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THE ROLE OF CENTRES OF EXCELLENCE IN CONTINUOUS PROFESSIONAL DEVELOPMENT FOR TEACHING STAFF IN THE VOCATIONAL EDUCATION AND TRAINING SYSTEM

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Abstract. This article aims to elucidate the role of Centres of Excellence in Vocational Education and Training system (VET) and to present findings related to the implementation of continuous professional development for teaching staff. The research methodology focused on analysing the legal framework governing this area and assessing the extent of its implementation. Additionally, representatives from the Centres of Excellence were surveyed using a questionnaire comprising 22 questions, while teachers participating in continuous professional training programs were surveyed with a separate questionnaire containing 24 questions. The authors assert that the results discussed in this article are pertinent to the VET education system at both national and international levels.

Keywords: *Vocational Education and Training, Centres of Excellence, continuous professional training programs.*

Rezumat. În prezentul articol, autorii își propun să scoată în evidență rolul centrelor de excelență din învățământul profesional tehnic, precum și despre unele rezultate ale centrelor de excelență în ceea ce vizează exercitarea funcției de formare continuă a cadrelor didactice de specialitate din învățământul profesional tehnic. Metodele de cercetare utilizate au vizat analiza legislației în domeniu și nivelul de implementare a ei, precum și chestionarea reprezentanților centrelor de excelență prin prisma a 22 de întrebări și a cadrelor didactice care au participat la programele de formare profesională continuă prin prisma a 24 de întrebări. Autorii consideră că rezultatele reflectate în prezentul articol sunt relevante pentru tot domeniu de formare profesională tehnică la nivel național și internațional.

Cuvinte cheie: *învățământ profesional tehnic, centre de excelență, formarea profesională continuă.*

1. Introduction

As a result of the development and modernization process in VET system, a restructuring of the VET institution network has taken place since 2015, supported in part by a budget support program from the European Union [1]. In this context, 10 Centers of Excellence have been established [2], along with 3 additional centres initiated by founders.

While the trends of reorganizing institutions into Centers of Excellence were in their infancy in 2015, an increasing number of countries within the European Union and surrounding regions are now opting to establish such centers within international networks [3].

At the national level, a Center of Excellence is defined as „a VET education institution with enhanced potential, responsible for organizing professional training programs at various levels or integrated programs, as well as for developing the capacities of the VET education system” [4, art. 3].

At the international level Centres of vocational excellence (CoVEs) are often represented as the institutions that embody vocational excellence. However, the purpose, structure and functions of CoVEs vary greatly from one context to another. Differences and similarities are often disguised by the use of specific terminologies, which may be lost in translation. CoVEs are assigned different roles in policy-making and enjoy different levels of political commitment and prioritisation of resources. Sometimes CoVEs are fundamentally skills providers – vocational schools or training centres – but sometimes they are coordination or development centres or networks rather than providers” [3 p. 8-9].

In this respect, according to [5, p. 38], „*The Centres of Excellence were established to facilitate social dialogue between the private sector and other VET institutions.*” It is also important to note that, in accordance with the provisions of the Regulation Framework for the organization and functioning of VET institution [6, p. 12], Centres of Excellence have additional functions in relation to VET institutions, including:

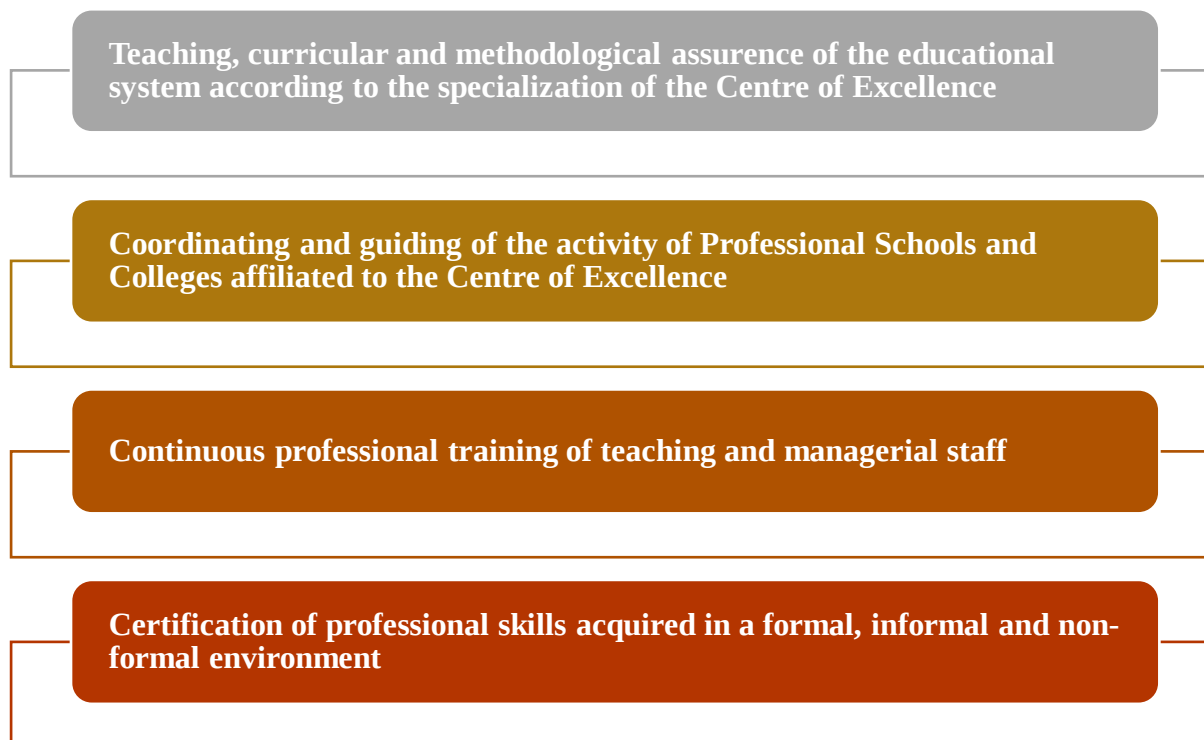


Figure 1. Specific competences of the Centres of Excellence.

Source: developed by the author according to [6].

During their functioning, it was observed [7] that the Centres of Excellence approached their assigned functions differently, and not all objectives were fully achieved. The overarching goal number 3 of the „Education 2030” Development Strategy is to provide the educational system with qualified, competent, motivated, and competitive teaching, scientific, and managerial staff [8, p. 26]. In line with the „Education 2030” Strategy's provisions for vocational education and training (VET), priority action areas include „the development and implementation of programs to encourage and motivate young people to pursue teaching careers, as well as ensuring the quality of teacher training programs according to established standards.”

In this context, the Centres of Excellence have a solid legal foundation to enhance the quality of teaching staff in VET education. Legally, and in light of their role in the continuous professional development of specialized and managerial teaching staff, the Centres of Excellence are tasked with the following responsibilities:

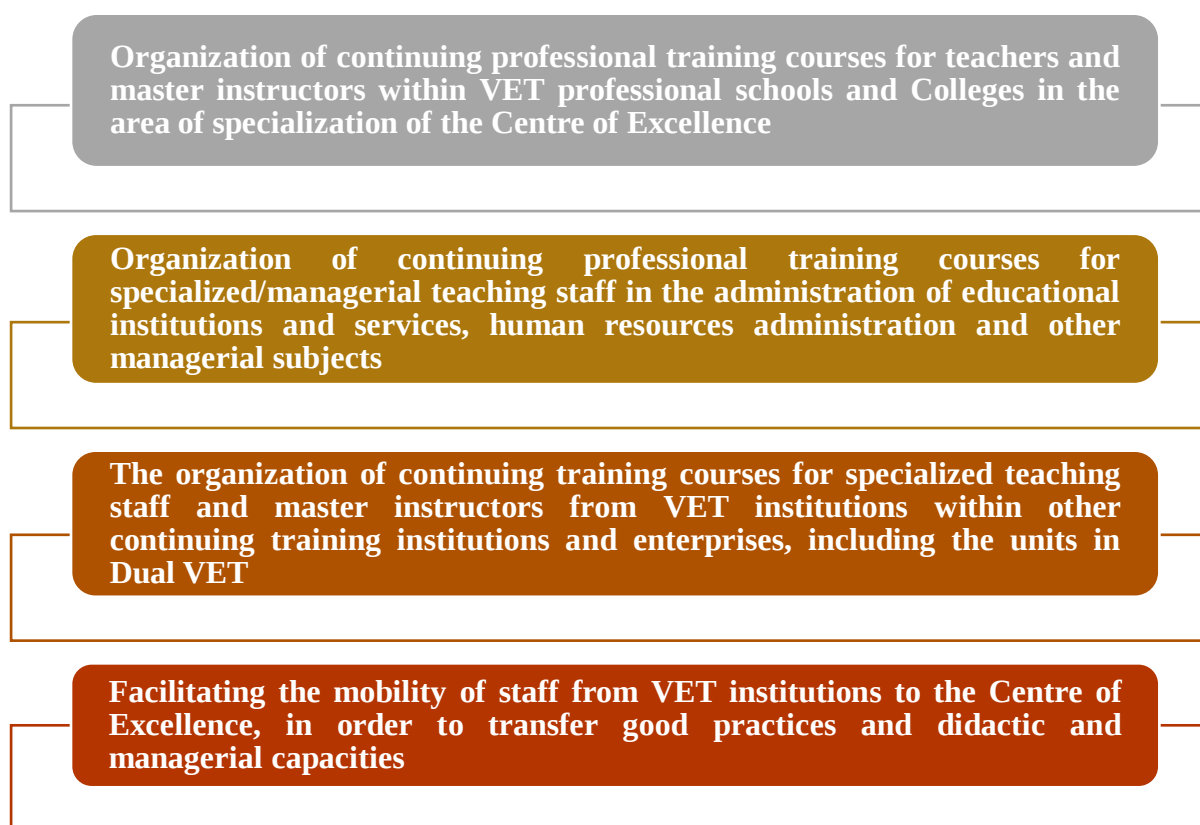


Figure 2. The attributions of the Centres of Excellences regarding the function of continuous professional training of specialized and managerial teaching.

