



## THE USE OF MULTIMEDIA TECHNOLOGY IN THE INSTRUCTIONAL DELIVERY OF THE COURSE „GARMENT CONSTRUCTION”

ALCAZ Olga<sup>1</sup>

<sup>1</sup>Technical University of Moldova, Faculty Light Industry, Department of Modelling of Textiles and Knitwear Confections,  
blvd. Stefan cel Mare, 168, MD-2004, Chisinau, Republic of Moldova

Corresponding author: Alcaz, Olga, E-mail: [artdesign.olga@gmail.com](mailto:artdesign.olga@gmail.com)

**Abstract:** *Against the backdrop of the rapid change and growth of information and communication technology (ICT), the use of computer technology in education has become an essential requisite. With the Millennial generation, who has been surrounded by high volume of multimedia content, the concept of computer-assisted learning is intrinsic. Computer is simultaneously perceived as a toy, tool, and a source of information, which has ingrained in people's habits of communication, education and research. The concept of the computer-assisted learning refers to the delivery of new knowledge; the use, consolidation, and synthesis of the newly acquired knowledge. As suggested, computer technology is „the most important innovation in the modern pedagogy” for its impact on the efficiency of education. The pupil-computer interaction enables the diversification of teaching strategies and opens up a whole wealth of structured information with many opportunities for its visualisation. However, it is not the computer in itself with its multimedia configurations that lead to the educational enhancement; but, the quality of the digital learning resources and their appropriate incorporation in classroom aligned to the innovative pedagogy that counts the most. The modernisation of pedagogy involves, thus, the presence of hardware (computer), software (programs) and the capacity to use, adapt, and harness the ICT in the instructional environment. This paper presents the experience of the use of computer technology in one of the courses offered by vocational schools that aims to develop both general and professional competencies, as well as the capacity to work with diverse types of multimedia contents.*

**Key words:** *teaching and learning aids, ICT, professional competencies, vocational education and training*

### 1. INTRODUCTION

The key to the success of a clothing company is to manufacture high quality and competitive garments, which can only be made by highly qualified members of staff who have received innovative training. With the modernisation of clothing manufacture, the requirements for the future specialists are changing rapidly, leading to the review of the vocational education and training. There is an increasing call for the adaptation of the contents, evaluation of the teaching methods, and incorporation of computer technology in the instructional environment [1].

### 2. GENERAL INFORMATION

Over the last century, there have been many profound technological, socio-economic, and cultural transformations. The world is driven by an information explosion. According to statistics, the amount of published information grows by 200 millions of words or 5000 pages of information per hour; whereas a human being can typically learn 0,1 of one page of information during the same period of time. Accordingly, the acquired knowledge becomes obsolete very quickly. Because of the societal changes, the vocational education and training is becoming an indispensable foundation for the future professionals, who must become aware of the requisite of engaging in lifelong learning and developing their employability skills throughout their career.

The modern world is dominated by multimedia technology. With the growing use of computer technology in education sector, there has been an increase in the incorporation of multimedia technology and digital tools along the traditional methods [2] to facilitate the vocational education. Undoubtedly, it is hard to imagine that only two decades ago, the projectors and TVs were perceived as among the most advanced tools in education. Currently, the classroom includes multimedia systems [3], computers, projectors, and other „wonders” of the technology such as the interactive whiteboards equipped with Smart Boards systems and video cameras.

Alongside the significance of learning objectives, contents, methodology and methods; the teaching and learning aids constitute a major component of the instructional delivery. The appropriate use of teaching and learning aids ensures the efficiency and added-value of learning. The selection of teaching and learning aids have to be aligned to the learning objectives, course contents, methods and teaching techniques, the student age particularities and their individual needs.

