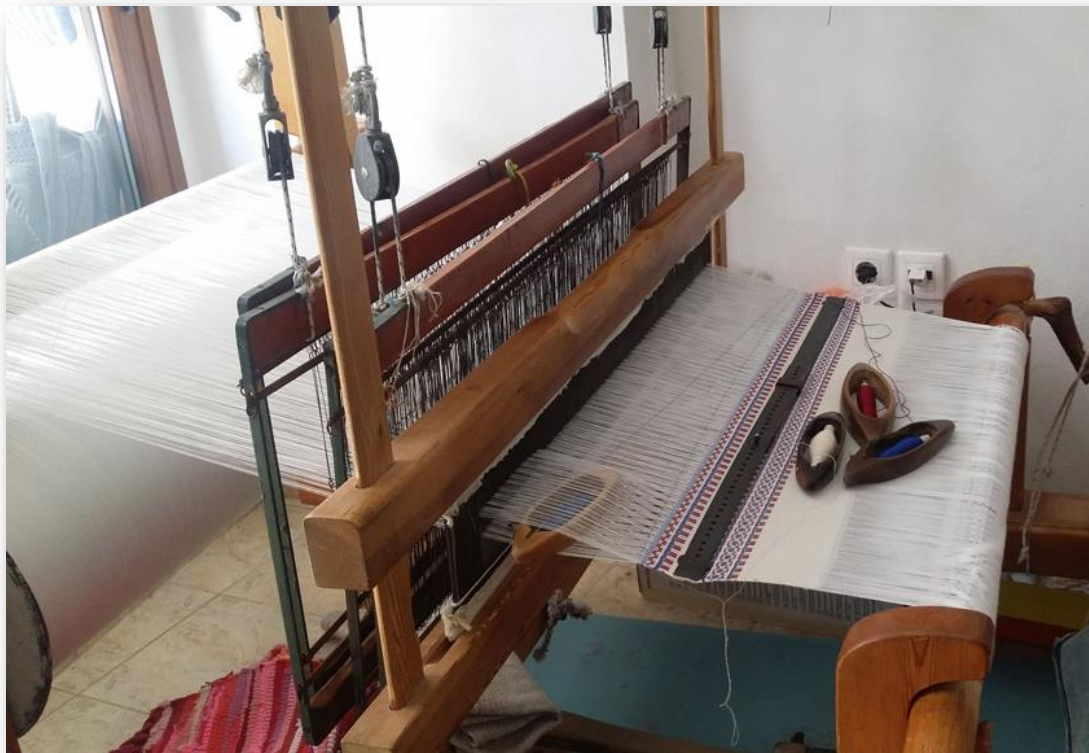


The Industrial Revolution was followed by gradual concentration of wealth in the hands of few, who controlled the industrial production. Organization and refinement of the industrial process, as well as the use of high-efficiency machinery, produced standardized products, in large quantities and at significantly lower production costs. It was now profitable for everyone to buy from the marketplace. Small production units were consequently dismantled and their means of production were absorbed by large industries. Soon, textile production was concentrated in urban centers, while provincial weaving was largely abandoned.

A representative example regarding the evolution of the art of weaving and textile production, we can find in the case of Greece.

The art of weaving remained, for centuries, common practice in the Greek villages, where high quality raw materials – wool, flax, cotton and silk – were abundant from livestock and the flora. The girls were trained on the loom from an early age and helped weave their dowry. The inherited tradition passed down through generations dictated the whole process as women's duty and responsibility. Even legal documents of that time clearly state weaving as women's profession.

In the 19th century, weavers started working for third parties, rich families and merchants, for a fee. The quality of fabrics deteriorated, as they mixed ready-made wool with cotton.



Greek Loom Weaving Tradition in Naxos- ELaiolithos Luxury Retreat in Naxos

Weaving soon developed into small-scale *cottage industry*, with family members selling fabrics in the marketplace or operating as *subcontractors* to larger companies. They were numerous; in 1989 it was estimated that 100,000 households were operating throughout Greece, apart from those included in the national inventory. These cottage

industries and small-medium enterprises *play a significant role in state economies*, especially *developing* ones, which may *lack the capital and financial systems* to support larger industries.

However, after the 1st and 2nd World War, large textile industry started developing. Government, in an attempt to protect it against foreign competition, imposes custom duties since 1924. Industrial products were offered at low cost, standardized, without losing their artistic character. New designs were also developed satisfying customers with their innovative style.



Industrial production prevailed, due to the high efficiency of the machinery. The ratio of performance between machine and manual work, in terms of quantities produced, was estimated at 1:50 for wool processing and 1:70-80 for blankets' weaving. In terms of value, the annual industrial textile production was estimated to be 10 times higher than the villages' domestic production. Inevitably, machines replaced manual labor in all stages of processing and weaving. They also allowed tasks allocation, as craftsmen were only assigned a single job, unlike village women, who were responsible for the entire process.



This led to the segmentation and specialization of the whole process and to the construction of spinning mills, steam dyes, washing machines and separate weaving mills for individual raw materials. The industry flourished, processing most of the entire domestic production of cotton, silk and wool and imported additional quantities as well.

It is noteworthy that the whole textile production and trade in Greek textile industry was controlled only by two companies; the first company possessed 57% and the second

22% of the total quantity of industry looms.

Yet, over time, the domestic textile industry began to decline as it was unable to compete with the production costs of foreign competitors who were favoured by the abolition of tariffs due to European Union regulations. The textile industry requires large amounts of funds and big investments in order for the production to remain up-to-date and competitive, in terms of quality and cost/machine performance. Furthermore, appropriate management practices, organization and adoption of contemporary methods and techniques are necessary.

Meanwhile and due to the evolution of the industry, the activity of small-medium enterprises declined. The industry almost wiped-out handlooms, a fact that contributed to the low family income in poor agricultural and livestock regions and island villages.

The displacement of home weaving aroused the concern, not only of those involved, but also of intellectuals, who launched a campaign to revive and promote weaving and folk art in general.

Nevertheless, small and medium enterprises remain significant, with an irreplaceable role in the socio-economic development of countries like Greece, while, they cover gaps in production and market supply, which cannot be filled by large units alone. Indicatively, they ensure additional income and employment, particularly in rural areas, that suffer from abandonment. They cover needs of local markets that large companies cannot reach. They utilize local raw materials, even if available in small quantities. The products

produced are unique, require special skills and are labor-intensive. These products meet the requirements of upper-class social groups for unique quality and design. They also operate as subcontractors of large enterprises, producing and supplying them with parts of final products, which are cheaper to produce in small or medium-sized enterprises.

Weaving and handicrafts have a future. The current Government has included them in the Greek National Development Plan, aiming at their revival, evolution and promotion. The program will create new jobs and develop a new generation of craftsmen with vocational training, certification and international networking. And this should be implemented, because they are a valuable and integral part of peoples' cultural heritage. Weaving and handicrafts are dynamic activities that can open up huge cultural and economic prospects for local communities and can be proven to consist a great development opportunity for national economy.

Weaving and people with developmental disorders



VTC Margarita-Weaving Workshop

It is no coincidence that organizations that are engaged in the vocational training and employment of adolescents and adults with developmental disorders (mental disability, autism, etc.), included Weaving Workshops in their activities from the very beginning. The operation of weaving workshops in organizations such as IPAP LABORATORY in Attica, but also in institutions of the province such as Zoodochos PIGI in Heraklion, “AGIA THEODORA” in Arta, reflect the educational and therapeutic character of this art.

