

STANDPOINT

by Assoc. Prof. Silvia Ivanova Filkova, PhD, DSc
Rehabilitation Training Sector, Medical College,
Prof. Dr. Paraskev Stoyanov Medical University - Varna

On: Thesis research for the award of a doctoral degree in the academic area of study 7. Healthcare and Sports, professional field 7.4 Public Health, research programme - Public Health Management completed by senior lecturer Pavlinka Penkova Teneva, a doctoral student undergoing doctoral studies under an individual study plan to the Public Health Faculty in Sliven, affiliate of *Prof. Dr. Paraskev Stoyanov* Medical University-Varna; scientific adviser- Assoc. Prof. Emilia Petrova Georgieva, PhD, DSc.

By Order no. P-109-22 / 17.01.2023 of the Rector of the Medical University of Varna and as a member of the Dissertation Examination Committee I have been assigned to provide an evaluation report on a dissertation work entitled "*Practical training of medical laboratory technicians aimed at professional skills and competence development*".

Applicant's background

Senior lecturer Pavlinka Penkova Teneva was born on 14th of December 1978 in Stara Zagora. Mrs. Teneva graduated from the Medical College of Trakia University - Stara Zagora, the degree programme Medical Laboratory Technician, in 2000. In 2003, she was awarded a bachelor's degree in Social Work at *St. Cyril and St. Methodius* University of Veliko Tarnovo. In 2009 she was awarded a master's degree in Health Care Management at Varna Medical University.

Doctoral student's professional career began as a medical laboratory technician at the Central Clinical Laboratory to the General Hospital for Active Treatment EAD - Stara Zagora in 2001, where she worked until 2009. In 2002 she also worked at the Diagnostics & Consultative Centre EOOD - Stara Zagora. From 2012 till 2014 Mrs. Teneva worked as a medical laboratory technician at *Beroe* Medical Complex - Stara Zagora.

In the period from 2007 to 2009, she was appointed as a part-time lecturer in Clinical practice at the Medical College in Stara Zagora, and from 2009 to 2016. She held the position of a lecturer and became head of the Medical Laboratory Technician programme at Stara Zagora Medical College. This was followed by a career advancement as a senior lecturer. Since January 2020 until now, she has held the position of Deputy Director of the Medical College at Thrakia University - Stara Zagora.

Mrs. Teneva teaches the following disciplines: Clinical laboratory; Clinical practice; Laboratory practice quality control.

Relevance of the topic

Information and communication technologies play an increasingly important role in the development of society. New developments in technology are an important prerequisite for

science-based innovations in the field of education, as well. Technologies in the field of education are increasingly closely related to technical achievements used in the process of teaching, and this also leads to new psychological and educational learning theories. Improving the professional skills and competence of the students takes place in a real working environment at the bases for clinical practice. Hence, the question arises about the competence of the medical laboratory technician in modern health care. I fully support the opinion of the doctoral student that practical training, which represents a little over half of the total number of credit hours in the curriculum of the speciality, is an essential factor for the development of professional competence in the training of medical laboratory technicians. That is why, in my opinion, the topic chosen by the doctoral student is significant and extremely relevant.

Thesis content

The thesis research of senior lecturer Pavlina Penkova Teneva is written in a volume of 157 pages in the standard structure for the professional field. It includes the following parts: An Introduction (2 pages); Scientific literature review (46 pages); Purpose, objectives, methodology and organization of the study (7 pages); Own research and discussion results (44 pages); Opinion, conclusions and recommendations (3 pages); Contributions in terms of theory and practice (1 page); Bibliography (15 pages) and 5 Appendices. It is illustrated by 28 figures and 18 tables. The Bibliographic reference contains 158 titles, of which 70 are in Cyrillic characters and 88 in Latin.

The literature review is very well structured, it includes various guidance notes in the development of the problem being investigated. In the Introduction, the relevance of the chosen topic is substantiated. The doctoral student has elucidated in detail and comprehensively the definitions of the terms "competency" and "competence". Examines in depth and provides a general description of the Medical Laboratory Technician speciality, highlighting the legal regulations on the granting of a degree in the Medical Laboratory Technician speciality applicable in the Republic of Bulgaria. Given the importance of the issue at hand, the PhD candidate describes the teaching process and the way the practical training is organized and provided at a Medical College. The experience and knowledge of the doctoral student contribute to a thorough description of the teacher's role in the process of professional competency among the students in the Medical Laboratory Technician programme. And logically, given the subject of the thesis, it outlines the current needs and requirements of clinical laboratory practice as regards the professional training of medical laboratory technicians to practise the profession.

The literature review shows broad erudition, competency and in-depth scientific knowledge of the issue of research to which the doctoral student has directed her interest.

In Chapter II, senior lecturer Teneva has described the purpose, objectives, working hypotheses and methodology of the dissertation.