Computer technology provides an excellent range of learning opportunities. The possibilities vary from the transmission of information with the help of a Power Point presentation projected on a screen to the incorporation of computer technology to deliver an entire lesson where technology assist the teaching, learning and assessment processes. The need to use computer technologies in education is grounded in the empirical studies suggesting that the interactive learning with its multimedia elements helps students to retain 75% of the transmitted information; whilst, engaging with only the audio-visual materials enables students to retain 20% of information. The multimedia tools typically include a mixture of text, graphics, audio, animation and video that can be viewed on a computer or any other mobile device. Using such multimedia tools to present new information, is said, to enhance student attention, facilitate their understanding and data interpretation, which in turn leads to the construction of their own knowledge.

ICT is the application of equipment to create, store, transmit, and share different types of information within different contexts (business, communication, still images, visual data, multimedia presentations, etc.). It is a term that comprises both communication and technology. Accordingly, the use of computer technology in education is an unequivocal matter and supported by many arguments. Computer technology has the potential to encourage innovative and interactive learning and to stimulate teacher and student creativity. It can increase the appeal to the scientific contents and the efficiency of information transmission. As has been shown, the application of technology can enable students to diversify their search and learning resources, learn at their own pace and develop digital skills through their experience of working on various school projects and tasks [4].

The application of ICT in education benefits both students and teachers to provide an enhancement of the teaching and learning process. Students can always return to digital resources and contents to check upon their understanding and construct their own knowledge, as well as to discover and explore complex concepts and experiments in virtual environment. Students and teachers can search, access and update the necessary information from any location. Teachers, like students, gain opportunities to demonstrate complex phenomenon taken from real-life contexts, which can be subsequently repeated by students in the virtual setting. It can also enable teachers to spend more time on additional explanations of certain notions and on working with individual students. The application of ICT helps teachers to make more interactive lessons, and therefore, to encourage students to take an active role in their own learning, which mirrors the key principles of the student-centred learning.

The use of computer technology should not be mistaken for the venture of putting the existing contents in new formats. Instead, this initiative should transform the way teachers think and deliver with a focus on the consideration of student individuality and capabilities. The learning technologies expand the communication and interaction venues where students and teachers can constantly engage. In this way, emails and chat rooms serve as a way of communicating and exchanging the assignments, documents, questions and answers [5].

### **3. EXPERIMENTAL RESEARCHES**

There has been an increasing agreement that the traditional teaching methods can be uninspiring and cumbersome, often generating poor student performance. Additionally, they can be time-consuming, predominantly when the school goal is to achieve good academic performance. Given that, there is a shift towards the use of the computer technology in vocational education and training, with a particular attention given to the application of Microsoft Power Point, which is one the most popular software for creating lesson presentations. To become an effective pedagogical tool, Power Point presentation should essentially deliver an appropriate volume of information, which is accessible to the audience and aligned to the learning objectives set for that particular lesson.

The construction of garments constitutes one of the most fundamental components of the clothing manufacture, encompassing two consecutive steps:

- *Creative stage* includes the selection of the construction method and pattern making and sample making approach.
- *Technical stage* refers to the construction of the garment samples, prototypes and elements, as well as working on other technical documentation [6].

As part of the course „Garment Construction”, students get acquainted with a range of advanced and progressive methods regarding the industrial construction of clothing, with an important attention given to the human-clothing-environment system. Students are introduced to the fundamental notions of clothing construction, pattern-making, pattern grading to the wearer’s measurements and body shape, to the hygiene requirements, particularities of the fabrics, style and fashion trends. Students have possibilities to use different software to construct and design complex images and graphics. The application of Power Point tool helps to enhance the visualisation of the complex notions and procedures. For instance, with the help of Power Point application and other editing software, students can follow step-by-step the process of taking the body measurements (see fig. 1) and to trace step-by-step the construction stages (see fig. 2). Importantly, the presentation enables students to verify the position of the human body in motion and to make themselves the patterns of the garment (cut, join different elements). Such presentations are viewed as a particularly useful visual aid, which can be embedded in vocational education and training because they not only contain important factual content but also serve a practical and hands-on function.