Weaving as an activity is characterized by:

- Repetitive movements and procedures in a specific order and sequence that lead to a tangible result
- Practice of fine and gross motor skills
- Need for visual motor coordination
- Development of concentration ability in a specific object
- Creativity
- Systematic practical application of specific learning achievements (arithmetic, colours, right / left, up / down, shapes, etc.)
- The ability to analyse a process in individual stages, which facilitates the involvement of people with lower skills or specific difficulties
- Collaboration and team spirit in the production of the final result, due to the many different stages
- Immediacy in the production of the final product, since whoever weaves sees immediately the result of his work.

For these reasons, there is a purpose for the inclusion of several weaving workshops in organizations that provide services to people with developmental disorders. Craftsmen or trainers in these workshops are weavers who were trained mainly in EOMMEX (Hellenic Organization of Small & Medium Sized Enterprises & Handicrafts) or in private bodies or learned the art in their family environment. The contribution of occupational therapists in the workshops, focuses on adopting the necessary adjustments and organizing the work according to the needs of the participants.



Κατάλογος ΧΑΛΙΑ ΕΟΜΜΕΧ | Γενική Γραμματεία Βιομηχανίας

The products produced in these workshops are mainly: rags, rugs, fabric for various creations (bags, wallets, decorative patterns), useful objects (e.g., bookmarks, coasters, placemats, etc.), carpets (mainly previous decades), traditional costumes etc.

These products are available in Bazaars organized by these organizations, in sales outlets of the organizations themselves or in the premises of private customers (individuals or associations), who place specific orders in the workshops by choosing design, colour, material and dimensions.

In recent years, there has been an attempt to adapt to the needs of the market, but the lack of cooperation with young designers and other specialties from the field of the market and art is obvious; however, such cooperation could give a more entrepreneurial

character to some of these efforts (e.g., creation of social cooperative enterprises with a mixed population).

One of the main goals, is the transition from workshops of educational and employment/therapeutic character to sustainable productive enterprises, utilizing the years of experience and the excellent capability of people with disabilities in this type of work.

A precondition for this is that the development of Weaving as an Art, in collaboration with different professional and scientific specialties, will meet the needs of the market.

2. VOCATIONAL TRAINING IN WEAVING

While acknowledging the essential distinction between Weaving and Textile, in the section of Historical Background on education and vocational training in weaving, reference is made to both sectors. Apparently, they are related to each other, with the second being an evolution of the first, following the industrial revolution, the need for mass production and the mechanization of the means of production.

2.1. GREECE



Historical background

Historically, in our country, vocational training in Weaving was associated with public or non-profit organizations that were active in the field of welfare or in the field of handicrafts, supporting small and medium enterprises.

Unfortunately, this kind of activities has been declining in recent years, due to the generalized and restructuring of the public sector and the consequent suspension of the operation of many public benefit organizations, in the name of economic consolidation with main tool the memoranda implemented over the last ten years.

- National Welfare Organization (former Royal Welfare Foundation)

The Royal Welfare Foundation was established in 1955 and was a successor scheme to the royal family's efforts in the wider area of Welfare, after the Second World War

and the catastrophic for Greece civil war that followed (1946-1949). It was renamed to National Welfare Organization, in 1970.

Among the various activities of the Organization, a program was implemented aiming at: a) the financial and social support of unskilled and financially indigent women in the Greek countryside, and b) the rescue and dissemination of Greek traditional art in the field of carpet weaving and embroidery" ¹. Indicatively, by the end of the 1990s, there were about 60 schools throughout Greece, which employed around 800 women while another 2000 were engaged in embroidery in their homes. These women produced knotted carpets, rugs, embroidered rugs and pillows, tablecloths, towels, etc., inspired by the ancient Greek tradition, using wooden manual looms. These products were given either to the local market or to the EOMMEX shop. The National Welfare Organization merged in 1998 with other welfare institutions abolished over the next decade.

- EOMMEX (Hellenic Organization of Small and Medium Size Industries and Handicrafts) was created in 1977, as a result of the merge of two public organizations - EOEX (National Organization of Greek Handicrafts) and KEBA (Centre of Handicrafts Development). EOMMEX was transformed into an SA in 1997 and was merged with and "absorbed" by the National Fund for Entrepreneurship and Development (ETEAN/Hellenic Investment Bank) in 2011.

Continuing the work of the two previous organizations, EOEX and KEBA, founded in the 1960s, EOMMEX's main purpose was to support and promote Greek Handicrafts and facilitate the development of small and medium enterprises in this field. Emphasis was also given to the training of young self-employed professionals in handicrafts, implementing Experimental Weaving Workshops, Metalwork and Wood Carving in Tavros, Attica. Like its predecessors, it published magazines, books and albums on traditional arts, beginning with "Weaver from Thessalia" in 1961 (published by EOEX and edited by Kitsos Makris).

At the same time, the carpets produced by women from the local schools of handicrafts were available for purchase in the exhibition/shop EOMMEX operated in a central part of Athens, while the organization also functioned as a promotional mechanism for the creations of Greek craftsmen in Greece and abroad, from the 1960s until 1990. EOMMEX was also the last organization provided systematic teaching in weaving technics and many of the current textile teachers have graduated from its workshops.

Unfortunately, in the name of the consolidation of the Greek economy, the organization's activities ceased in 2011 and its assets left to be handled by a state company without further supervision. Thus, Greece is essentially deprived of a public organization that promotes traditional arts, being rather an example to be avoided for the rest of Europe.

- KEGE (Agricultural Training Centres). These Centres were under the supervision of the Ministry of Agriculture (Ministry of Rural Development and Food today) and started in the 1950s (Law 1643/1951). Among their various activities a number of vocational training programs in traditional arts in areas such as weaving, handicrafts and folk art were implemented. In the early 1990s, there were 71 KEGE in all regions of Greece, which also implemented the EEC-subsidized farmers' training programs. The KEGEs were merged with OGEEKA DIMITRA (Law 2520/1997), now the Hellenic Agricultural Organization DIMITRA and are now called DIMITRA Centres, without actually providing services in recent years.

Present situation

In the recent years, vocational training in Weaving is carried out in schools supported and supervised by the Church or the Local Government, such as the Rizareios Ecclesiastical School in Monodentri, Ioannina, the Weaving School of the Holy Metropolis of Fthiotida in Lamia, the School of Weaving in the Municipality of Tavros. Vocational training in weaving is also offered by private sector. Indicatively, we mention the Association ILAKATIAI, the Historic Textile Mill SEN, the University of the Mountains, in Crete.

Several organizations in the field of Special Education, Social Care and Protected Employment for individuals with disabilities offer vocational training in weaving in workshops attended by the beneficiaries.

A promising effort is in progress with the formation of a committee by the Ministry of Development aiming at cultural enhancement and utilization of the cultural heritage, especially Greek handicrafts. Related to this initiative is the establishment of a School of Weaving in Geraki, Laconia.

As indicated from the apposed information, the establishment of Educational Institutions offering certified education and vocational training in weaving, utilizing the existing

experience and knowledge, is essential. These educational institutions must follow a structured curriculum and award the respective certificates of study, integrated either in the formal education system or in the lifelong learning system of the Ministry of Education.

The operation of a university level school in traditional arts, is of utmost importance in order to record the experience and tradition to date and develop systematic scientific research in the field, which will contribute to their development.

The implemented program aspires to contribute in this direction, forming a detailed curriculum, following the appropriate methodology, while bringing together institutions from different European countries with experience in the field of Weaving and Textile.

2.2. ROMANIA



Historical background

The textile cultural heritage in Romania is very diverse and rich both in terms of time span and cultural particularities. The evolution of weaving/ textile industry, as well as the means of transmitting and training in this field is tied to the history of the country which, over time was part of different political, economic and cultural structures.

