

Perceived Impacts And Challenges To The Modular Approach To Curriculum Development In Viet Nam: Vocational Education And Training

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ABSTRACT

The Vocational Education and Training Renewal Program in Vietnam, implemented in partnership with the German International Cooperation Agency and the General Department of Vocational Education and Training, involves piloting modular training curriculums in several vocational colleges. This study explores the impact and challenges of implementing the modular approach to curriculum development in Vietnam's vocational education and training sector. Using a descriptive study design, data were collected from 40 technical vocational education colleges in Vietnam through a survey comprising 20 questions rated on a 5-level Likert scale. In-depth interviews were conducted to gather insights into the modular curriculum development approach. The research findings illuminate the current status of modular training curriculum implementation in surveyed vocational colleges and evaluate their perceptions regarding the effectiveness of GIZ Germany's modular training approach. The study also proposes policy recommendations for government management agencies and training institutions. These findings contribute theoretically to research on the Modular Approach to Curriculum Development in Vietnam's Vocational Education and Training sector and advocate for innovative changes in vocational training policies and school administration.

Keywords: curriculum, modular, competencies, curriculum development, Vocational Training Curriculum, German International Cooperation Organization (GIZ), Programme Reform of TVET

1. INTRODUCTION

The adoption of modularized curriculum represents an ongoing initiative within Vietnam's Vocational Education and Training institutions. While not a novel concept, its widespread implementation remains limited. However, significant strides have been made in testing and refining the modular-based training approach through the collaborative efforts of partner colleges involved in the GIZ "Programme Reform of TVET in Viet Nam."

This study, conducted within the framework of the GIZ Programme Reform of TVET in Viet Nam from November to December 2022, seeks to bridge the existing gap in knowledge

and understanding regarding modular curriculum design in VET. The objectives of this report are multifaceted: Firstly, to furnish policymakers with comprehensive insights and recommendations pertaining to regulations on learning outcomes, curriculum development, and the structuring of training curriculums. The ultimate aim is to cultivate an open and flexible VET landscape in Vietnam. Secondly, to advocate for and provide assistance to TVET institutions in the adoption of modular curriculum design methodologies. Drawing inspiration from countries with well-established VET systems, this endeavor aims to enhance training quality and streamline the learning pathways for students. Lastly, to enhance awareness and bolster the capacity of VET managers, educators, and accrediting bodies regarding the modularization of curriculum. By doing so, they can effectively fulfill their professional responsibilities and contribute to the advancement of the VET sector.

2. LITERATURE REVIEW

Since the inception of the modular approach to curriculum development in Vietnam's Vocational Education and Training during the early years of the 21st century, research in this field has witnessed significant fluctuations and adaptation in response to technological and knowledge advancements. According to UNESCO (2011), a module is a distinct course or a segment of a course within a modularly structured curriculum. Modules can be implemented independently or in conjunction with others. NCVER (2013) characterizes a module as a self-contained learning entity that can be pursued autonomously or as part of a broader curriculum, leading to the attainment of one or more competencies upon completion. The terminology surrounding modular education varies across different nations; for instance, some employ the term "unit of competency," as seen in the Australian system, or simply "unit" in the British system. ILO (2006) defines curriculum modularization as a framework where the curriculum comprises multiple modules, each of which can be certified independently. UNESCO (2011) elaborates on modular curriculum design as the structuring of curriculum or training curriculums into self-contained units tailored for effective learner management. NCVER (2013) describes modular training as the segmentation of a comprehensive curriculum into smaller, manageable units (modules), each with quantifiable and assessable outcomes, sometimes leading to

certification, thereby contributing to the overarching objectives of the curriculum. Many studies, such as those by Wondifraw Dejene (2019) and Khaled Sellami (2018), affirm that modularization of curriculum and training delivery is one of the trends in curriculum design. The modular approach is not a prerequisite for curriculum design, but in practice, it drives this process forward (Tuning Academy, 2022).

Credit and Modular-Credit Curriculum

Credit serves as a measure of the workload of learners based on the time required to complete a specific teaching/learning unit. The number of credits allows calculation of the necessary workload and sets realistic limits on the content that can be included in an overall course or within each academic year. A modular-credit curriculum uses a credit system where credits are assigned to each component of the curriculum based on the learning outcomes. When referring to a modular-credit curriculum, it means the curriculum is designed with modules, and each module is assigned credits. However, it's important to note that just because a curriculum is based on accumulating modules doesn't necessarily mean it utilizes a credit system.

The Vocational Education Law of 2014 in Vietnam defines a module as a learning unit that integrates specialized knowledge, practical skills, and professional attitudes comprehensively to help learners acquire the ability to fully perform one or several tasks in a profession.

The findings of the CEDEFOP (2015) study on the modularization of training curriculums in vocational education across 15 European countries, indicate that credit transfer between modularized training curriculums is not yet common. In some countries, assigning credit values to individual modules and competencies has not been implemented. Additionally, in countries where credit systems are used, budget constraints are seen as a barrier to credit transfer, including the recognition of prior learning. ECVET is an initiative of the European Union, established according to the Recommendation of the European Parliament and of the Council on June 18, 2009. It aims to facilitate the comparability of vocational education and training qualifications across European countries. This initiative supports easier mobility in employment and lifelong learning for citizens. It represents one of the European Union's solutions to meet the competency requirements according to the demands of the labor market.