Source: developed by the author according to [6].

According to the National Bureau of Statistics, approximately 3,600 teachers provide education and professional training across 81 VET institutions, which include 13 centres of excellence, 36 colleges, and 32 professional schools. It is noteworthy that these 80 institutions offer students the opportunity to engage in around 220 vocational training programs. Of these, 100 are at the Secondary VET level (ISCED III) and 120 are at the Post-secondary and non-tertiary VET levels (ISCED IV-V).

Given the specialization across these 220 training programs and the approximately 3,600 teaching staff, the continuous professional development of specialized teaching staff in VET education has not been particularly attractive to training providers. This underscores

the justification for assigning the responsibility of continuous specialized training to the centres of excellence.

In line with the priorities set by the Ministry of Education and Research for 2023, 8 Centres of Excellence, with financial support from the Ministry, have initiated continuous training programs for about 620 specialized teaching staff from VET institutions.

Table 1

The Centres of Excellence which launched the continuous training programs for the specialized teaching staff

Nr. crt.	The VET institutions	Training program description	No. of teachers
1.	Centre of Excellence in Light Industry	„Development and integration of specialized digital resources”	44
2.	Centre of Excellence in Constructions	„Use of ecological materials, waste and sustainable methods in the field of construction and energy efficiency”	50
3.	Centre of Excellence in Artistic Education „Ştefan Neaga”	„Teaching of subjects in Art Education”	37
4.	Centre of Excellence in Energetics and Electronics	„Electronics and automation”	17
5.	Centre of Excellence in Economy and Finance	„Economic disciplines: Accounting and taxes” „Economic disciplines: Finance, banking and insurance” „Economic disciplines: Management and administration”	82
6.	Centre of Excellence in Informatics and Informational Technologies	„Development of digital skills of teaching staff”	338
7.	Centre of Excellence in Services and Food Processing from Balti	„Teaching didactics for the Public Food Technology”	21
8.	Centre of Excellence in Transportations	„Technical diagnosis of motor transport and technology of hybrid and electric cars”	31

The topic of continuous professional training, particularly for specialized teaching staff, has garnered significant interest. In this context, an increasing number of authors in the specialized literature are exploring aspects related to the quality of professional training [9-15].

This article aims to highlight qualitative aspects regarding the implementation of continuous professional training programs for specialized teaching staff by centres of excellence, while also proposing a sustainable alternative for practical professional training in VET education for teachers.

2. Description of applied methodology

This article is developed based on the following components:

- analysis of the legal, normative, and policy framework; examining the continuous professional training of teaching and managerial staff in VET institutions, as well as reports

from the Ministry of Education and Research, the Centres of Excellence, and affiliated VET institutions.

- analysis of methodological and curricular frameworks; analysing the professional development offerings of the Centres of Excellence;
- semi-structured interviews: conducting interviews with representatives from 11 Centres of Excellence;
- implementation of online surveys: Two online surveys were conducted via Google Forms. The first survey focused on the activities of the centres of excellence, consisting of 22 questions answered by representatives from 11 centres. The second survey involved 166 teachers who participated in continuous professional training programs at VET institutions offered by the Centres of Excellence. These respondents answered 24 questions and were drawn from 55 VET institutions, including 23 Professional Schools, 23 Colleges, and 9 Centres of Excellence.

Additionally, a focus group was organized with representatives from 10 VET institutions to clarify aspects related to training needs for teaching and managerial staff through continuous professional development.

The analysis encompasses several components related to the professional development offerings provided by the Centres of Excellence for teaching and managerial staff, including:

- assessing the accessibility of professional development offers through continuous training for specialized and managerial teaching staff within the VET system;
- evaluating the satisfaction of specialized and managerial teaching staff regarding the quality and relevance of the continuous training development offers provided by the Centres of Excellence;
- establishing the correlation between the training needs of specialized and managerial teaching staff in the VET system and the professional development offerings available through the Centres of Excellence;
- identifying constraints and barriers to accessing continuous professional development for specialized and managerial teaching staff in the VET system.

Considering that the affiliation of technical vocational education institutions with Centers of Excellence is based on study programs, a technical vocational education institution can be affiliated with multiple centers of excellence [20]. In this regard, a significant portion of the questions in the questionnaire were open-ended to allow teaching staff to respond according to the Centers of Excellence with which they collaborate.

