

# **Topic № 7 INNOVATIONS IN TEXTILE EDUCATION**



# IMPACT OF PROFESSIONAL QUALIFICATIONS ON CAREER DEVELOPMENT IN THE TEXTILE INDUSTRY

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Textile production is a special place for personal expression. The manifestation is a result of their own qualifications and the establishment of the right place in the technological flow and the work team. The textile workshop is a highly disciplined public phenomenon, but it is not a barracks. Personal discipline is a consequence of conscious self-improvement. Personal qualification is a result of years of personal efforts and is a combination of broad technical knowledge, special skills and the ability to work incorporation. The problem lies in the public awareness and family orientation of the textile profession, such as education and craft. Textile qualification has no practical application outside the textile production.

The skills and habits necessary for studying the specialties of the spinning production operator and operator in the weaving production are expressed in the following activities. When start spinning a yarn on the spinning machine, it is necessary to learn and adopt some manipulations. In the worsted spinning mill the spinners perform the following manipulations when start-spinning of the yarn: finding the end of the broken yarn on the spool; removing the wound yarn on the drafting roller, stopping the spindle, thread the yarn into the runner, passing the yarn through the thread guides; start-spin: feed with the thumb and forefinger the end of the yarn from the spool to the drawn fibres under the drafting pair and sucked out by the aspiration tube; there is a clinging of the fibres that are start-spinning and spinning process continues. After the yarn has start-spun in front of the drafting device, the next winding and cleaning process continues without returning the spool for re-treatment. In this case, the automatic splicer ties the edges of the yarn and the process continues.

In the weaving process, the manipulations of the weaver are very important during the finding and restoration of the broken warp threads. The weaver pushes his hand over the lamellae of the warp brake and where the warp thread is broken; its lamella falls on the toothed crest and remains stationary relative to the other lamellae. After find it, a textile node recovers the broken warp thread. Area where the warp thread is broken is also important. As with start spinning and weaving, it is very important with what kind of yarns and threads the machines are loaded: whether they are single, twisted or fancy yarns. In the training of students, it is necessary to adopt very well these manipulations to acquire knowledge and skills in the textile profession.

Subject of the paper: Specific knowledge in textile material science, technological flows in textile technology, textile calculations, large empirical data base, machines and processes, machine settings; Hand-crafting skills on start-spinning, start-weaving, weaving knots, machine setup and others; Organizational skills in the logistics of textile production and batch distribution.

Purpose of the development: To analyse and describe the main technical elements of the textile professional qualification; Knowledge about analytical processes and empirical data;

Hand skills; Organizational abilities.

Tasks: literary study, factory observations, observations in the educational system, legal framework, descriptive part, analysis and discussion.

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**Keywords:** textile education, hand skills, spinning, weaving.

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# CYCLIC PECULIARITIES IN THE LONGITUDINAL DISPLACEMENT OF THE WARP ON HAND HORIZONTAL LOOMS

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The weaving cycle for making a weft involves three basic actions that begin with the opening of the shed, promotion the weft by the shuttle and beating-up the weft to the end of the fabric through the reed brought by the batten.

For industrial weaving machines, the longitudinal displacement of the warp is achieved within the weaving cycle by unwinding the weaving warp and pulling the raw fabric from the work area.

At the hand weaving looms, the longitudinal displacement of the warp threads goes beyond the weaving cycle and follows the possible movement of the batten between the heddle frames and the end of the woven fabric. The maximum stroke of the batten is constructively limited between the heddles and the bearers of the take-up roller at the front end point.



With each beating-up of the next weft, this front end point of the weaver's reed reversing motion is shifting back to the heddles. The reason for this is the overlapping of wefts, one after the other, and the longitudinal immobility of the warp and the fabric in the work area. The main result is the shortening of the base length of shed. Its height remains unchanged and therefore, after each beaten weft the tension in the main threads increases. This changes the conditions of intercrossing and mutual working of the warp and weft threads. From this point of view, hand weaving is not limited by the thread-binding technique but requires additional knowledge and skills on textile materials.

Subject of this paper is the variation in the tension of the warp threads during the weaving on hand horizontal looms. Aim of the work is to establish the analytical relationships between the geometric parameters of the hand looms and the variation of mechanical conditions in the hand weaving. Performance tasks include literary research, technological observation, measuring of constructional proportions and calculations.

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**Keywords:** hand weaving loom, textile craft, warp stress, vocational education.

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## TRILATERAL COLLABORATION FOR VOCATIONAL EDUCATION AND ENTREPRENEURSHIP IN APPLIED CRAFTS

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The Municipality of Koprivshitsa implements a project "Development of Social Entrepreneurship in the Municipality of Koprivshitsa" with a partner "Federation of Scientific and Engineering Unions" in Bulgaria.

The implementation of the project aims at the development of social entrepreneurship in the municipality of Koprivshitsa by creating a new social enterprise, which will provide work to people from the vulnerable groups, by creating suitable conditions for their professional integration in the sphere of the social economy. Achieving these goals will contribute to the employment of people in the target group and will positively influence the fight against poverty and social exclusion in the municipality by creating jobs in the new social enterprise.