Archaeological and documentary researches shows that in Romania weaving was performed since prehistoric times. The crafts influenced the Neolithic Revolution, the first technical revolution of mankind which led to the emergence of the social category of craftspeople, which had professional experience acquired through apprenticeship to renowned craftspeople. The teaching of this craft inside the family is practiced at the same time. This craft was developed by the spreading of the treadles loom in the 10-12th centuries, during the modern period it will become a true household industry.

The 18th century and the Industrial Revolution see the transition towards new processes of creating textiles and implicitly towards the vocational and technical education. The first textile factories equipped with industrial machinery appear in the Romanian Principalities in the middle of the 19th century, starting with the movements fighting for national and cultural freedom. In the second half of the 19th century, during the period

of emergence of capitalist economical systems in the villages, the textile craft enters a new stage in its development, the manufactory one that is synonym with the phrase “textile household industry”.

As the textile, clothing, leather and footwear industries develop in Romania, the need for qualified personnel grows. This led to the creation of specialized schools. Therefore, in 1840 in Iași was created the first School of arts and Crafts; in Bucharest the societies like “The Weaver” and the “Silkworm farming School” prepared students in the craft of silk weaving; in Brașov and Sibiu, after 1850, 1880 respectively, functioned girls’ schools which focused on practical teaching based on the household craft, “The school for household industry and cleaning”. At the same time, weaving is taught to girls in the big monastery manufactures in Moldavia and Wallachia; or at the “apprentice schools” where for example well-known craftspeople from Marginimea Sibiului, taught.

The technical textile education in Romania was driven by the laws created before the appearance of Greater Romania: “the Law of Public Education” (1864), the “Law of Secondary and Academy Education” (1898) and the “Law for Vocational Education” (1899). Once big factories like *Wool Industry* in Timisoara or the *Felt Factory* in Bucharest were created, appeared new courses for perfecting the factory workers. At the beginning of the 20th century, once factory production commenced, Romania sees the emergence of new professions. In 1914, in *Cisnădie* a school workshop for cloth making started to function again; it will later become the Industrial High-school for textiles. After the First World War, the superior textile education appears and is developed. Between 1930 and 1940, the textile industry faces the greatest development *since its emergence. Institutional vocational training was done both at the Romanian Universities and at the ones in Europe* (Corneliu Casassovici was the first engineer that had a diploma specializing in textiles, a graduate of the Polytechnic University in Dresden, Germany).

In 1946 in Bucharest, the School for Superior Textile Studies is founded. Numerous technical vocational and for foremen schools, specialized high schools and textile scholar groups appeared alongside secondary technical education. In 1948 all the units and educational divisions of textile superior education merged into the Textile Faculty that functioned for 3 years at the Polytechnic Institute in Bucharest, and later was moved to Iasi and became the Institute for Light Industry. In 1950 the first Institute for Light

Industry Design appeared, and in 1951 the Institute for Textile Research was created. If during the communist period the Romanian textile industry was known as being the most requested one by European brands, after 1990 it declines, many factories going bankrupt or are assimilated by the big European producers.

The development of vocational training and the migration of the young population towards cities, gradually leads to a decline of the apprenticeship and house learning. Traditional weaving is practiced by women in villages out of passion or on request for creating the dowry, etc. Discovered by cultural specialists, they are brought in front of the public at different events, thus becoming today renowned craftspeople, creators and teachers of manual weaving. The enthusiasts of the field attend individual “classes” at workshops/ the houses of the weavers. Today traditional weaving is taught by these people to family members (daughters, nieces) or during classes taught at local schools, in the external classes at Art and Craft Schools, at workshops organized by cultural institutions. After 1990, the institutionalized textile vocational training declines.

Present situation

Today we see a new stage in the evolution of this domain, due to the emergence of unconventional materials, of new advanced technological systems, of the free trading of goods, due to the shift from high consumption to specialized products or from mass production to the personal production and to goods with added value. The focus is on the efficient production of complex textile structures; digitalizing and relaxation of production processes in factories; design and virtual projection of textile material and products; the digitalization of solutions for the whole value chain textiles-fashion-model business. Thus, new branches appear of the textile industry.

Today training is done at Faculties or departments of big Universities: Industrial design, the Technology and design of textile products, Knitting and clothes making Technology, The technology and Design of Leather and leather substitutes products at the “Gheorghe Asachi” Technical University in Iași; The Faculty of textiles and Leather and Industrial Management, Iași; The Department of Textiles and Leather and Industrial Management at the faculty of Energy Engineering and Industrial Management at the University of Oradea; The Department of textile-design Arts at the University of Art and Design in Cluj-Napoca (initially known as the Cluj School of Belles-Arts); The Faculty of Decorative and Design Arts of the National University of Arts in Bucharest.

Today in Romania there is no legal frame for the vocational training concerning the traditional weaving technique taught by specialized teachers but which received their credentials in a non-institutionalized manner. I have documented the emergence of authorized specialized classes under the term “Manual Weaver” (<https://www.cursuriazautorizate.eu/curs-autorizat-tesator-manual>)

ASTRA Museum, through the cultural and educational activities implemented wishes to recognize and promote nationally traditional craftspeople, teachers (traditional weavers) or students/ receptors (students, weaving aficionados).

Today, Romania gradually uses a more participatory approach of the cultural heritage, moving from an institutionalized central one to a more flexible one that is capable to answer the needs and priorities of the community.

2.3. SPAIN



Historical background in Spain

Brief historical retrospective of training in weaving

Our ancestors began weaving with wild fibres and by hand to later cultivate the linen and go through the whole process to obtain the threads and weave with hand looms to reach the industrial clothing.

In this brief review of the history of textiles, the Basque Country has a special place in the history of textiles. It is there where we can consider the oldest textile find with the pieces of fine wool fabric, sewn together, found in the ancient settlement of OIASSO, one of the Roman enclaves. The importance of this finding lies in the difficult conservation of the wool. In San Sebastian, in the San Telmo Museum, we can admire Basque textiles, linked to the history and customs of our traditions.

The weaving industry, a landmark in history

History was highly influenced and marked by the wool textile industry since 13th century.

The banks of the river, in the north of Béjar, served as a stage for the establishment of factories. Arranged in a sort of River Walk, it was given rise to the Route of the Textile Factories. Alfonso X stripped privileges to some of those dedicated to sheep breeding.

On the other hand, the starting of cloth production in large quantities began. Pioneer confection of the textile industry.

Nevertheless, it was not until the 19th century with the outbreak of the industrial revolution that textile production increased notably, and with it the socioeconomic stability. The use of specialized machines, which streamlined the production process, allowed the textile market to spread to several towns. Despite this technological advance, the textile industry was severely affected by the communications system of the entity. The delay in the arrival of the railroad, in 1894, represented a delay in the factories of the riverside.

The railroad was the indispensable means of transportation for moving large quantities of merchandise, machinery, fuel, and any type of solid, heavy and bulky material, as well as for the transportation of ready-made merchandise.

The lack of this means of transportation caused it to succumb to the accelerated growth of textile manufacturing, in relation to other Spanish textile emporiums, such as those of Cataluña and Valencia.

These manufactures, are mostly deserted. However, the aim is to show the new generations how prosperous, this conglomeration of factories was, and the benefits it brought, to the point of becoming an important economic and historical heritage.

Present Situation

CURRENT PROFESSIONAL TRAINING- Nowadays, tradition is still present in contemporary designs produced by artisans. They wanted to find a place in our days, to such an ancient technique with ancestral values and a place in the present, original and contemporary designs. Innovating on their technique, updating their creations, today we can enjoy pieces that have a lot to tell us.