3. The results

The objective of the research was carried out in order to assess the quality of continuing professional training programs for specialized teaching staff in VET education.

3.1 The survey of the Centres of Excellence regarding the implementation of the function of continuous training of teaching

The inclusion of the attribution of carrying out specialized professional training programs for the Centres of Excellence was based on the need to offer specialized teaching staff training opportunities in accordance with their needs from the perspective of implementing the curricula for the specialties.

In this sense, following the survey of the representatives of the centres regarding the method of determining the training needs of teaching staff, it was found that to a large extent

the professional training offer of the Centres of Excellence is determined by coordination with the affiliated VET institutions.

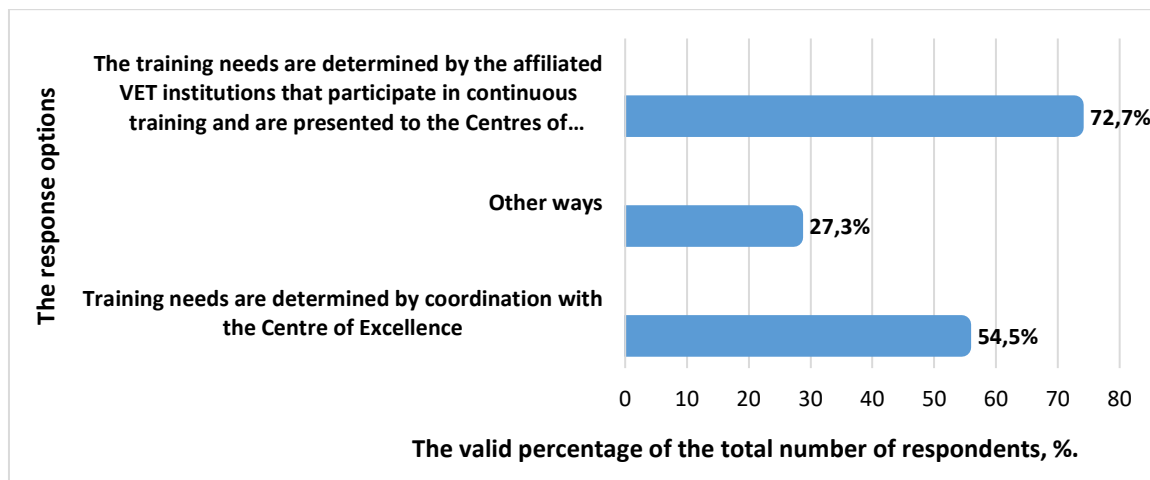


Figure 3. The method to determine the training needs of the teaching staff.

Source: developed by the author according to the responding of the survey.

Regarding the initiative to develop the content of the course, 54.5% of the respondents mentioned that this takes place at the request of the teachers and managers of the affiliated institutions; 36.4% at the initiative of the Centres of Excellence, and 9.1% at the initiative of other actors. Other actors include both the initiative of the Ministry of Education and Research and the request of other partners.

According to the results, most respondents mentioned that the initiative comes from the teaching staff. At the same time, around 46% in total mentioned that the initiative also comes from other actors, including 36.6% from the Centres of Excellence. Thus, we can consider that the initiative comes from all stakeholders in this process.

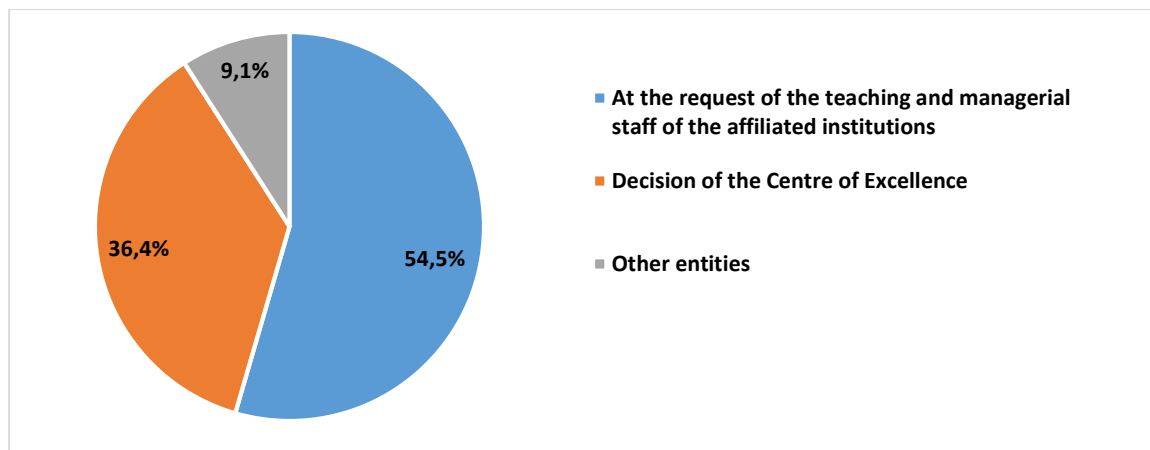


Figure 4. The modality to develop the content of the continuous training course.