The Modular Curriculum Design Model of Some Countries

- The UK: The curriculum includes core units of competencies and elective units of competencies. The curriculum of a training occupation at the higher level of training will include the entire core units of the curriculum at the lower level and add additional modules. The training occupations at level 5 will be more specialized ones compared to level 4 and the curriculum of training occupations at level 5 will include all core units of level 4 plus specialized units of level 5.

- Australia: The curriculum includes core units of competencies and elective units of competencies. Training curriculum at higher level of training will include some units of lower level of training (not necessary all units of lower training level) plus some additional units of competencies. A unit of competency in a package can be used for many different training curriculums in the same package, including training curriculums of the same training occupation or different training occupation in the package.

Elective units: The training curriculum can include elective units in the package or the ones imported from the other package. This feature shows that shared units of competence are exploited to the fullest in the Australian model.

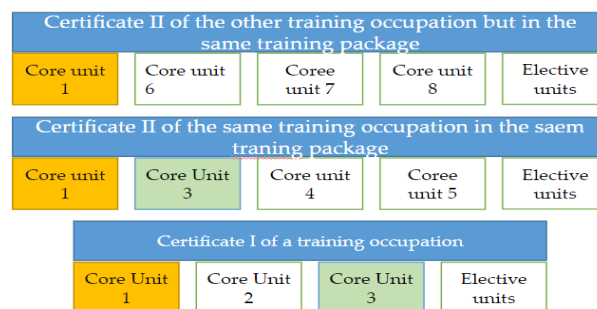


Figure 1.

A sample Model for the Design of Modular Training Curriculums in Vocational Education in Australia

- The USA: The curriculum of each training occupation includes (i) compulsory subjects including: General education subjects and professional subjects and (ii) elective subjects. Some subjects are designed to be common ones across different curriculums.

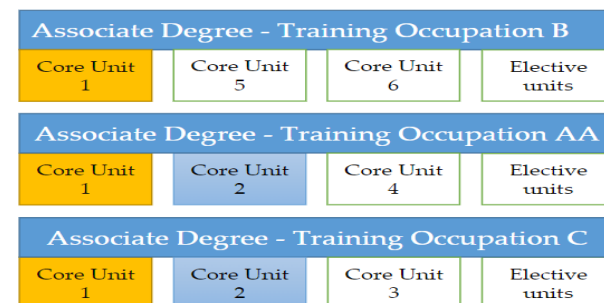


Figure 2.

A sample Model for the Design of Modular Training Curriculums in Vocational Education (Source from Broward College, USA)

Table 1. List of vocational training institutions

| No | Institutions | Fields/Occupations |
|----|--|---|
| 1 | An Giang Vocational College | Electrical Engineering |
| 2 | Construction College No. 1 | Technical Wastewater Treatment |
| 3 | Nha Trang College of Technology | Automotive Electronics, Electrical Engineering |
| 4 | Ninh Thuan Vocational College | Industrial Electronics, Electrical Engineering, Renewable Energy |
| 5 | Bac Ninh College of Industry | Metal Cutting, Industrial Electronics |
| 6 | LILAMA2 International Technology College | Electrical Engineering, Industrial Electronics, Metal Cutting, Construction Mechanical Engineering |
| 7 | Long An Vocational College | Electrical Engineering |
| 8 | Vietnamese German Technical College of Ha Tinh | Metal Cutting |
| 9 | Hue Industrial College | Technical Wastewater Treatment, Electrical Engineering |
| 10 | College of Machinery and Irrigation | Electronic Technology Building Energy and Mechanical Technology Heating and Air Conditioning Technology |
| 11 | College of Technology II | Technical Wastewater Treatment |

Programme Reform of Technical Vocational Education and Training in Viet Nam (GTZ) supports 11 vocational training institutions to become high-quality vocational training centers in various fields and occupations.

Developing Training Curriculums with the GIZ Approach

The curriculum design ensures permeability between 03 different training levels, not only within one training occupation but also among different training occupations (exploitation of common modules of different training occupations and training levels). Allows independent certification of individual modules. Standalone modules that can be used in short training. GIZ's approach to designing modular vocational training curriculums at different levels:

Intermediate Level Curriculum

Duration: 1.5 years

Number of compulsory subjects: 6

Number of common specialized modules: 6

Associate Degree Curriculum:

Duration: approximately 2.5 years

Number of compulsory subjects: 6

Number of specialized modules: 10 (including 6 modules overlapping with the intermediate level)

Advanced Associate Degree Curriculum

Duration: 3 years

Number of compulsory subjects: 6

Number of specialized modules: 12 (including 10 modules from the associate degree level)

Articulation from Intermediate to Associate Degree

Additional 4 modules (from module 7 to module 10)

Articulation from Associate Degree to Advanced Associate Degree

Additional 2 modules (from module 11 to module 12)

The information above illustrates Germany's specific approach to designing modular vocational training curriculums at various levels, from intermediate to associate and advanced associate degrees, as well as the articulation process between these levels.

Characteristics of Modular Training Curriculum with the GIZ Approach

-The training curriculum is developed based on demand-oriented and interconnected across three different training levels, not only within a particular industry or profession but also across various industries (utilizing shared modules among different training industries and levels).