Anna Champeney's Textile Studio is dedicated to innovation in the artisan design of foulards, blankets and cushions. British by origin, Anna moved to Galicia in year 2000 where she established the studio in the Ribeira Sacra.

Creations such as those of Idoia Cuesta, Anna Champaeney, Sonia de Geronimo, etc., ensure that traditions do not remain anchored in the past, but continue to live on. It is

everyone's duty to pamper traditions by adapting them to current times, in order to be able to continue narrating the history. All these artisans are dedicated to training.

Weaving Vocational Training in Spain

Vocational Training: TEXTILE, MANUFACTURING AND LEATHER

Professional Area: THREADS AND FABRIC PRODUCTION

Specialty in training: Loom weaving.

General Objective: Once completed the course, the participant will be able to produce fabrics on openwork looms in an autonomous and responsible way, handle different types of looms, supervise and control the operation of the looms, pass and knot warp threads, repair weft stoppages, unweaving if necessary, repair small breakdowns and take care of the maintenance of the looms, maintenance of the machines, knotting warp yarns and passing reeds.

2.4. ALBANIA



Historical background in Albania

Albanian culture is a term that embodies the artistic, culinary, literary, musical, political and social elements that are representative of Albania and Albanians. Albanian culture is significantly shaped by the geography and history of Albania.

It grew from that of the Illyrians, with their pagan beliefs and specific way of life in the wooded areas of distant Southern Europe. Albanian culture was also influenced by the Ancient Greeks, Romans, Byzantines and Ottomans.

For centuries, peasant women in Albania have occupied themselves with weaving various types of cloth to use for wearing, or as household equipment (mattresses, towels, beddings, covers, napkins, table-cloths).

Kruja is renowned for having some of the best weavers in Albania. These fabric magicians weave cloth, drapery, and carpets with the greatest mastery, using stunning colour combinations, especially the red and black of the national flag.

Art and culture are regarded as two phenomena which have co-existed not only among themselves but also along the path of civilization of human society. In general, they are analysed not only as indicators of human, individual or collective content but also as the universal activity of mankind.

Albanian women are known for their handicraft skills, which have been inherited from generation to generation. Carpets and rugs, sweaters, socks and gloves made with local natural raw materials.

In Albania, woollen textiles, like carpets are produced with a series of different techniques, were widely used and carried a great many local features which made the works of one region distinguishable from those of another.

Historically, the first beginnings of handicrafts should be sought in the rural population, as a form of social organization since the family community, as a group of people with blood ties, in the female line or later in the male line.

Present Situation

The degree of development through socio-economic formations was expressed through productive forces and relations in production.

Nowadays, these handicrafts have turned into business, mainly in family business. If once folk costumes, embroidered works, were produced only for personal use, now they are produced and sold in different countries of the world.

We can say that embroidery, weaving, and other handicrafts, affects personal development, also affects the economy, thus adding even more value to these handicrafts. Also helping this old tradition to be known as much as possible in other countries.

2.5. PORTUGAL



Historical Background

Weaving is known for being one of the oldest forms of crafts still present today. There are indications that weaving was already known in the Paleolithic era. About 12.000 years ago, in the Neolithic Era, men had already used the principle of weaving, weaving small branches to build barriers, shields or baskets. Spider webs and bird nests may have been the sources of inspiration for such work. Since this technique was already known, it is very likely that primitive man began to use new materials to produce the first rustic fabrics and clothing.

Through the years, different approaches came, and the work changed to a softer way, even though with the same tools. In the 80's, there were products that were very easy to sell but they weren't very easy to make so through the years, people started also to substitute them for more industrialized products such as carpets. Older items had more details, for that, they were expensive; nowadays, people prefer items that are simpler and have less arabesques so, to simplify, more details equal more work and more time to create, but less products so less selling.

Since the 90's, several institutions gave, the possibility to, people with disabilities, acquire the professional knowledge for them to develop an activity that gives them personal fulfillment and social inclusion, based on skills and efficient performances, that manifest itself through each work. This possibility came from the idea of the power of weaving as, also, a way to promote the individual skills so, qualifying them, was the starting point.

Since always, the formative path for traditional weaving wants the trainee to deepen their techniques and procedures concerning to the research, preparation, and production of tapestry, using high and low-heel looms as equipment on the development of tapestry work. The final part of the formative path includes the trainee being able to execute with autonomy the finishing parts, always searching for products that are useful. The skills of conception and realization of projects of traditional weaving are supposed to be developed to its fullest, and all of the formative path focus on the development of skills that allow an active management of the activity and a proper disclosure of the created work. In any formative path about traditional weaving, there are different

formation units that need to be considered such as: principles of handmade tapestry, artisanal tapestry materials and utensils, fiber treatment techniques for weaving, preparation of raw material for weaving, handmade loom tapestry, interlacing techniques of various types of knots and points and traditional handcrafted tapestry execution.

In Portugal, weaving is more prevalent on the north part of the country because of its raw materials. For example, on the north we have around 30 different places, in the center around 8 and on the south, around 2, but all of them with several raw materials such as wool, linen, cotton, silk and shreds. Hand weaving takes the form of bedspreads or bedcovers, blankets, tablecloths and hand towels, carpets and traditional costumes, namely from Viana do Castelo. The textile language comprises several aspects such as color, texture, motives and patterns, linked together, they have aesthetical purpose, and frequently result in items of great artistic richness.

Technical and professional education emerged in Portugal in the second half of the 18th century by the hand of Sebastião José de Carvalho e Melo (Marquês de Pombal), as Secretary of State and Minister of the Kingdom (1750 – 1777). During his tenure, Pombal, influenced by the Enlightenment, was responsible for major political, administrative, economic and social reforms, namely by Education, previously dominated by the Jesuits (Companhia de Jesus - Religious Order) who favored Formal Education, free education and open to all social classes.

Its main objective would be to boost the economy and recover the country from the backwardness in which it found itself, compared to other countries in Europe, namely England, the country where he was on a diplomatic mission.

In this sense, it sought to industrialize the country, founding the Companhia dos Vinhos do Douro and encouraging agricultural production and shipbuilding, imposing high taxes on imported products (Seco & Amaral, 2002).

With regard to Education, the change involved the definition of an Educational Reform and Policy that became the responsibility of the State.

More precisely for technical-professional education, through the 19th of May 1759 Permit, he established the Aula do Comércio (1759-1844), considered the first official school for teaching technical-professional commerce in Europe. At its origin would be

the need to train qualified professionals in the accounting area, capable of developing the country's commerce and industry.

In the 19th century, technical education gained more prominence, as a result of the Industrial Revolution, and the following historical milestones stand out (Crispim, O Sistema de Formação Profissional em Portugal, 1999):

- In 1836, the creation of two arts and handicrafts schools, in Lisbon and Porto
- In 1852, the first industrial school, created by the Associação Industrial Portuense
- In 1891 there were already 28 technical schools

In 1929, the reformulation of the organization of schools establishing a school network, consisting of 19 industrial, 7 commercial and 20 industrial/commercial schools;

In 1930/1931 the technical secondary received the first homogenizing reform of the courses;

In 1948, a new educational reform emerged that persisted until the end of the 70s, "technical education becomes a branch of education parallel to secondary education, without horizontal correspondence with it, and not providing direct access to other levels of education" (The Vocational Training System in Portugal, 1999, p. 43). Technical education is then carried out in industrial and commercial schools, offering about 80 courses as a training offer, in which the areas of metalworking, electricity, commerce and women's training were highlighted. This type of education constituted the preparatory cycle with professional guidance lasting two years, followed by a training course that could vary between three to four years. Its completion allowed access to preparatory courses lasting one to two years and later access to Industrial and Commercial Institutes and Schools of Fine Arts, with no possibility for students to continue to higher education, a situation considered as discriminatory (O Sistema de Formação Profissional em Portugal, 1999, p. 43).