Source: developed by the author according to the responding of the survey.

Concerning the providers of continuous training for teachers and managers, 81.1% of the respondents mentioned that the providers of the courses are the teachers from the institution, who offer these trainings, and 18.9% mentioned other actors. At the „other actors” category, the Centre for Excellence in Construction mentioned „Trainers from the institution as well as experts from outside, including from the economic environment”, and the Centre for Excellence in Economics and Finance from Chisinau also mentioned teaching and/or

managerial staff from institution, experts from outside the institution as well as representatives of the companies.

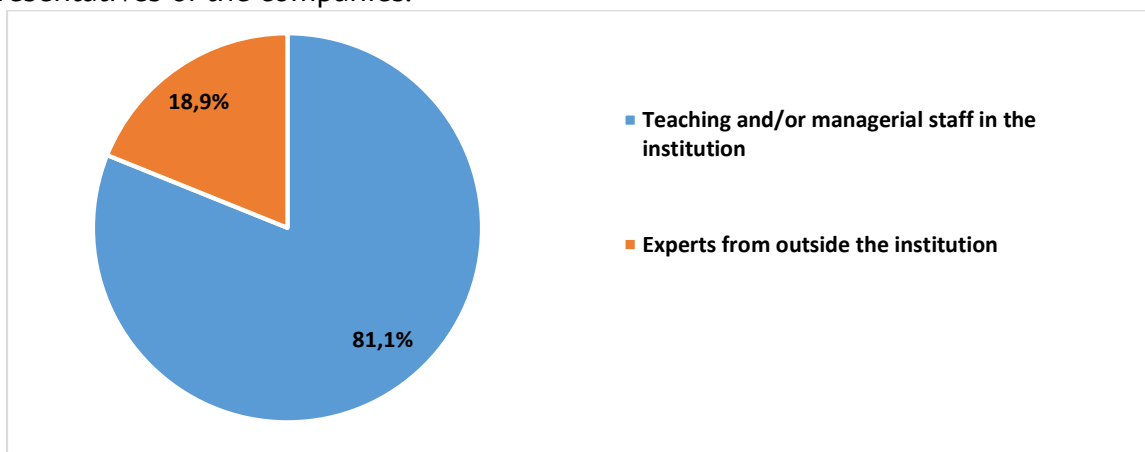


Figure 5. The personnel involved in the realization of continuous training programs.

Source: developed by the author according to the responding of the survey.

According to the results, there is an overwhelming proportion, the course delivery process is offered by the personal from Centres of Excellence. However, there are situations when Centres of Excellence call on outside experts/specialists.

Regarding the way in which the trainers from the Centres of Excellence update their knowledge of current trends in their field of expertise, 54.5% mentioned trainings offered by some institutions/organizations, 9.1% mentioned self-training, 9.1% university courses, and 27.3% also indicated other methods.

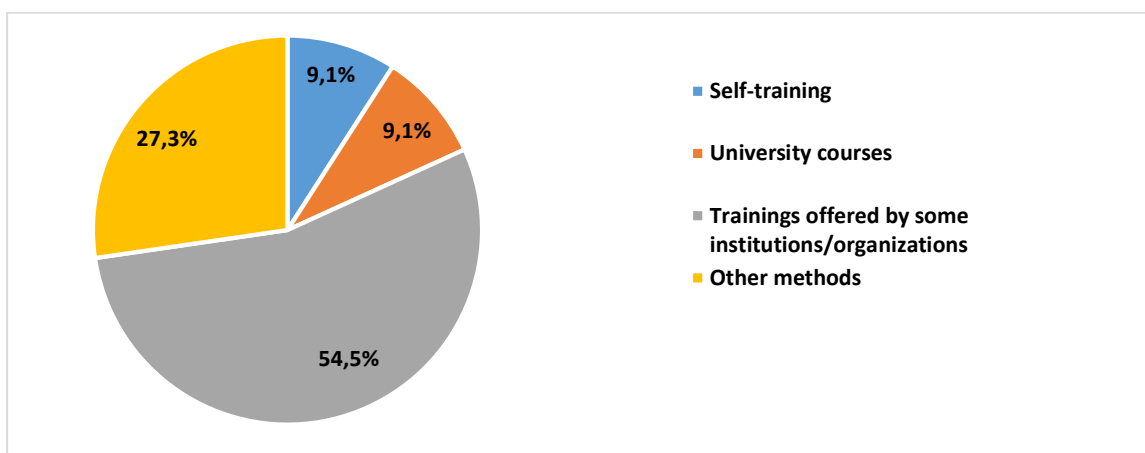


Figure 6. Ways to develop knowledge for trainers in centres of excellence.