The main goal is precisely and clearly stated: "Explore professional skills and competence obtained by medical lab technician students with a view to optimizing their practical training". It is developed in 4 correctly formulated objectives, the fulfilment of which reflects the research carried out by the doctoral student. Three working hypotheses have been covered. The methodology is

presented in detail. The respondents included in the study (n=184) have been divided into three groups.

- First group of respondents: students from the Medical Laboratory Technician speciality at Medical College Stara Zagora (n= 63) and Medical College Varna (n= 51);
- Second group of respondents: medical laboratory technicians engaged in the profession in the city of Stara Zagora and the region (n= 49);
- Third group of respondents: Clinical laboratory doctors and senior laboratory workers in a medical diagnostic laboratory (n= 21).

The research process steps are described in detail and presented in tabular form. Three questionnaires, containing closed and open questions, have been drafted. The survey has been conducted upon obtaining permission from the Research Ethics Committee of the Medical University of Varna. All the participants involved in the survey signed informed consent.

Research methods used - documentary method and sociological method have been adequately applied. Descriptive and evaluation methods, hypothesis testing methods, Spearman's rank correlation coefficient and regression analysis have been made use of for the statistical presentation of results. Each of them has been appropriately applied thus enriching the interpretation of results.

Own research results and their discussion are presented by the PhD student Teneva in Chapter Three of her dissertation.

Reported results are logically presented and structured. The results of the three groups surveyed have been analysed clearly, in detail and with understanding. 184 persons have been subjected to the survey.

The doctoral student skilfully polls the opinion of the students undergoing training in the Medical Laboratory Technician programme regarding the quality of education in terms of facilities they are acquiring their professional competencies. Clearly, the students share predominantly a positive opinion; they maintain that the medical college they are studying at has the facilities necessary to carry out a modern educational process. Another important research question is the organization of the learning process in a Medical College. Own survey results show that more than half of respondents highly value the organization of the educational process in the Medical Laboratory Technician programme, facilitating the acquisition of competencies and skills required for a real working environment. One-third of respondents have given a very high rating.

The survey of attitudes of the two groups of respondents- employed medical laboratory technicians and students regarding practical training at a Medical College revealed that it is a leading factor in the development of professional competencies for a successful professional start and career.

Surveyed subjects define the competence "creative application of knowledge acquired " as the most significant for the practical activity, both for the medical laboratory workers and the students.

According to data analysis, the need for more in-depth knowledge related to the errors in the pre-analytical, analytical and post-analytical stages in conducting clinical-laboratory research, as well as the introduction of a freely chosen (facultative) discipline on these issues, is outlined.

Based on the survey results, scientific literature analysis and international experience, 7 conclusions have been drawn, reflecting the results of the research in summary.

Bibliographic reference shows a wide knowledge and experience on the topic under consideration. Scientific material has been given a critical and creative reading, as a result of which an in-depth analysis of the theoretical statements was made.

Dissertation findings have significant contributions of theoretical-cognitive and in-practice applicable contributions, both for real practice and for the training of to-be medical laboratory workers. I do agree with the contributions mentioned by the doctoral student. Recommendations have been made on the basis of results, particularly those addressed to the Ministry of Education and the management of Medical Laboratory Technician programmes at the Medical Colleges.

In connection with the dissertation, the doctoral student has presented three works published in authorship, being the first author cited, and two more individual publications, proving her personal participation in research conducted, results obtained and contributions.

The dissertation meets the generally accepted requirements in terms of structure. The content of the dissertation is full and accurate. The most significant results and established dependencies have been presented, as well as the study's conclusions, contributions and recommendations. It is richly illustrated with tables and figures.

Opinion:

The dissertation entitled *"Practical training of medical laboratory technicians aimed at professional skills and competence development"* is a topic of interest at this time and shows a thorough mastery of the studied subject matter by the doctoral student. In developing her dissertation, senior lecturer Teneva has demonstrated skills in applying research work development methodology, which is one of the doctoral training objectives. The research conducted corresponds to the objectives that have been set. The dissertation demonstrates to us the in-depth theoretical knowledge and professional competence possessed by senior lecturer Pavlina Penkova Teneva and shows her ability to independently conduct and present scientific research results.

The dissertation meets all the requirements of the Republic of Bulgaria Academic Staff Development Act, the Regulations for the Implementation of the said Act and the Regulations for the Development of the Academic Staff of the MU - Varna for the award of a PhD /educational and scientific degree of a "Doctor".

In consideration of the foregoing, I undoubtedly give a positive assessment to the dissertation presented and recommend the Dissertation Examination Committee to award the senior lecturer Pavlina Penkova Teneva, undergoing a Doctoral Program in Healthcare Management, study area 7- Healthcare and Sports, professional field, 7.4. Public Health.

19.01.2023
Varna

Assoc. Prof. Silvia Ivanova Filkova, PhD, DSc,
Member of the Dissertation Examination Committee