In the 1948 reform, new courses of training were also implemented, such as master's degree level retraining courses, complementary to apprenticeships, enabling professional start up.

The educational reforms of 1929 and 1948, resulted in the formation of a system of technical/vocational education parallel to that of general education.

In the 60's, the inadequacy of the existing system of technical-vocational education to retrain the unemployed led to:

1. the creation of the respective OAED, in 1962
2. the creation of the Directorate of Vocational Education, in 1964
3. the establishment of the Vocational Training Service that coordinates the individual vocational training services, in 1968

In the early 70's new specialties were included in technical education, related to textiles, the visual arts and the education of women.

After the Revolution of April 25, 1974 and the democratization of the country, as well as the entry into the EU in 12/9/86, new changes were introduced in the system of technical-vocational education.

In 1992, the National Certification System for Professional Qualifications was created.

In 1997, the Institute for Innovation in Training (INOFOR) was established, which introduced the criteria for certification procedures of professional rights.

Present Situation

Currently, vocational education plays a fundamental role in public education and training policies, namely as a strategy for the country's economic development.

Considering the framing of this type of education, the technical-professional or professional is regulated by the National Agency for Qualification and Professional Education. This entity coordinates the implementation of education and vocational training policies for young people and adults, through the National Qualifications Catalog, an instrument of strategic management of qualifications of non-higher level that integrates the National System of Qualifications.

The strategy of the National Qualifications System is to ensure the relevance of training and apprenticeships for personal development and for the modernization of companies and the economy, while ensuring that investment in Vocational Training is valued for the purposes of educational and professional advancement of citizens , either through

dual certification training, included in the National Qualifications Catalog (CNQ), or through the recognition, validation and certification of skills (Directorate-General for Employment and Labor Relations, 2015).

The double certification is divided into the following Training Modalities:

- Learning Courses
- Professional courses
- Education and Training Courses
- Adult Education and Training Courses
- Vocational Courses (Basic and Secondary Education)
- Technological Specialization Courses
- Professional Higher Technical Courses

The European Policies for Vocational Education and Training define in the Europe 2020 Strategy five goals for growth and employment, namely, Investing in Education, highlighting for Portugal, in the field of Human Capital, the importance of Vocational Training for the acquisition of skills and Learning to Long of Life.

3. ANALYTICAL CURRICULUM FOR WEAVING EDUCATIONAL PROGRAM

Technique and practice theory: 150 hrs

- Origins of weaving – HUA [10 hours]
- History and evolution of the art of weaving (weaving through centuries from antiquity to modern times) – HUA [10 hours]
- Identification of what plants and raw materials were used in making of the earliest textiles – HUA [10 hours]
- Natural thread dying techniques – ASTRA MUSEUM [10 hours]
- The technique of weaving and the known oldest woven textiles – HUA [10 hours]
- The loom and its parts, types of looms, weaving tools – ASTRA MUSEUM [15 hours]
- Fashion, textiles, and tapestry – ASTRA MUSEUM [10 hours]

- Weaving in music/poetry, tales/novels, and folk customs/traditions – HUA, EUT, ASTRA MUSEUM (in collaboration with AFID, COGAMI) [15 hours]
- Traditional use of weaving in different European countries (including Northern Europe) – EUT [10 hours]
- The significance of weaving in culture and economic development – EUT [15 hours]
- The educational value of weaving and personal development – EUT [10 hours]
- The relation of weaving to other practices and knowledge involved in the exploitation of the natural environment – EUT [10 hours]
- The vocabulary of weaving (glossary and terminology) – HUA [5 hours]
- Collection of representative patterns and designs common in the Balkans with photographs and related literature – HUA, EUT, ASTRA MUSEUM [5 hours]
- Collection of books/museums, associations/organisations and stakeholders across partner countries and international - HUA, EUT, ASTRA MUSEUM [5 hours]

Hands on Practice: 450 hrs.

- Introductory lesson – 5 hours

Introducing class members and bonding group activities.

Getting familiar with the workshop.

Making first contact with the looms.

- Raw materials and production methods – 30 hours

Origins and types of yarns.

Natural fibres – animal fibres (wool, silk), plant fibres (cotton, linen) and synthetic fibres.

Quantity and quality of raw materials.

Processing of raw materials (skirting, washing, carding, drying).

Creating roving by hand and hand carding.

Tools.

Museum visit.

- Spinning, spinning tools and yarn dyes – 30 hours

Buying wool (fleece) for spinning.

Spinning weft yarn (Distaff and spindle).

Spinning warp and weft yarn.

Wool winding tool.

Purchasing wool in skeins and preparing it for dyeing samples.

Dyeing process and materials (collecting seasonal plants and drying them).

Purchasing natural – chemical dye mordants.

Purchasing chemical dyes.

Dyeing process.

Tools for winding yarn in spools.

- Getting familiar with the looms – 10 hours

Different types of looms (counterbalance, vertical, frame)

Loom parts and additional equipment.

Museum Visit.

- Preparing the Warp for dressing the loom – 25 hours

Calculating the quantity of warp.

Preparing the yarn into spools for the warping process.

Using a warping board.

- Dressing the loom – 30 hours

Tying the warp on the back beam of the loom.

Threading the heddles.

Threading the reed.

Tying the warp ends onto the front beam.

Swapping back beams with warp on them

- Warping and weaving on a frame loom – 20 hours

- Weaving on a mini loom – 10 hours

- Weaving a rag rug – 60 hours

Choosing fabrics to cut and recycle.

How to cut fabric for a rag rug and turn it in to balls.

Winding the shuttle.

Weaving in plain weave and one colour.

Plain weave using various colours.

Shag weave.

Troubleshooting while weaving.

Cutting and removing the rug from the loom.

Tying the warp ends onto the front beam.

Tying off the loose yarn and warp ends to finish off the rag rug.

- Rug weaving – 140 hours

Plain (Tabby) weave on a two-shaft loom.

Weaving using 2 colours (stripes – pick and pick patterns).

Troubleshooting while weaving.

Shag weaving technique.

Pibione weaving technique.

Overshot weaving technique.

Soumak weaving technique.

Choosing and designing geometric patterns (with the use of millimetre paper).

Weaving the design using the slit weaving technique.

Weaving the design using the dovetail weaving technique.

Cutting and removing the rug from the loom.

Tying off the warp and tidying up the loose yarn ends to have a finished piece.

Tying the warp on the front beam.

Museum visit.

- Weaving cloth on a two-shaft loom – 90 hours

Bobbin and shuttle winding.

Plain / tabby weave using one colour.

Weaving horizontal stripes and pick and pick technique with various colours.

Hemstich weaving technique.

Cutting and removing of the cloth from the loom.

Tying off the warp and tidying up the loose thread ends to have a finished piece.

Various simple warp tying techniques.

Tying the warp on the front beam

Total curriculum hours – 600 hours (with the theoretical part)

4. ESTABLISHING A VOCATIONAL TRAINING WORKSHOP IN WEAVING

4.1 Prerequisites for a training workshop in weaving

The following are required:

- Experienced craftsman with a very good knowledge and a holistic approach of the weaving art.
- Comfortable, suitable and quiet space for the installation of the necessary equipment with a minimum space of 2sqm per trainee.
- Sufficient natural and artificial lighting to ensure the required relevant specifications.
- Adequate natural ventilation and the necessary air conditioning to ensure proper temperature and humidity conditions.
- Electrical installations in accordance with current legislation.
- Ensuring the required safety standards, with provision for an escape exit and the necessary means of firefighting.
- Accessibility of the workshop for people with disabilities.
- Spatial planning of the space, according to the needs of the equipment, the products that will be produced and the number of looms. Experience has shown that ideally in a room up to 8 looms can coexist with the respective weavers and at least one responsible craftsman/teacher. The recommended placement of the looms is around the perimeter. In the centre there may be tables or benches for auxiliary work or group activities.
- Adequate storage space with appropriate conditions for the storage of the materials and auxiliary furniture for the storage of tools and assortment of raw materials.

