

EXPERT OPINION

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regarding the dissertation thesis entitled:

“Adaptive Training Models in Technical Vocational Education According to Students’ Professional Abilities and Interests”

Author: Eng. Iliyan Vasilev Vasilev
Scientific Supervisor: Assoc. Prof. Dr. Iliana Petkova

1. General characteristics of the dissertation work

The dissertation submitted for expert evaluation is impressive in terms of the topical relevance and social significance of the issues addressed. It is focused on research within an underexplored domain of secondary education, namely vocational education. The attention of the doctoral candidate, Eng. Iliyan Vasilev, is directed, on the one hand, toward the organization and implementation of the educational process through the proposal of adaptive learning models within the system of technical vocational education, and, on the other hand, toward an attempt to link these models to students’ individual abilities, interests, and educational needs. This positions the topic in full alignment with contemporary international priorities, including those related to lifelong learning, and demonstrates potential pathways and solutions relevant to national educational policy in the field of vocational education, particularly with regard to improving the relationship between education and the labor market.

The dissertation exhibits an interdisciplinary orientation, integrating general pedagogical, didactic, methodological, psychological, and socio-economic aspects of vocational education. The doctoral candidate, Eng. Iliyan Vasilev, demonstrates an in-depth understanding of the specific characteristics of technical vocational education and convincingly argues for the necessity of introducing flexible, personalized, and adaptive educational solutions. He formulates and substantiates independent positions on all issues addressed in the dissertation.

2. Structure and logical organization

The work is logically structured and compositionally well balanced. It includes an introduction, four main chapters, a conclusion, clearly formulated contributions, a rich literature list and applications. This classic structure for such works ensures a consistent development of the scientific analysis – from the theoretical framework, through conceptual modelling, to the empirical verification and macroeconomic interpretation of the results.

The good internal coherence between the individual chapters is particularly impressive. The theoretical statements in the first and second chapters logically prepare the empirical research, and its results are reasonably reflected in the analysis of the broader socio-economic context in the fourth chapter.

3. Content analysis of the dissertation

The first chapter reveals the author's skills to systematize, analyze and synthesize scientific literature. The number of cited sources is impressive – 247 in Cyrillic and Latin, precisely arranged according to the requirements. The work of Eng. Vassilev is distinguished by a thorough and systematic theoretical analysis of the basic concepts such as "model", "educational model", "training model". He proves his thesis of diversity in interpretations by describing various educational and didactic models. The author demonstrates excellent theoretical preparation, the ability to critically read a significant volume of scientific literature – both Bulgarian and foreign. Various classification approaches and concepts are presented, which allows a clear positioning of adaptive models in modern pedagogical theory. A strong point in this part of the work is also the reasoned introduction of the synergetic approach as a methodological basis for constructing models in vocational education. The doctoral student convincingly shows how this approach expands the possibilities for integration between educational content, organizational forms and individual educational trajectories.

Chapter Two constitutes one of the most substantial and original cores of the dissertation. It begins with a clarification of key concepts such as "talent," "aptitudes," and "giftedness," followed by a presentation of the six main types of gifted students according to T. Betts and M. Neihart (1988). The developed adaptive models ("STRONG-VET," "LOOSE," "UM," and the model for Accreditation of Prior Learning – APL) are characterized by a high degree of practical applicability, a clearly structured internal logic, and a precise description of their organizational, content-related, and methodological parameters. Eng. Vasilev demonstrates the academic courage to develop and propose an original authorial model ("Vasilev Model"); however, this model has not been empirically piloted, and therefore its effectiveness cannot be conclusively confirmed or rejected on the basis of practical results. Like the other models, it currently remains at the conceptual level. This, however, does not imply that the models are inapplicable. The author places particular emphasis on the description of the "STRONG" model, which is oriented toward work with gifted and high-achieving students in technical vocational education and is closely aligned with students' interests and abilities. The author not only builds upon established theories of giftedness but also adapts them appropriately to the Bulgarian educational context, proposing concrete mechanisms for student selection, instruction, and development. A significant advantage of the proposed models is their financial and organizational justification, which substantially enhances their realism and potential for implementation. Doctoral Candidate Eng. Iliyan Vasilev provides an in-depth description of the substantive core of the "Vasilev" model, outlining its operational framework and temporal placement within the instructional process. The inclusion of a concrete example of the application of the authorial "Vasilev" model in specific classroom settings demonstrates the author's ability to address not only the broader conceptual framework but also the necessary level of detail required for potential practical realization.

The third chapter demonstrates very good research preparation. The design of the study is adequate to the set goals and objectives, and the tools used are diverse and well selected. The combination of quantitative and qualitative methods (surveys, expert assessments, Delphi method, factor analysis) ensures reliability and validity of the results obtained. A strong point is also the adaptation of quality indicators from the EQAVET system to the specifics of the "STRONG" model. This shows the ability to work with international frameworks and their contextualization in relation to the national education system. The analyses are correctly interpreted and logically justified.

The fourth chapter is designed to prove in another way the effectiveness and the undeniable benefit for the Bulgarian economy of the implementation and realization of the "STRONG" model. This effort of the author gives additional scientific and practical value to the dissertation work. The analysis of the relationship between vocational education, labour productivity and the labour market expands the study beyond purely pedagogical dimensions and positions it in the context of strategic social processes. This is a relatively rare, but extremely valuable approach in doctoral dissertations.

4. Recommendations

Along with the undeniable scientific and applied merits of the dissertation work, several recommendations can be formulated that are more of a constructive and developmental nature: The presented models, in particular the “STRONG” model, demonstrate a high degree of applicability and effectiveness in the context of technical vocational education.

As a possible direction for future research, it can be recommended to expand their empirical verification in a broader institutional and regional context, as well as in other professional areas outside of technical specialties. This would contribute to additional validation and universalization of the models.

Although the dissertation clearly acknowledges the role of digitalization and information technology, future developments could deepen the analysis on the use of adaptive digital platforms based on data and algorithms for personalization of learning, especially in the context of vocational education and training (VET).

5. Questions to the doctoral student

1. What are the opportunities and limitations for the institutionalization of the adaptive models developed in the dissertation within the framework of the current regulatory framework governing vocational education and training in Bulgaria?
2. How does the author conceptualize the role of the teacher in the context of implementing adaptive learning models—as a moderator, mentor, or designer of the educational environment—and how does this reconceptualization affect the need for changes in the qualification and professional preparation of pedagogical specialists?

The above recommendations do not belittle the scientific value of the work but rather outline opportunities for its further development and upgrading.

6. Conclusion and overall assessment

In conclusion, it should be stated that the dissertation submitted by Eng. Iliyan Vasilev Vasilev represents a completed, scientifically substantiated, and practically relevant research work. The study is characterized by clearly defined objectives, internal logical consistency, a high theoretical level, and reliable empirical results. The author demonstrates independent scientific reasoning, sound analytical and synthetic skills, and the ability to develop applicable solutions in the field of education. In view of the above, I recommend that the members of the Scientific Jury approve the awarding of the educational and scientific degree “Doctor” in the professional field 1.2. Pedagogy to Eng. Iliyan Vasilev Vasilev.

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