-Allows independent certification of individual modules.

-Independent modules can be used in short-term training.

-These Curriculums also comply with the regulations specified in Circular No. 03/2017/TT-BLĐTBXH on the process of developing, appraising, and issuing Curriculums and standards of Vietnam's outcomes. The highest level of this training curriculum has been evaluated by the German Industrial Chamber, responsible for the dual vocational training quality assessment, appraisal, and recognition equivalent to German standards in both theoretical and practical content.

-Training modules are practice-oriented, ranging from basic to advanced, integrating elements of: (i) Digitalization and Industry 4.0; (ii) Green vocational education, environmental protection in each module; (iii) Ensuring occupational health and safety; (iv) Gender and integration.

-If learners have language proficiency certificates meeting the requirements and graduate from this curriculum, they will be assessed as equivalent to German vocational qualifications.

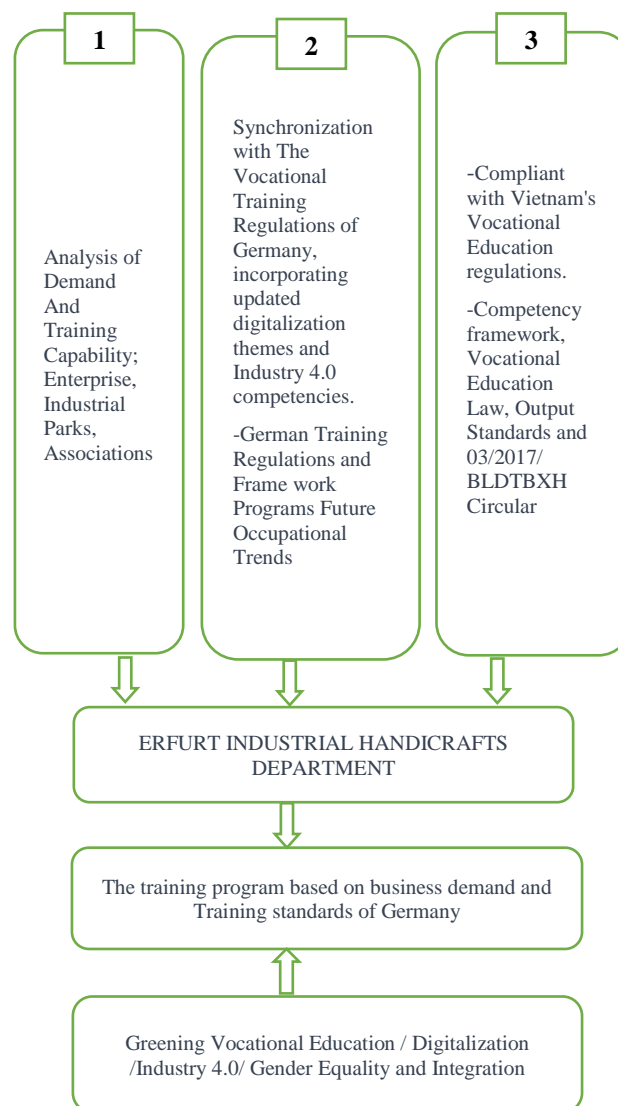


Figure 3.
Process of Developing Training Curriculums with the GIZ Approach (Source: Programme Reform of Technical Vocational Education and Training in Viet Nam)

3. MATERIALS AND METHODOLOGY

This section presents the methodology utilized in our study, which incorporates both quantitative and qualitative methods to investigate the status, evaluation, challenges, and recommendations regarding modular curriculum design in colleges.

Our investigation addresses the following research questions

What is the current status of modular curriculum design in the surveyed colleges?

How do colleges assess the benefits and effectiveness of the modular approach, including the specific modular approach of GIZ Germany?

What difficulties and barriers exist in implementing modular curriculum design?

What recommendations do colleges propose to enhance the application of the modular approach?

The research was conducted in two distinct phases.

Phase I: Questionnaire Distribution.

In the initial phase, we distributed questionnaires to representatives from 40 colleges, encompassing both those

participating in the GIZ project (11 colleges) and those outside the project (29 colleges). The questionnaires, comprising both open and closed questions, were designed to gather comprehensive insights into the current practices and perceptions regarding modular curriculum design. The questionnaires were targeted at college leaders, deputy heads of the training department, or deputy heads of the quality assurance department, individuals deemed knowledgeable to provide informed responses.

Phase 2: The method of in-depth interviewing.

Following the preliminary analysis of survey data, we organized an online focus group meeting with representatives from five colleges to delve deeper into the research area. Additionally, short personal phone interviews, consisting of 1-2 questions, were conducted to elucidate responses to open-ended questions from the survey.

4. RESULTS

Research question 1: Summary of the survey results on the research question regarding the current implementation of Modularized Curriculum Development in Higher Education Institutions in Vietnam:

Training Implementation Methods: Currently, 19 out of 40 institutions are implementing training on an annual basis, with 8 institutions fully adhering to this model and 11 institutions implementing it for some of their Curriculums. In the GIZ TVET project, 3 institutions continue to implement annual training for all Curriculums, while 4 other institutions apply this approach to some Curriculums. The rationale for retaining the annual training approach in some institutions is to ensure consistency in management and education.