4.2 Equipment

- Adequate number of looms of different types (table, floor, vertical, etc.), to ensure that each trainee potentially has his own loom, not necessarily of the same type for everyone.
- Tools related to all stages of weaving, starting from the processing of the raw materials (wool, cotton, silk, etc.) to the final product. A broad view of the equipment is necessary, so that the trainees have a complete picture of all stages of weaving procedure. The knowledge of the material's origin and way of production as well as the skill to create raw materials themselves (e.g., cutting rags of fabrics) is very important and useful for the weavers. Thus, they can appreciate weaving to its extent, and have a better understanding about its complexity and its connection with the current social and economic environment. For this reason, it is also useful tools such as rocket, spindle and flywheel that are directly related to the beginning and development of weaving procedure, to be included in the equipment.

4.3 Raw Materials

The principle of in-depth knowledge of the origin of raw materials (plant or animal), their processing and the final product that weavers will handle, is also applied in this section. The choice of yarns (plant or animal origin) should be made responsibly and carefully with the criterion of high quality, in order for the final product to be of high value. The use of synthetic fibres (e.g., rayon, polyester, nylon, etc.), although less expensive, is not compatible with the art of weaving. The use of synthetic fibres is not recommended as they are harmful to the environment and human health and therefore, they are not described in this section.

Yarns of animal origin

a. Wool: The wool comes from goats and sheep and is collected by shearing before the summer heat. This work is done by shepherds with special scissors. The collected wool, called pok or pokari, is wrapped spherically like a ball, in order for its transport, measurement and weighing to be facilitated. There are many factors contributing to the quality of the wool such as the breed of animals, their special characteristics, even the part of the animal the yarn is collected from (e.g., first quality - the long yarn

collected from neck and back, second quality - the short yarn collected from belly and thighs).

The quality of the wool is related to the texture, harmony, elasticity, durability, colour and absorbency.

The threads are produced after collecting, washing, drying, scraping, carding and finally spinning the wool.

The wool has a unique elasticity and resistance to breakage and grease stains compared to any other natural or artificial fibre. It is an excellent thermal insulator and since the wool fibre is water proof and has a warm texture, woollen fabric is ideal for the absorption of sweat. Wool fibres are destroyed if boiled.

Wool can be used for both warp and weft.

b. Silk: silk is collected from the cocoon of the silkworm. The silkworm is a white caterpillar that comes from silk seeds. Silkworms are bred on twigs and mulberry leaves that are its food. Breeding silkworms is a difficult and demanding procedure as it requires great care, special facilities and following a specific system. Breeding period is from the end of April to the middle of June. The worm knits a cocoon around its body releasing a sticky substance that solidifies when it comes in contact with air. For the production of silk, the cocoons must remain intact, and collected before the caterpillar transforms into a butterfly and pierces them. Then the cocoons are put into boiling water and with a specific process the silk fibres are created.

Nowadays the processing of the silk thread is done in the silk mills by mechanical means. Silk is the most expensive textile material. The quality of silk depends on the breed of silkworm, its food and care, which is reflected on the cocoon. The colour of the cocoons can be white, yellow or golden depending on the breed of silkworm. The silk fabric is fine, smooth and cool to the touch.

Yarns of plant origin

a. Cotton: Cotton is a plant cultivated in warm climates and in Greece it is uninterruptedly cultivated to this day since antiquity. It is usually sown in spring and harvested from August to November, depending on the region.

The plant's fruit is a three to five-chambered capsule, the size of a walnut, which contains fibres that surround the seeds. Cotton collection includes the following procedure:

- Rinsing - the fibres with the grains are taken out of the capsule
- Pounding - the grains are removed with a tool called manganese or rhododendron or windmill
- Sunbathing the clean cotton to be properly dried
- Beating or cutting the cotton with the bow (arched tool with a string) and the crystal (looks like a pestle). In this procedure the cotton is manually shaken high, cleaned, fluffed and its fibres are carded.

Nowadays all these processes are done with automatic electrical machines.

The quality of cotton is related to the length, the gloss of the fibre and the percentage of foreign matter. The best quality cotton is the Egyptian origin cotton.

The cotton yarn is used with different preparation for both warp and weft, is very strong in use and has great durability in time (there are Indian fabrics 3,000 years old and Greek 2,500 years old). It is very absorbent and can be easily painted by both natural and chemical paints. Cotton fabric is absorbent, soft in touch and does not wrinkle easily like linen and silk.

b. Flax: It was the most popular weaving material next to wool, in ancient times. Flax is an annual plant and its height depending on the soil can grow from 65 cm up to 1 meter. It is sown in autumn and uprooted in summer. The fruit of the flax (flaxseed) is gathered in a small head the size of a chickpea (edible species). The fibres come from the trunk of the plant, that has a grey-green colour. The flax fibres undergo a very laborious processing, that used to be done by hand, in order to be prepared for weaving. First the plant is uprooted, then dried, the seeds and roots are removed, it is wet and then sun-dried. The procedure of threshing, peeling, carding and finally spinning follows. Nowadays these procedures are done with electrical machines.

The first quality linen consists of long fibres, while shorter fibres are used for second quality yarn. Its quality can be seen from the light-yellow colour and its natural shine. Linen's elasticity is less than that of wool, silk and cotton. It is cool to the touch and uneven.

Other plants that can produce yarn with a similar treatment to flax, are nettle, hemp, asparagus, jute, palm, etc.

5. PROFILE OF WEAVING INSTRUCTOR



Key characteristics of a Weaving Instructor

- In-depth knowledge of the subject, with a multidimensional perspective that includes knowledge of:
 - the history of the Weaving Art from its inception and its connection with myths of ancient civilizations that provide its philosophical background.
 - its connection to the social and economic life of human societies, throughout time in regards to the evolution of human civilization.
 - the weaving art being a key element of the intangible cultural heritage of society and an exponent of folk art and culture.
 - recent developments in this field and its connection to contemporary life needs.

- Capability of fruitful inclusion of tradition and folk art in modern life, respectfully utilizing its long-life development.
- Acknowledgment of the distinction between Weaving Art and Textile Art emphasising on the uniqueness of handmade creations.
- Excellent knowledge of every stage and procedure of weaving, from the production of raw materials to the preparation of looms. This is a prerequisite for the appreciation and respect of its value and its historical development.
- Recognition of the therapeutic dimension of Weaving, in the sense of harmony, inner rhythm, concentration and highlighting the creativity of each person.
- Basic knowledge of pedagogy and psychology fundamentals. This will contribute to the instructor's ability to highlight the aforementioned character of Weaving Art and form suitable educational plans.
- Former teaching experience is a requirement for the candidate instructor, given the experiential character of the teaching on the subject.
- Ability to formulate a structured curriculum, with clear goals and divide an assignment in sections and stages for a better understanding by the trainees.
- Ability to create or follow visualized instructions for the individual tasks, as a way to facilitate learning and overcome the language or cognitive deficits of the trainees.
- Knowledge of basic principles of adult education in order to adequately communicate with the trainees as far as their interests, needs and expectations of the training are concerned and at the same time facilitate their participation, providing training in a flexible but also efficient and productive way.
- Ability to cooperate with respective specialists, such as an occupational therapist, physiotherapist or special educator, in order to design and implement any necessary adaptations of equipment or other educational material maximizing trainee's psychomotor and cognitive development.
- Willingness to contribute to scientific study and research on the subject of weaving by sharing their knowledge and experience with relevant scientists on the field.
- Cooperation with other weaving instructors in order to document, and disseminate their experience on the subject, contributing in an individual or collective level, to the evolution and development of the Art of Weaving so as to retain the characteristics of a vivid art and not become a museum object.