Source: developed by the author according to the responding of the survey.

Among other ways, 3 Centres of Excellence provided some particular examples. Thus, the Centre for Excellence in Construction mentioned training courses, participation in master classes, study visits outside the country. The Centre of Excellence in Economics and Finance specified trainings offered by some institutions/organizations, conferences, self-training. The Centre of Excellence in Transport provided concrete examples, mentioning the involvement of its personal in the companies, such as DAAC Hermes S.A., BMW from Iasi, AEROSTAR S.A. Bacau, Romania, etc.

As can be seen from the results, the trainers from the Centres of Excellence update their knowledge to provide continuous training courses for teachers and managers from the affiliated institutions.

Related to the way of organizing the theoretical hours of continuous training of teaching and managerial staff, 63.6% of the respondents mentioned the physical attendance, 9.1% the online format, and 27.3% indicated the mixed format.

In the context in which more and more professional training programs are carried out mainly in online format, the continuous professional training programs of specialized teaching staff in VET education were carried out with attendance. Even though the organization of courses in online format offers several advantages such as „accessibility in time, costs, location” [14, p. 427] it was opted for the organization and conduct of training programs with presence, especially due to the practicality in the training of specialists in field.

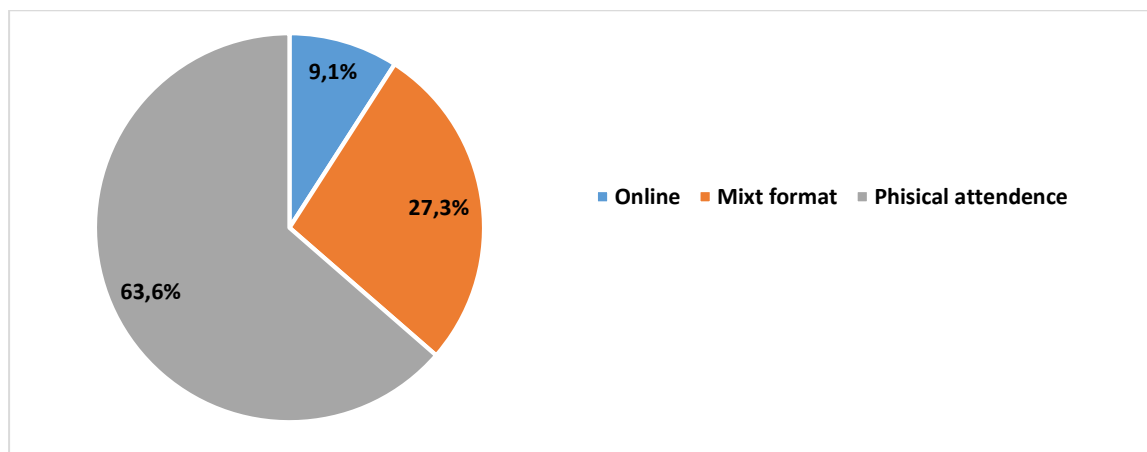


Figure 7. The method of carrying out continuous training programs.

Source: developed by the author according to the responding of the survey.

As it follows from the collected data, for the most part the classes take place in a physical presence format.

Regarding the main obstacles/constraints in the provision of continuing professional training courses for teaching and managerial staff in the affiliated institutions, 45.4% of respondents mentioned the lack of financial resources; 9.1% problems related to the transportation, accommodation and food of the students; 9.1% difficulties with the normative framework; 9.1% the lack/deficit of teachers-trainers and 27.3% other obstacles.

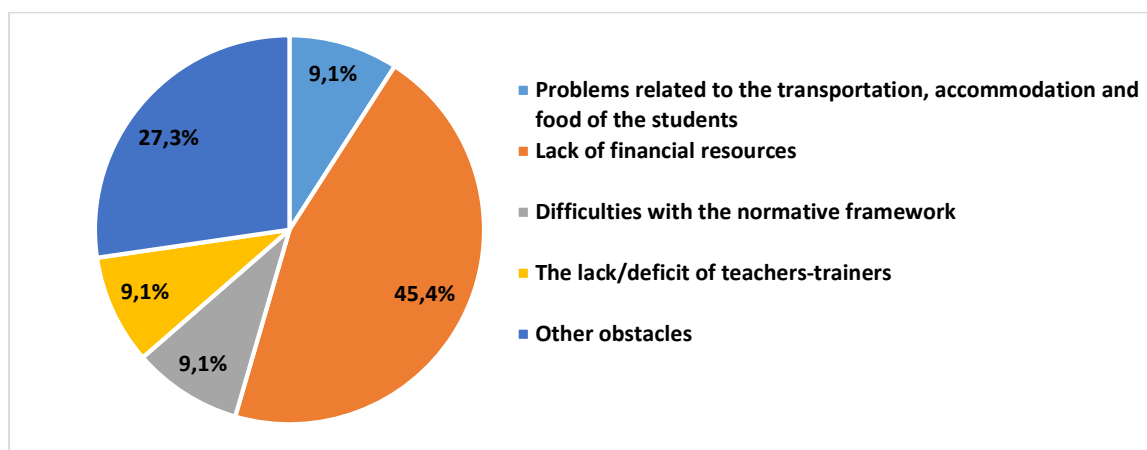


Figure 8. The main obstacles in the provision of continuing professional training courses.