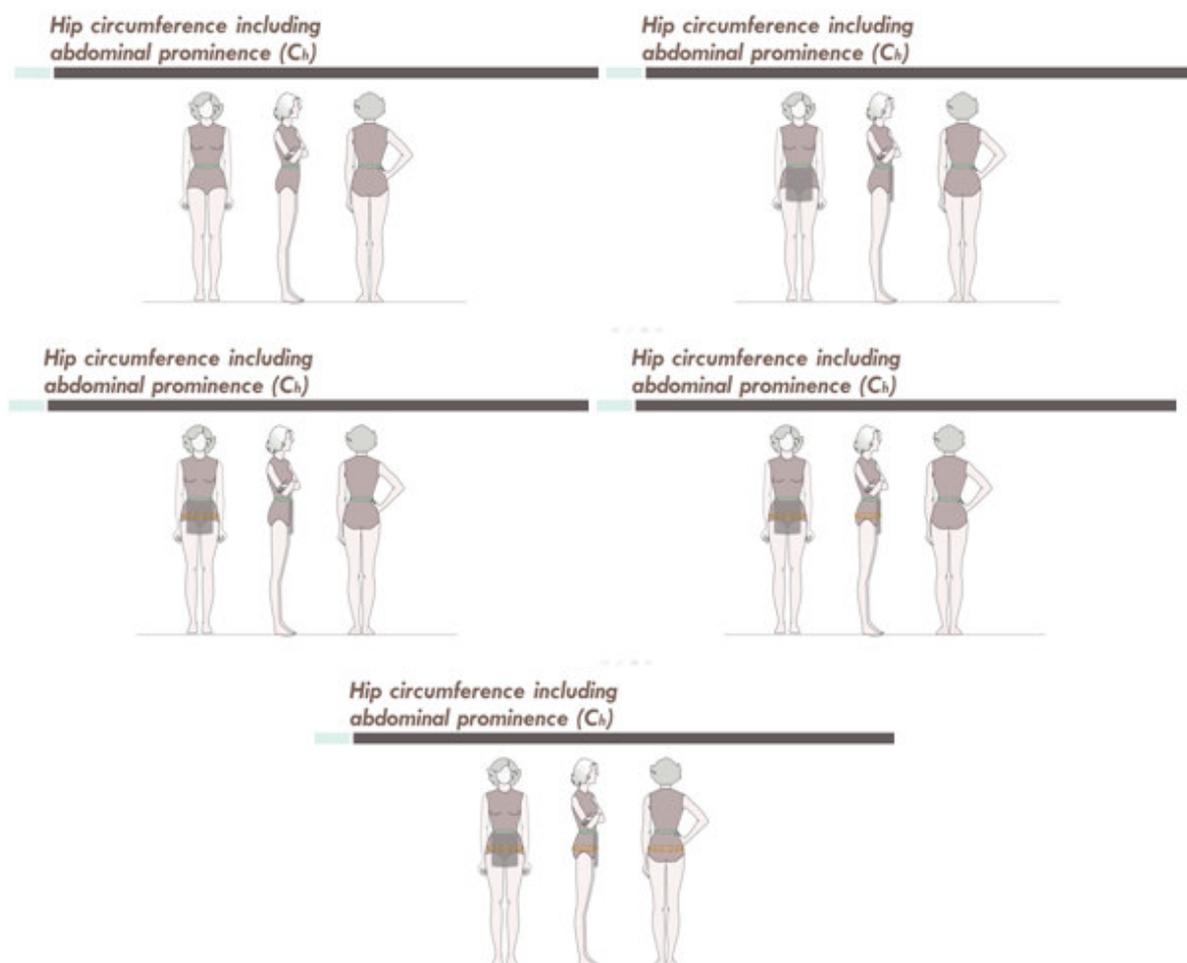
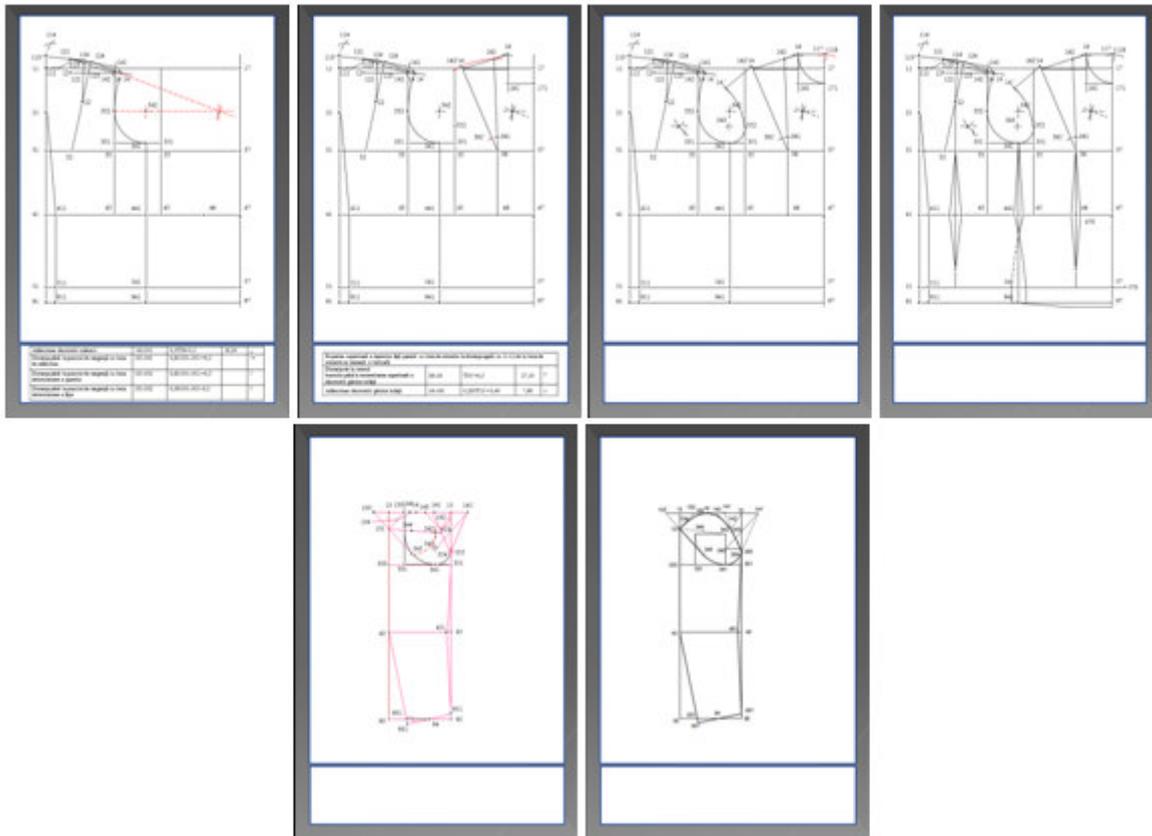


Fig. 1: Step-by-step guide to take hip measurements, including the abdominal prominence.



*Fig. 2: Step-by-step guide to pattern-making.*

As shown, the instructional delivery at the vocational education and training should necessarily include an element of art and aesthetics to introduce students to the field of their chosen profession and to contribute to the development of a more sophisticated set of professional competencies.

#### 4. CONCLUSIONS

In conclusion, we believe that the modern teacher is morally obliged to use innovative teaching and learning materials to ensure one of the most important human rights – the right to a high quality education. The work of teachers in vocational schools should be centred on the incorporation and improvement of the application of ICT in their classroom. Such initiative is extremely vital for students as they engage with the computer technology and its numerous editing software to construct, design, visualise and showcase the results of their work, which will ultimately help them to become highly competitive and skilled specialists in their field of work.

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