Level of Module and Elective Course Selection: 40% of the surveyed institutions opt for a "moderate" level of module and elective course selection, while 30% choose a "high" level, and 28% choose a "low" level, with only 2% opting for a "very low" level;

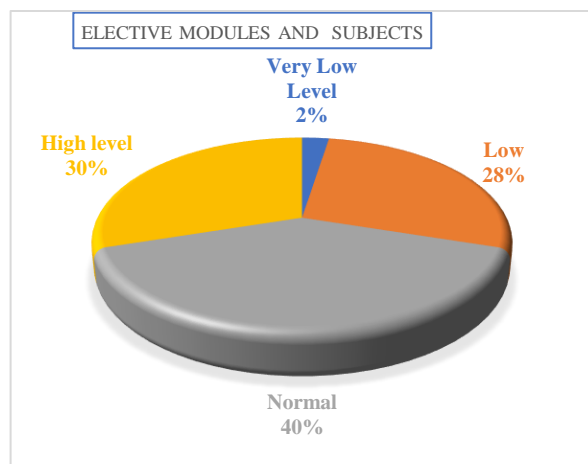


Figure 4.

The level of students choosing modules, elective subjects

Soft Skills Training in the Curriculum: 50% of the surveyed institutions have separate modules/courses for soft skills training and integrate them into other subjects; 30% of institutions provide soft skills training in separate modules or courses without integration into other subjects; Another 20% of institutions integrate soft skills training into modules or courses but do not develop separate modules or courses.

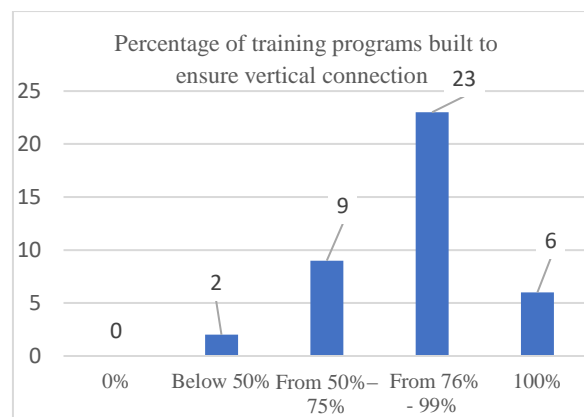


Figure 5.

Percentage of training curriculums built to ensure vertical connection

Vertical and Horizontal Articulation in the Curriculum: The majority of institutions (32/40) ensure vertical articulation ranging from 50% to 99% of the curriculum, with 23 institutions at a level of 76-99%. Only 2 institutions are below 50%; Horizontal articulation: 28/40 institutions are at a level of 50-99%, while 9 institutions are below 50%.

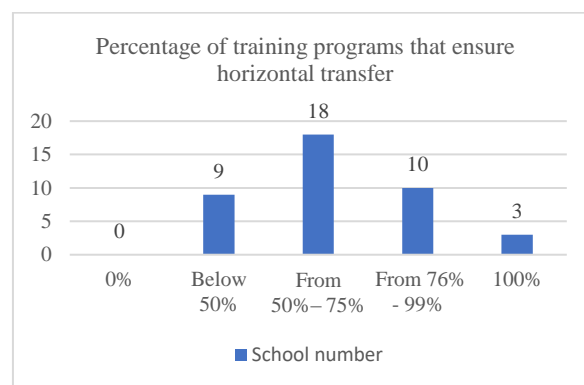


Figure 6.

Percentage of training curriculums that ensure horizontal transfer

These results highlight the diversity in implementation methods and the degree of articulation in the curriculum, with a notable emphasis on soft skills training throughout the learning process. However, challenges and diversity persist in institutions' decisions on how to implement Modularized Curriculum Development.

Research question 2: The institutions assess the advantages and efficacy of the modular methodology in a general context and the specific modular framework introduced by the GIZ TVET Curriculum in their respective institutions.

A predominant consensus among participating institutions is observed, with 36 to 37 out of 40 colleges (90-92.5%) in agreement or complete agreement regarding the merits of modular curriculum design. These advantages include providing learners with flexibility in defining their learning trajectory, establishing favorable conditions for learner mobility (both horizontally and vertically within VET institutions and across training institutions), and offering a convenient mechanism for curriculum updates (allowing for the addition and modification of individual modules without the need to overhaul the entire

curriculum). Furthermore, this approach is deemed to facilitate and enhance the acknowledgment of successful learning stages attained elsewhere.

For additional benefits, such as ease in organizing training and facilitating diverse forms of learning (informal, formal, part-time, etc.), the agreement percentages are 80% and 75%, respectively.

The focus group discussions unveil further perceived benefits of the modular approach, particularly its adaptability for short-term training curriculums and its role in clearly delineating training levels.

In terms of the GIZ's modular curriculum development approach, a unanimous 100% of supported colleges express agreement or complete agreement that this approach is progressive and effective. The rationales provided by the colleges emphasize its scientific foundation, alignment with practical needs, high effectiveness, extensive integration, and numerous advantages. Specific reasons for their endorsement include:

Streamlining training organization, ensuring vertical and horizontal permeability.