Source: developed by the author according to the responding of the survey.

Concerning other obstacles/constraints, the Centre of Excellence in Viticulture and Winemaking in Chisinau specified that no training requests were identified for the 2023-2024 year for the courses and the Centre of Excellence in Construction has specified the difficulties regarding the identification of training needs, lack of visions at the national level for the training of teaching staff in certain directions, for example „Greening the construction sector”.

3.2 The survey of the specialized teaching staff from the VET system

In order to analyse the point of view of the beneficiaries of the continuous training programs, 166 teachers were questioned, who participated in the continuous professional training programs of VET education institutions offered by the Centres of Excellence's own field of specialization. Regarding the affiliation of VET institutions to the Centres of Excellence, of those who participated in the online survey, most institutions are affiliated to the following Centres of Excellence:

- 25.2% of respondents to the Centre of Excellence in economics and finance;
- 24.5% at the Centre of Excellence in Informatics and Information Technologies;
- 21.4% at the Centre of Excellence in Transport;
- 18.9% at the Centre of Excellence in Energy and Electronics;
- 17% at the Centre of Excellence in Construction;
- 13.2% at the Centre of Excellence in Food Services and Processing;
- 9.4% at the Centre of Excellence in Light Industry;
- 2.5% Centre of Excellence in Artistic Education „Ştefan Neaga”;
- 2.5% at the „Raisa Pacalo” Centre of Excellence in Medicine and Pharmacy.

At the same time, it is important to mention that 7 institutions, which participated in the survey, did not indicate their affiliation to any Centre of Excellence.

From the perspective of the quality assessment of the continuous training programs, it is important to mention the following elements:

- More than 80 % of the respondents rated at „5- maximum” the quality of the continuing professional training offered by the Centre of Excellence.
- Around 93.4% of the respondents mentioned that the determination of training needs is carried out systemically at the level of the educational institution.
- 73.5% of the respondents mentioned that the training needs are officially formulated at the institution level and sent to the centre of excellence, 37.3% mentioned the method of informal communication with the centre of excellence, and 5.4% of the respondents indicated about other ways of communication, including: surveying teaching staff to identify needs; the establishment by the Centres of Excellence of the contents of the continuous training courses.
- 67.5% of the respondents mentioned that their continuing professional training needs are fully covered, and 31.3% of them mentioned that they are partially covered, and 1.2% of the respondents indicated an insufficient level.
- 52.4% of the respondents mentioned that the topics included in the continuing professional training programs are very relevant, and 46.4% rated them as relevant.
- 48.8% of the respondents rated the conditions in which the continuous professional training program took place as „Satisfied”, 47.6% indicated „Very satisfied”, and 3.6% of the respondents preferred „Somewhat satisfied” and „Unsatisfied”.
- 54.2% of the respondents rated the conditions for conducting practical lessons as „Very Satisfied”, and 44% rated them as „Satisfied”.

In relation to the most beneficial specific aspects of continuous professional training, which were for teaching and managerial staff, 68.7% of respondents mentioned innovative theoretical and practical aspects; 66.9% indicated exchange of experience with other trainees in the field; 38.6% new methodological aspects or even teaching know-how. 1.8% of the respondents mentioned other aspects, including the involvement of companies in the teaching process, study visits and new technologies implemented in the field.