6. CRITERIA OF TRAINEES' SELECTION

Anyone with a strong motivation can be trained in weaving. Possible motivations may be:

- Searching for new professional employment on a personal or collective level. This is often combined with pre-existing experiences in this area, at family, community or national level.
- Willingness to engage in an activity that enables the expression of creativity along with personal relaxation and mental balance.
- Achieving educational goals related to the development of visual-motor skills and the consolidation of cognitive achievements (mainly in arithmetic and in space concepts).

Weaving, due to the characteristics mentioned above, is considered an art, and potentially a professional activity, accessible to everyone, without restrictions with the appropriate adjustments. The fact that everyone can create their own woven items expressing their creativity and developing their skills, according to their personal abilities, emphasizes this Art's potentially therapeutic character.

Finally, it should be emphasized that for the better organization of the teaching of weaving, it is important that the group of trainees is relatively homogeneous, in terms of motivation and age in particular. This way it is more likely to achieve:

- Most effective and fast learning of the subject
- Better organization of teaching material enabling focusing in individual activities
- Better communication within the group ensuring fruitful internal dialogue
- Setting of goals aiming at maximizing each trainee's developmental potential
- Formation of a common identity
- Avoidance of negative dynamics within the team arising from different, characteristics, expectations and abilities within the group.

In order to achieve satisfaction of both trainers and trainees and meet the educational goals small homogeneous groups are suggested. Therefore, personal structured interviews with the candidates are essential.

7. SAFETY AND HYGIENE ISSUES IN THE WORKSHOP

Textile as an object does not pose many immediate risks to the safety of trainees.

Provision needs to be taken for:

- The proper use of tools (e.g., scissors, coke needles) that pose risks to the physical safety of trainees, especially in groups of very young age or groups with members with disabilities.
 - Adequate illumination in the room.
 - Adequate natural ventilation of the room and appropriate temperature and humidity conditions.
 - Avoiding exposure of students to allergenic agents such as wool, powder, naphthalene etc. The trainer must be aware of the trainees' medical history regarding allergies.
 - Correct posture of trainees avoiding strain on their musculoskeletal system, from incorrect posture or inappropriate muscle tone when performing repetitive movements.
- The role of the occupational therapist or the occupational physician is useful, in order to make the necessary adjustments.

8. VOCATIONAL EDUCATIONAL TRAINING METHODOLOGY

Methodology

When training courses are offered to people with intellectual disabilities their individual learning differences must be taken into consideration. Therefore, a person-centered training plan must be developed and all necessary adaptations should be included in order to facilitate the learning process. The trainer should design educational programs that provide multiple means of information representation, action, expression and engagement of the service user. The use of different information representation (text, visual and auditory) facilitates the learning procedure and enhances connections between abstract concepts.

Experiential (in-vivo) learning

Experiential learning is a way to support independence and self-sufficiency through meaningful participation and learning in a community or simulated environment inspired

by the service user's everyday life (Herrygers, Clark, Crosland, & Deschenes, 2010). Experiential learning gives the service user the opportunity to learn by doing what they learn in their personal life.

Therefore, it is important to use multiple methods to engage and keep the user interested. Activities must be authentic, relevant and meaningful to ensure his involvement.

Experiential learning is an alternative method of education that extends beyond classrooms, textbooks, classroom teaching, and memorization of "analytical curriculum" (Triliva & Anagnostopoulou, 2008). The aim of this training methodology is to bring the learner into direct contact with the subject, through research, fieldwork, observation, interviews, role-playing, etc. (Dedouli, 2002). The experiential method aims at the active participation of learners, taking into account their emotional reactions and questions, which are freely discussed in class. In addition, learners work in groups, communicate their experiences, process their reactions, set their own goals, express themselves and create. Finally, they learn to question and inquire about their experience and develop the capacity for critical thinking. Experiential learning suggests and applies some specialized techniques, such as:

- Production and use of audiovisual media
- Experiential representations and games
- Discourse techniques (diary, narrative, creative writing). Visual arts activities. Role and theatrical creation (Triliva & Anagnostopoulou, 2008).

A field of education is necessary to satisfy the psycho-emotional development needs of all students, through a supportive environment and appropriate procedures. According to Bakitzis (2000), the pedagogy of in vivo learning aims to create an environment that provides the possibility of experiences that will facilitate "the intrapsychic processes of appropriation and formation of the mental world, personality and desires, needs, motivations, interests". Therefore, the processes and methods used in in vivo learning contribute to the process of self-understanding (Kamarinos, 1998), but also to the development of the personality as a whole. For all the above reasons, in vivo learning is now the recommended way of learning at all levels of education and is considered irreplaceable in the field of adult education (Silberman, 2007).

Task analysis

Task analysis is a process of dissecting an activity into its component parts and task sequence in order to identify the inherent qualities and skills required to perform it, thereby enabling the trainer to assess the potential of the particular task.

Prerequisite skills can be categorized as follows:

- Cognitive organization (attention, memory, concentration, time awareness, spatial organization, problem solving, arithmetic, sequencing, timing).
- Sensorimotor integration (ability to perceive and recognize sensory stimuli, neuromusculoskeletal components, mobility).
- Psychological components (self-concept, values, interests, ability to deal with stressful situations).
- The areas of functional activity that can be affected are the following:
 - Activities of daily living (ADL) (including self-care, mobility and transportation, basic activities).
 - Work and productivity activities (including employment, volunteer work, meal preparation, childcare).
 - Free time (including community and social activities, hobbies and recreational activities).

Project analysis allows the practitioner to:

- Determine the appropriateness of an activity for a particular person in terms of developmental needs, age, personal interests, gender, cultural relevance.
- Understanding the requirements that the activity will have on the individual, that is, the range of skills required to perform it.
- Assessing the needs that an activity can satisfy.
- Determining the potential use of an activity as a therapy tool by discovering the skills that the activity can develop in the individual. These can be specific or general skills.
- Determining the extent to which the activity can prevent unwanted behavior from occurring.
- Determining whether or not the activity is within the individual's capabilities.
- Provide a basis for adjusting and classifying activities to achieve specific results.
- Determining the required resources, both intrinsic (related to the individual's skills) and extrinsic (cost, space, environment, time, skills).

– Identification of risks and ensuring safety.

Easy to Read

Easy to read is an adaptation of a text that makes both reading and comprehension easier.

“The aim of easy- to- read publications is to present clear and easily understood texts appropriate for different age groups. To achieve such a product, the writer/publisher must take into consideration content, language, illustrations, as well as graphic.” (International Federation of Library Association and Institutions IFLA Professional Reports, No. 120 Guidelines for easy-to-read-materials, 2010.)

The adoption of easy-to-read methodology is a matter of democracy and accessibility. It is a democratic right that all the people have access to culture, literature and information in a comprehensible form. Also, the quality of life is another important factor. “Being able to read gives a person a tremendous amount of self-confidence, by enabling him/her to expand his/her view of the world and take control of his/her life. Through reading people are able to share ideas, thoughts and experiences, and to grow as human beings.” (International Federation of Library Association and Institutions IFLA Professional Reports, No. 120 Guidelines for easy-to-read-materials, 2010).