Rational sequencing of training modules and subjects, optimizing time usage.

Simplifying curriculum updates by enabling the addition of modules without a comprehensive curriculum overhaul.

Precise classification of training levels.

Highly integrated module design, enabling learners to master specific tasks after each module.

Ensuring the development of necessary and practical skills for enhanced job opportunities post-graduation.

Ensuring curriculum flexibility, empowering students to choose their learning pathways.

When questioned about the benefits derived from GIZ TVET project support in modular curriculum development, many colleges affirm that the assistance received has facilitated the creation of scientifically sound and updated curricula. Moreover, they express confidence in replicating this approach across their college's other training curriculums and beyond. Some colleges acknowledge support in enhancing staff and lecturer capacities, strengthening industry ties, improving college administration efficiency, and elevating the overall quality and image of the institution.

In assessing the feasibility of replicating modular training curriculums using GIZ's approach for other training initiatives, 10 out of 11 colleges rate the possibility as "likely" or "very likely," with only one college providing a "normal" rating.

Research question 3: The challenges and barriers exist in the implementation of modular curriculum design.

Among the 19 responses gathered in the questionnaire regarding why colleges have not transitioned to module-based or module-credit training, several predominant reasons emerged. Notably, 14 out of 19 opinions underscored the lack of awareness among managers and teachers regarding innovative training methods. Additionally, challenges related to inadequate facilities (9/19), budget constraints for implementation (9/19), insufficient support and implementation guidance (8/19), a perceived lack of necessity to convert or apply (8/19), and regulatory barriers in existing standards (7/19) were prominent.

The open-ended question in the questionnaire, probing into difficulties encountered during curriculum development and updates across 33 colleges, yielded diverse responses. Limited financial resources were cited by 15 colleges, while 8 colleges

highlighted challenges stemming from limited experience. Seven colleges mentioned issues related to enterprise participation, citing concerns about the involvement of both large-scale and smaller enterprises. Other challenges included inappropriate guiding documents (5/33), unsatisfactory facilities and equipment (5/33).

Focus group discussions and individual interviews further elucidated difficulties in implementing the modular approach. Challenges included the small number of students, posing difficulties in module selection, a lack of student understanding and guidance in module selection, and colleges lacking experience in teaching and learning. Remarkably, despite having modular curricula, some colleges still adhered to a time-based system due to a small learner population and a lack of understanding in module selection. Moreover, colleges raised concerns about Circular 04/2022/TT-BLDTTBXH, issued to regulate the recognition of graduation for learners in modular courses. Specifically, they pointed out the inappropriate provision where students recognized as "pass" for each module might not be recognized as "pass" for the entire modular training curriculum. Furthermore, there were gaps in the Circular regarding criteria for "pass" recognition in the final examination of each module to identify students requiring further study and re-examination.

Research Question 4: The recommendations do colleges propose to promote the application of the modular approach.

The recommendations put forward by colleges encompass various aspects aimed at facilitating the adoption and implementation of the modular approach: Offer comprehensive guidance based on standardized modular curriculum frameworks and extend support for implementation. This entails providing documentation guidance and conducting training courses on the development of modular training Curriculums. Increase investment in infrastructure and equipment to meet the minimum equipment requirements outlined in the prescribed circular. For key occupations, investment in modern equipment beyond the circular's list is necessary to address the current needs of enterprises effectively. Provide sufficient financial support to colleges for the implementation of modular training Curriculums. Facilitate vertical permeability for learners, allowing them opportunities to progress from lower to higher learning levels, thereby ensuring lifelong learning. Foster collaboration among vocational education institutions to develop modular training curriculums in a synchronized manner. This collaborative effort aims to create an environment where learners can seamlessly connect with one another. Review and amend regulations pertaining to the assessment and recognition of learning outcomes for module-credit training methods in alignment with Circular 04/2022/TT-BL DTBHXH, recently issued to regulate modular training Curriculums.

(1) Proposals directly related to curriculum: The MoLISA needs to have a common training framework for occupations so that colleges based on the common framework develop appropriate Curriculums. The management agency has a practical survey on the skill groups that should be combined to form a module and issue specific instructions for each profession. Reduce subjects and increase many modules in the training curriculum. Some vocational certificates that enterprises need to have such as: Infection control, Occupational safety, food safety and hygiene, as well as professional titles in the enterprise must be issued by TVET institutions;

(2) Recommendations related to industry involvement:

There should be mechanisms and policies to attract businesses to participate in VET and legal binding on cooperation between the Enterprise and College. There should be clear regulations on credit transfer including short-term course modules. Coordinate with enterprises to properly and fully update new curriculum content that needs to be put into training. Strengthen training at enterprises. Need to learn more from experience from advanced countries and practice in enterprises.

-Direct recommendations to GIZ: Organize workshops to share and exchange experiences on building and updating training curriculums according to GIZ's approach; provide training courses to colleges in the development and implementation of modular training Curriculums. Support the replication of the approach to developing and implementing training Curriculums. Do research on current regulations to be consistent with current legal documents issued by the MOLISA. When updating and editing the curriculum, the project management unit should aim to confirm and recognize the curriculum equivalent to the IHK qualification of Germany.