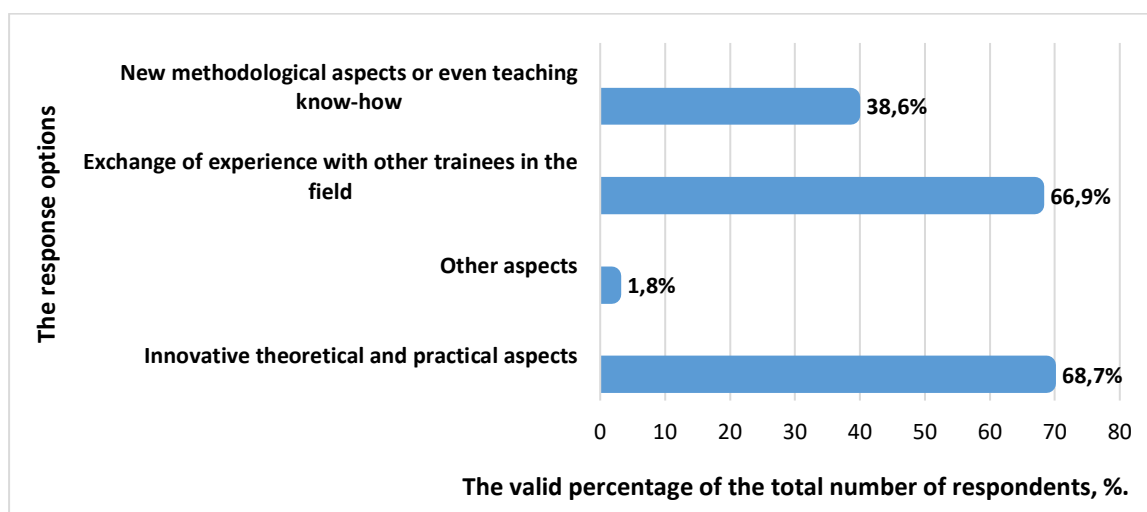


Figure 9. Beneficial aspects identified within the continuing professional training program.

Source: developed by the author according to the responding of the survey.

In terms of encountering difficulties in benefiting from these services, 87.6% of respondents indicated that they do not encounter barriers, 7.4% indicated that they face the difficulties, and 5% mentioned other aspects.

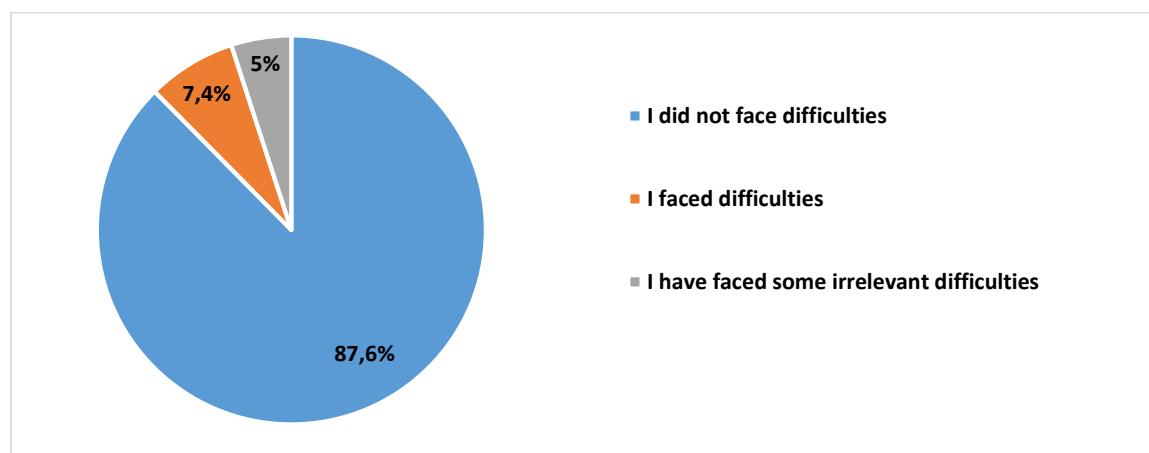


Figure 10. Difficulties faced as a result of the participation of the teaching staff at the continuous professional trainings.

Source: developed by the author according to the responding of the survey.

Among the other aspects, which represent difficulties/barriers, accompanied by proposals are: the language barrier; organization of training on weekend days; the problem of the teaching staff's time, the time given to training subjects is permanently limited, lack of financial resources. There are also remarks that some teaching staff have benefited from only one continuous teacher training, initiated by the Ministry.

4. Conclusions

This research highlights the role of centers of excellence in the Republic of Moldova in enhancing the quality of the training process for students in VET education. The findings indicate that these centers are effectively fulfilling their responsibility for the continuous training of specialized teaching staff.

Key findings from the research include:

- Among the four specific attributions of the Centres of Excellence (Figure 1), the function related to teaching, curricular, and methodological assurance in their specialized segment was initiated in 2023 and is being successfully implemented. However, the other attributions are either carried out to a limited extent or not at all in some institutions.
- Although the centres are tasked with the continuous professional training of both specialized and managerial teaching staff, the analysis shows that training predominantly focuses on teaching staff, with little to no training for managerial staff.
- While most respondents indicated that training needs are identified through communication and coordination with the Centres of Excellence at the affiliated institutions, the analysis revealed a lack of a clear mechanism for determining these training needs.
- A significant obstacle to providing continuous professional training programs for teaching staff in affiliated VET institutions is the lack of financial resources.
- Logistical issues also hinder the organization of continuous professional training. Many teaching staff are overworked and have multiple commitments, leading to disruptions when they participate in training outside their institution. Additionally, there are challenges in arranging for substitutes during their absence. Teachers may also be reluctant to leave their classes, fearing potential salary losses from delegation to external activities. To address these issues, it is advisable to conduct training programs on weekends, holidays, or during evenings, as well as during the day.

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