Reading promotion and the need for easy-to-read materials are strongly supported by the:

- UN Convention on the Rights of persons with disabilities (2006)
- The standard Rules of the United Nations (1993)
- UNESCO Public Library Manifesto (1994)
- Charter for the Reader (International Publishers Association, International Book Committee, 1992)

"As long as people have access to information, their ability to make their own decisions and to take responsibility for matters affecting them is strengthened"

Target groups of easy-to-read materials are:

- Persons with disabilities (for example: Intellectual disabilities, dyslexia, deaf persons, persons with aphasia, persons with dementia etc).
- Readers with a limited language or reading proficiency (recent immigrants and other non-native language speakers, poor readers, children).

It is important to have in mind that all easy-to-read products will not suit all readers in

all target audiences. The individual reader's interests and experiences are almost as important for a successful reading experience as are the readability and comprehensibility of the book.

The Easy-to-read- concept pertains not only to language and content, but includes also illustrations, design and layout.

Language and content

1. Write concretely. Avoid abstract language
1. Be logical (logical continuity)
2. Action should be direct and simple
3. Use symbolic language (metaphors) sparingly. Such language may be misunderstood by some readers
4. Be concise. Avoid several actions in a single sentence. Prefer a single phrase on one line, if possible
5. Avoid difficult words but use language that is adult and dignified
6. Explain or describe complicated relationships in a concrete and logical manner, where events take place in a logical chronological framework.
7. Let writers and illustrators meet their readers and hear about their experiences and daily life and understand what it means to have reading difficulties.
8. Test the material with actual target groups before it goes to press

Illustrations

In the context of easy-to-read materials, Illustrations often play a more important role than in other types of publications. A picture which concretely depicts what is described in the text improves understanding and clarifies the message.

Illustrations should also be placed in direct connection to the text.

Pictograms

Easy-to-read materials with pictograms help PwID or PwMD understand content.

Layout and design

The layout of easy-to-read materials should be clean and attractive.

The text should be in blocks with a limited number of lines per page. Words of a single phrase should fit on a single line.

An easy-to-read book should look like a “real” book. If aimed at adults should avoid a childish impression.

Paper, typeface and print

The paper should be of substantial quality. There should be sufficient contrast between background and illustrations. Coloured backgrounds and typefaces should be used carefully.

The typeface should be clear and fairly large. Experience indicates that a clear serif type (like Times or Garamond) or a clear non-serif type (like Helvetica and Verdana) are good choices. A type size of 11-12 points is recommended.

Logotype, back-cover blurb

Easy-to-read products should be clearly labelled. Products that qualify for an easy-to-read logo should meet specific requirements concerning language, content and design. The blurb on the back cover of easy-to-read books should give a good description of the content and indicate the level of difficulty.

Task Analysis

Activity analysis is a process of dissecting an activity into its component parts and task sequence in order to identify its inherent properties and the skills required for its performance, thus allowing the therapist to evaluate its therapeutic potential.

The prerequisite skills can be categorized as follows:

- Cognitive organization (attention, memory, concentration, temporal awareness, spatial organization, problem solving, numeracy, sequencing, timing).
- Sensory motor integration (ability to perceive and recognize sensory stimuli, neuromusculoskeletal components, mobility).
- Psychological components (self-perception, values, interests, ability to handle

stressful situations).

The occupational performance areas that can be influenced are the following:

- Activities of Daily Living (ADL) (including self-care, mobility and transfer, instrumental activities).
- Work and productivity activities (including employment, volunteer tasks, meal preparation, child care).
- Leisure (including community and social activities, hobbies and recreational activities)

Analysing the activity enables the professional to:

- Determine the appropriateness of an activity for a particular client in terms of development needs, age, personal interests, gender, cultural relevance.
- Understand the demands the activity will make on the client; that is, the range of skills required for its performance.
- Assess what needs the activity might satisfy.
- Determine the potential use of an activity as a treatment tool, by discovering the skills that the activity can develop in the client; these may be specific skills or more general.
- Determine the extent to which the activity might inhibit undesirable behaviour.
- Determine whether or not the activity is within the client's capacity.
- Provide a basis for adapting and grading the activities to achieve particular outcomes.
- Identify required resources, both intrinsic (related to person's abilities) and extrinsic (cost, space, environment, time, skills, staff – barriers and enablers).
- Identify risks, hazards and safety precautions.

In Vivo Learning

In Vivo learning is an alternative way of education that extends beyond the school desks, school books, frontal teaching and the memorization of the "syllabus" (Triliva & Anagnostopoulou, 2008). This training methodology goal is to bring the trainee in direct contact with the subject of learning, through research, fieldwork, observation, interviews, role plays etc. (Dedouli, 2002). The experiential method aims at the active

participation of learners, considering their emotional reactions, questions and queries, which are freely discussed in the classroom. In addition, trainees work in groups, communicate their experiences, process their reactions together, set their own goals, express themselves and create. Finally, they learn to wonder and ask about their experience and develop the capacity for critical reflection. Experiential learning proposes and implements some specialized techniques, such as:

- Production and use of audio-visual media

and implements some specialized techniques, such as:

- Production and use of audio-visual media
- experiential representations and games
- Speech techniques (calendar, storytelling, creative writing). Visual arts activities. Role play and theatrical creation (Triliva & Anagnostopoulou, 2008)

An area of education is necessary to meet the needs of the psycho-emotional development of all students through a supportive environment and appropriate processes. According to Bakitzis (2000), the pedagogy of in vivo learning aims to create an environment that provides the possibility of experiences that will facilitate "the intrapsychic processes of appropriation and shaping of the psychic world, personality and desires, needs, motives, interests". Therefore, the processes and methods used in in-vivo learning contribute to the process of understanding ourselves (Kamarinos, 1998), but also to the development of the personality as a whole. For all the above reasons, in-vivo learning is now the recommended way of learning at all levels of education and is seen as irreplaceable in the field of adult training (Silberman, 2007).

9.EVALUATION OF THE TRAINING PROGRAM

Evaluation Method - General Population

Theoretical Part

Method of Student Evaluation: Written assignment

Students are invited to analyse a topic related to weaving. The exercise will be a group work which will require each student to prepare a short essay and present in public a case-study based on the essay. After the presentation, the topic will be discussed by the group under the coordination, support and feedback of the trainer. For example, in

the case of a general topic such as “History of weaving”, each student will examine and perform a short study on weaving during a historical period (i.e. weaving in ancient Egypt, weaving in the Medieval Europe, etc.). The paper will be based on literature review and, if needed, on field research or interview. Papers should be submitted and presented by the end of the theoretical part of the curriculum. Deadlines will be announced in collaboration with the trainees. Language of evaluation: National language of every partner country.

Practical part

Method of Student Evaluation: Each student has to produce a woven fabric according to the instructions of the trainer.

Woven fabrics should be submitted by the end of the practical part of the curriculum.

Evaluation Method - People with intellectual disabilities

Theoretical Part

Method of Student Evaluation: Students are invited to answer orally to simple questions concerning weaving within individual or group interviews. It is recommended that the trainer prepares a short list of topics or questions to be prepared by the trainees and to familiarize trainees with the assessment conditions beforehand.

Practical part

Method of Student Evaluation: Each student has to produce a woven fabric according to the instructions of the trainer.

Method of Trainer’s Evaluation

In order to test the feasibility of this vocational training programme, trainers will keep self-evaluation protocols/questionnaires during the implementation (what, when, how, positive, negative, suggestions for improvement). At the end of the implementation trainers complete an evaluation form in writing (handling of the materials, time resources, practicability in carrying out tasks). Trainees will also provide their feedback on the training programme by using questionnaires which will be given to them by the trainers.

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