-Recommendation to DVET: Facilitate the replication of the modular curriculum. Support colleges to implement and strengthen training. Support in developing teaching materials, how to organize exams, tests.

Other recommendations: Ensuring funding and needed equipment to support the development and implementation of modular approach. Invite more experienced enterprises to participate in curriculum development and implementation. There should be coordination among colleges that share the same training occupations to work together to build shared curriculum sets.

5. DISCUSSION

The CEDEFOP (2015) study offers a comprehensive analysis of modular vocational education and training (VET) in 15 European nations, revealing diverse approaches and outcomes. It emphasizes the need for flexible VET curricula to adapt to evolving learner and labor market demands, highlighting benefits like learner autonomy and technological integration. However, challenges such as learner retention and comprehension of modular structures require strategic planning and collaboration. In contrast, Tedla and Desta (2015) delve into the complexities of learner engagement and curriculum design within modular VET contexts. They stress the importance of aligning curriculum structures with learner attributes for optimal educational outcomes. While both studies agree on the significance of curriculum coherence and learner retention, they differ in their focus on implementation challenges and engagement strategies. Together, CEDEFOP (2015) and Tedla and Desta (2015) contribute valuable insights into modular VET Curriculums, emphasizing the need for informed decision-making and collaborative efforts in shaping effective policies and practices in VET education.

Rahman (2022) and Maloney, & Kim (2020) elucidate modularization's impact on curriculum design and delivery. Rahman accentuates modularization's role in dismantling traditional structures, enhancing flexibility, and promoting learner responsibility. The integration of competencies ensures holistic skill development, coupled with continuous assessment. Maloney and Kim underscore modularization's adaptability, particularly its capacity to meet diverse learner needs. Modular courses, notably online and shorter ones, alleviate campus congestion while bolstering engagement. In essence, modularization fosters versatile and responsive learning environments. However, further research is warranted to assess its long-term effectiveness.

The analysis of the results reveals several prominent characteristics, including:

(1) The research findings and surveys indicate that nearly all participating colleges affirm the benefits of developing modular training curriculum and consider it a trend for advancing curriculum development in vocational education. This perspective is also supported by institutions currently implementing 100% modular training curriculum or portions thereof. Concerning the benefits of developing modular training curriculum, many opinions resonate with the synthesized findings from international studies. Importantly, some institutions in the research have highlighted benefits not previously emphasized in earlier studies, such as the use of independent modules for short-term training courses. This approach facilitates easy supplementation and updating of curriculum content and aids in accurately classifying the level of training.

(2) The survey findings also reveal that the GIZ TVET project has successfully piloted a modular training curriculum approach at the project's partner institutions. These institutions highly appreciate GIZ's approach and are eager to replicate this model across their curriculum offerings. Thus, the set objectives have been achieved during the pilot phase. In fact, GIZ TVET's approach to modular curriculum design bears resemblance to approaches adopted by leading vocational education systems in countries like Australia, the UK, and the USA, particularly akin to Pearson UK's approach, where higher levels encompass all modules from lower levels and incorporate additional specialized modules at higher levels. GIZ's approach facilitates easier curriculum development, offers flexible learning pathways, and enhances diversity in training curriculums. Some institutions not only emphasize the direct benefits for the supported training curriculum but also affirm the broader benefits, including enhanced capabilities of faculty members, mindset shifts, strengthened industry linkages, improved institutional management effectiveness, and enhanced training quality and institutional reputation.

(3) While all institutions acknowledge the benefits of constructing modular training curriculum, survey results reveal that nearly 50% of the surveyed institutions (19/40) are still implementing traditional, time-bound training for their entire curriculum or some of their training curriculums. Additionally, 05/40 other institutions employ credit accumulation for their entire curriculum, yet modules and courses lack sufficient integration, fail to constitute independent knowledge and skill blocks, and do not facilitate seamless progression. Many institutions offer modular or modular-credit-based training curricula, but the focus is primarily on vertical articulation, with insufficient attention to horizontal integration. Therefore, compared to countries like Australia, the UK, and the USA, where vocational education institutions have implemented comprehensive modular training curricula, Vietnam's vocational education sector still has much to do to accelerate the modularization of training curricula to ensure openness, flexibility, and conducive learning conditions for students.

(4) In relation to outcome standards and curriculum frameworks, research models on curriculum development from Australia, the UK, Japan, Denmark, and Germany demonstrate that state agencies or awarding bodies (in the UK system) not only stipulate the curriculum framework for vocational education institutions (including the total number of modules/units and specific regulations for core and elective modules/units) but also

define the outcomes for each module/unit of competency as the basis for constructing detailed curriculum.

Before the Vocational Education Law of 2014 took effect, the Ministry of Labor, Invalids and Social Affairs (MoLISA) regulated the curriculum framework, but it detailed training content and teaching hours (down to each teaching hour), thus being rigid and not aligning with competency-based or outcome-based education trends. The Vocational Education Law of 2014 and subsequent guiding decrees only regulate outcome standards without stipulating curriculum frameworks. This leads to significant differences in training curriculums among institutions within the same field, making it difficult to recognize and transfer credits between institutions.