The main activities of the project include psychological support and motivation of persons from vulnerable groups for inclusion in employment, repair of the available building stock and equipment of the newly created jobs, professional training of the persons. The implementation of the project will solve the main problems of a part of the target group and will be an example that will motivate other representatives of the vulnerable groups from the municipality to participate in the social economy sector.



The enterprise will produce souvenirs, traditional for the city and the region.

Persons, the employment in the enterprise will be assured for, will also undergo a professional training to acquire the professions and specialties required for the activity. The training will be carried out by the project partner - Vocational Training Center of the Federation of Scientific and Engineering Unions in Bulgaria with License № 200312074. The learning process includes the latest achievements in the field of weaving, toys manufacturing, and tailoring. The aim of the training is to promote the practice of lifelong learning for the purpose of professional realization, increasing access to quality education and ensuring equal opportunities, guaranteeing the right to decent work and social integration through employment in Koprivshitsa Municipality. University lecturers conduct the training in the professions: "Operator in textile production", "Tailor" and "Operator in woodworking". To the social enterprise, there will be a sewing and weaving workshop, as well as a joinery workshop for children's toys. As a result of the activity of the newly established social enterprise, a measurable and positive social impact will be achieved through the application of a method of producing goods that embodies its social objective - integration into employment of persons in the target groups.

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**Keywords:** vocational education, applied crafts, municipality, university lecturers, training centre.

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# A UNIFYING LINK BETWEEN CARPENTRY, WEAVING AND SEWING TECHNIQUES IN APPLIED CRAFTS

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The preservation and restoration of age-old knowledge and skills for the fabrication of folk costumes and diverse household fabrics require parallel research on the items, techniques and equipment.

Clothing, as a finish of the processing on the fibrous raw, contains a wide variety of items and auxiliary materials: ladies' and men's folk costumes; fabrics, braids, threads, etc. The main materials are woven fabrics, which in our local conditions are known as shirts, broad cloth for low-cut sleeveless dress and homespun scarves for cloaks. These woven fabrics with minor modifications into the construction are spreading as fibrous items of the crafts in both the household and the manufactory. Moreover, handlooms are still in function for their workmanship.

The prospective intent of restoring and developing handicraft fabrics as inborn fabrics for folk costumes faces difficulty in using existing handlooms. These devices are very primitive and reflect the affordable 19th-century woodworking techniques, at the acceptable human expectations for good working conditions.

Hand weaving in our time is an essential part of the development and spread of creative techniques and productions. However, this weaving with the direct physical involvement of the weaver must satisfy the ease of application of the human body and limbs, as well as the possibilities of performing different weaves.

The task's solution directs the upcoming research to the development of a handloom with new functional requirements, while preserving the wood as the main constructive material. From this point of view, it is first necessary to distinguish and specify the work organs of the handloom according to their place in the construction, the interaction with the weaving threads and the access of the weaver.

Subject of the present work and one of the expected results of the metrological study is the relation between the physical and mechanical characteristics of the fibrous and wood materials. For example, the frame of the handloom implies solid and hardwood, while the harness requires light and hard wood with increased agility and overall mechanical resistance.

The present work was inspired around the project of Koprivshtitsa municipality, funded by the European Social Fund under Contract № BG05M9OP001-2.010-0231-C01.



**Keywords:** textile, handlooms, weaving, wood crafts, metrology, training units.

## TWO PROJECTS OF THE MUSEUM OF THE TEXTILE INDUSTRY IN SLIVEN, DESIGNED FOR THE STUDY, PROMOTION AND CONTEMPORARY PRESENTATION OF TRADITIONAL TEXTILE PRACTICES

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### **Abstract:**

Two of the projects of the Museum of Textile Industry in Sliven, supported by the National Culture Fund, are related to the research, popularization, reconstruction and contemporary interpretation of some traditional textile practices as part of our intangible cultural heritage. One of them, successfully implemented in 2016-2017, is "Dyeing from Nature - Traditions and Science," the other currently active is called "Variations in Blue".

The activities of the Project "Dyeing from Nature - Traditions and Science" are aimed at exploring, describing, systematizing and generalizing knowledge's about the nature and traditions of textile dyeing in the past. The main purpose is to research the dyeing of plant natural dyes, to restore this practice and to offer some ideas for modern application. The project focuses mainly on the youth audience.

"Variations in Blue" focuses on two traditional practices - indigo dyeing and hand-made textile printing, exploring their individual beating and their joint appearance with a projection in the blue Kotel apron as part of the women`s costume.

Both projects have similar characteristics: attracting different age and attitude participants in project activities, unification the efforts of specialists from different fields of knowledge and the art for consulting and direct participation in the project, implementing different methods to realization the purposes, creating visible forms of intangible heritage, shaping a finished material product, popularizing the general public, offering some ideas for contemporary interpretation and forming a basis for enrichment and diversification museum activities.

**Keywords:** textile crafts, bio dyeing.