In some cases, a student who has graduated from a vocational school at Institution A may need to take additional modules at Institution B, also in the same field, when pursuing higher education at Institution B. Suggestions from surveyed institutions about the necessity of having a common curriculum framework are noteworthy for policymakers to consider, such as proposing a centralized curriculum framework instead of each institution developing its own, which may be less effective. Collaboration among institutions sharing common vocational fields to collectively develop shared curriculum frameworks is suggested. The Ministry should establish a common curriculum framework for various vocations, with institutions basing their curriculums on this framework, ensuring that institutions provide comprehensive training while allowing for local-specific elective components.

Another crucial point is that individual modularization of curricula would mainly ensure vertical and horizontal articulation within each institution. To maximize learning opportunities, synchronized implementation of modular curricula across the entire vocational education system, as suggested by survey respondents, is essential. It is commendable that the draft decree on outcome standards has specified competencies for vocational and technical college levels, indicating a move towards a common curriculum framework for vocational education institutions.

However, defining competencies independently for each field fails to ensure horizontal alignment among fields in the same sector and may not fully exploit shared modules. Additionally, only mandating compulsory competency units without developing optional competency units does not effectively optimize resources and restricts students' choices in their learning journey.

(5) In connection with the proposals from institutions for the establishment of a common framework or collaborative development of shared training curricula, it is evident that such proposals are understandable because not every institution has the capability and the need to independently develop an entire training curriculum, especially for emerging fields, where institutions may prefer to implement training based on existing curricula and are willing to pay for access to these resources. Many institutions believe that developing a training curriculum requires expertise and professionalization, and self-development of a training curriculum may not guarantee quality and resource efficiency. In reality, within the UK system, training institutions will "purchase" curricula from accrediting bodies, or in Australia, if they do not wish to use the training curriculum provided in the government-mandated training package, they may pay individuals or organizations holding the copyright to the accredited course curriculum approved by the state regulatory agency. Therefore, Vietnam needs to study and establish

mechanisms for recognizing training curricula developed by organizations or individuals if they meet the criteria and regulatory requirements to ensure vocational education meets the demands of businesses and society.

(6) Regarding the issue of soft skills training, survey results indicate that many institutions still offer standalone courses or modules without integrating them into other modules or subjects, and 50% of the surveyed institutions either have standalone courses or modules integrated into other modules or subjects. In the curriculum development model of Australia and the UK, soft skills are integrated into various modules and competency units and are clearly and specifically defined within each module or subject. This approach ensures both scientific rigor and reduces the number of courses and modules, although some opinions from the survey suggest the need to reduce the number of common courses. Clearly, teaching soft skills is a process, and segregating training into separate courses may not be the most effective approach, especially considering the current reality where vocational education students are not highly rated by businesses for their soft skills.

(7) In terms of the challenges in implementing modular curriculum development, several difficulties are frequently mentioned, including low enrollment numbers, inadequate funding, insufficient infrastructure and equipment, lack of guidance and support for implementation, and regulatory standards that do not facilitate the application of modular curriculum design. Additionally, the involvement of businesses in partnerships remains limited. It's noteworthy that unlike in other fields, the primary challenge often cited first is the awareness issue among managerial staff and educators in vocational education institutions. However, this perception doesn't align with the survey results on modular curriculum development, as institutions generally exhibit a high level of awareness regarding the advantages of this approach. Regarding financial challenges, it's evident that developing individual training curriculums for each field of study can be costly, and collaboration among institutions offering similar fields of study to develop shared curricula is challenging. Even for institutions supported by GIZ in developing modular training curriculums for certain courses, expanding these curriculums to other training courses is difficult without financial and technical assistance. Perhaps it's for this reason that countries like Australia, the UK, Denmark, Germany, and Japan have all established curriculum frameworks for vocational education institutions. In addition to financial difficulties, institutions also require technical support and guidance for implementation. Many institutions propose the need for training, experience sharing, and specific guidance documents. The lack of guidance for institutions is a significant obstacle, not only for transitioning to modular curriculum development but also for implementing outcome-based standards in education, especially when devising new training curriculums without a nationally standardized framework. In reality, the lack of guidance and support for institutions is not only a matter of state budget funding but also a shortage of core expert teams specializing in this field.

(8) Regarding the issue of assessment and recognition of graduation for cumulative modular training and credit accumulation, concerning the difficulties related to Circular 04/2022/TT-BLĐTBXH dated March 30, 2022, survey results indicate that the Circular does not clearly specify how the passing grade for the end-of-course assessment for modules is determined, causing confusion and hesitation among institutions in its implementation. The state management authorities need to

provide specific supplements and guidelines on this matter. Another issue is that students may achieve passing grades in individual modules but may not be recognized for graduation due to the requirement of maintaining a "cumulative average grade of the entire course on a 4-point scale of 2.0 or above". This requirement may pose challenges for students who are unaware of this regulation. To address this issue, vocational education institutions need to provide comprehensive information to students about the graduation recognition requirements. Additionally, they need to issue warnings in advance so that students can actively manage and monitor their academic results to ensure graduation recognition. State management authorities also need to study and reference the methods of calculating grades and recognizing academic results from other countries to ensure scientific validity and integration. Referring to graduation recognition in the British and Australian systems, accumulating an adequate number of modules and achieving passing grades for each module ensures graduation. In fact, according to the Pearson UK system, students only need to accumulate enough credits and achieve passing grades for 80% of the recognized credits to graduate.

6. CONCLUSION

The policy recommendations aimed at promoting the modularization of vocational training curricula are based on research and references to models from countries such as Australia, the United Kingdom, the United States, along with the approach of GIZ-TVET. The proposals include early issuance of a framework curriculum based on modules, researching standards and framework curriculums for packaged vocational fields, focusing on training a team of experts, sharing information and knowledge, enhancing investment in infrastructure, and providing financial/technical support to schools. Additionally, there is a need to refine policies regarding student enrollment, business involvement, and improvement of regulations regarding academic performance assessment and diploma recognition to ensure scientific integrity and alignment with international standards. It is imperative to encourage policies that promote the modularization of Higher Education and College Training Curriculums by incorporating them into the criteria for assessing and evaluating the quality of institutions. This ensures that modularization is considered a vital factor in determining educational quality.

Recommendations for vocational education institutions in Vietnam include: (1) Emphasizing the enhancement of managerial and instructional staff's capacity in developing modularized curricula, actively seeking guidance and support from the General Department of Vocational Education and Training; (2) Actively learning from and adopting the approaches to curriculum development, particularly those implemented by GIZ-TVET as pilot projects in colleges, to gain practical experience; (3) Encouraging departments to transition to designing modular curricula for all curriculums within the institution, integrating this approach into evaluation criteria, competition assessments, and commendations; (4) Prioritizing resource allocation for curriculum modularization and investing in infrastructure and equipment to meet curriculum requirements; (5) Proactively collaborating and maintaining sustainable long-term relationships with businesses, engaging them in curriculum development and implementation, enhancing workplace training, and inviting them to evaluate module completion within the curriculum. Core to this collaboration is the need to listen to businesses, incorporate their feedback, and ensure mutually beneficial cooperation.

7. REFERENCES

- [1] CEDEFOP, **The role of modularisation and unitisation in vocational education and training**, 2015.
From <https://unevoc.unesco.org/home/TVETipedia+Glossary/lang=en/filt=all/id=142>
- [2]. Edward J. Maloney & Joshua Kim, **Modularity, inside higher education**, 2020 From <https://www.insidehighered.com/digital-learning/blogs/learning-innovation/fall-scenario-10-modularity>
- [3]. ILO, **Glossary of Key Terms on Learning and Training for Work**, 2006.
From <https://unevoc.unesco.org/home/TVETipedia+Glossary/lang=en/filt=all/id=142>
- [4]. Khaled Sellami, **Curriculum Development: Emerging Trends A Research Paper**, 2018.
From <https://lms.su.edu.pk/lesson/1899/week-14-modern-trends-and-issues-in-curriculum-development>
- [5]. NCVER, **Glossary of VET**, 2013.
<https://unevoc.unesco.org/home/TVETipedia+Glossary/lang=en/filt=all/id=328>
- [6]. Pham Thi Minh Hien, **"Developing Vocational Education Training Curriculums-Studying Models from Various Countries and Their Relevance for Vietnam"**. Journal of Labor and Social Affairs, Vol 8/2022, pp 4-8, 2022.
- [7] Rahman, S, **Transition from Traditional Curriculum to Modular Curriculum Possible Challenges**, 2022.
<https://jgmids.org.pk/index.php/JGMDS/article/view/328>.
- [8] Tedla & Desta, **The suitability of the modular curriculum to offer/learn skill-based modules in EFL undergraduate classes**, 2015.
From <https://www.journalcra.com/article/suitability-modular-curriculum-offer-learn-skill-based-modules-EFL-undergraduate-classes>
- [9] Robert Wagenaar, **Setting the Scene: ECVET and ECTS - the two transfer (and accumulation) systems for education and training**, 2014
From <https://www.cedefop.europa.eu/files/Setting-the-scene-Robert-Wagenaar.pdf>
- [10]. Smith, E. and Keating, J., **Making sense of training reform and competency-based training**. Wentworth Falls, NSW: Social Science Press, 1997.
- [11] Tuning Educational Structure in Europe, **Tuning Academy**, 2013
from <https://www.unideusto.org/tuningeu/tuning-academy.html>
- [12]. UNESCO, **Glossary of TVET**, 2011
from <https://unevoc.unesco.org/home/TVETipedia+Glossary/lang=en/filt=all/id=328>
- [13]. Wondifraw Dejene, **The practice of modularized curriculum in higher education institution: Active learning and continuous assessment in focus**, Cogent Education 6:1, 2019. DOI: 10.1080/2331186X.2019.1611052
- [14]Wu Jianyua, Liang Xia, Xing Chen a*, **Vocational Ability Oriented Modularized Curriculum for Advanced Vocational School**, 2012.
<https://www.sciencedirect.com/science/article/ii/S2212667812001967>
- [15] <https://training.gov.au/Training/Details/SIT07>
- [16].<https://qualifications.pearson.com/en/qualifications/btec-higher-nationals/business--2021>.
- [17].<https://www.tvet-vietnam.org/training-programmes-following-vietnamses-requirements-and-german-standards>
- [18].<https://www.coursera.org/articles/what-is-an-associate-degree-key-information-to-know>
- [19] <https://www.myskills.gov.au/media/1776/back-to-basics-competency-based-training.pdf>