

# Solutions for cooperating businesses with interior design department at Hanoi Architectural University

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## Abstract

Education 4.0 represents a smart education model with tight interconnections between multiple organizations, including educational institutions, management bodies, and businesses. This collaboration creates an optimal learning environment, enabling students to develop their skills and adapt to the labor market's dynamics in the context of the 4.0 technological revolution. In recent years, the Interior Design department of Hanoi Architectural University has maintained a cooperative relationship with businesses in the interior design sector through various activities, such as seminars, workshops, and competitions. This study aimed to evaluate the current state of these collaborative efforts. Subsequently, it proposed solutions to enhance the effectiveness of integrating business practices into university education. The study relies primarily on data collected from surveys of 50 businesses involved in interior design linked with the Interior Design department of Hanoi Architectural University. The proposed solutions were tailored to the specific nature of the educational sector and addressed practical business requirements, focusing on achieving university autonomy.

**Key words:** 4.0 technological revolution, education 4.0, businesses, interior design, corporate

## 1. Introduction

The idea of collaboration between universities and businesses is not a new concept, and was proposed over 100 years ago by Wilhelm Humboldt, a German philosopher. According to him, universities, in addition to their educational roles, should engage in research and collaborate with various industries. In 1810, he founded the University of Berlin, which stood out from the other universities by shifting its focus towards research to support training activities. It particularly emphasized the development of technological fields for both civilian and military purposes, contributing to making Germany the most powerful nation in the world. [6]

The Bayh-Dole Act was passed in December 1980, marking a significant revolution in higher education. The Bayh-Dole Act addresses two critical issues that enhance the relationship between universities and the industry: i) it allowed universities and nonprofit organizations to obtain patents and commercialize the results of their research in government-funded research programs; and ii) it enabled federal agencies to grant licenses for their technologies' commercial and industrial applications. By creating a uniform copyright policy for all federally funded research agencies and allowing universities to hold legal rights to inventions, this act established a national policy that encouraged universities and nonprofit organizations to collaborate with the business and service sectors in knowledge and technology transfer. [7]

In Vietnam in 2018, the Ministry of Education and Training advised the National Assembly on amendments to the Higher Education Law, which included several provisions aimed at promoting collaboration between universities and businesses. These provisions emphasized "aligning education with the labor market's demand" and "conducting scientific research and technological applications." In 2021, the Ministry of Education and Training conducted a survey on the state of cooperation between universities and businesses, and the results indicated that more than 90% of the educational institutions collaborated with businesses. Institutions that did not primarily belong to artistic fields. These results demonstrate that educational institutions recognize the necessity of enhancing this relationship, and businesses understand their responsibility in participating in the process of training the workforce in conjunction with educational institutions. [8]

In recent years, the Interior Design Department at Hanoi Architectural University has maintained a symbiotic relationship with the furniture industry. This relationship ensures connectivity, competitiveness, and delivery of training programs that align with the ever-evolving needs of the furniture industry. After nearly a decade, the number of businesses engaged in collaboration with the Interior Design Department at Hanoi Architectural University has grown to 60 companies with collaborative activities that have been carried out include:

- Internship Visits: Providing students with internship opportunities in real-world settings without financial obligations.
- Sponsoring/Scholarships: Supporting students by sponsoring scholarships to alleviate their financial burden during their studies.
- Equipment/Facility Support: Supplying equipment, tools, or infrastructure to enhance the teaching and learning environments.
- Organizing Seminars/Workshops: Collaborating to host academic events such as seminars and workshops to share knowledge and foster community connections.
- Research Collaboration: Engaging in joint research projects to ensure research meets real-world needs and promotes innovation in the field.
- Student Entrepreneurship Support: Offering financial assistance and guidance to help students embark on entrepreneurial ventures within the Interior Design industry.

Among these activities, the highest level of participation from businesses is in

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Date of receipt: 19/10/2023

Editing date: 01/12/2023

Post approval date: 8/12/2023



**Figure 1. Talkshow by Businesses with Interior Design Students**

the "internship visits" activity, accounting for 38%. Following that is "sponsorship/scholarships" with a share of 27%. The "equipment/facility support" activity makes up 11%, while organizing seminars and workshops comprises 8% of participation...

Although a variety of collaborative activities have been explored, they have mostly remained experimental and lack a well-defined cooperative framework and strategy for optimizing the potential of both businesses and educational institutions, enabling them to progress toward academic and financial autonomy. This research aims to elucidate the shortcomings of connecting Interior Design education with businesses and concurrently proposes a set of solutions to enhance the cohesion between the involved parties, ultimately elevating the effectiveness of this model.

The curricula for Hanoi Architecture University in general and the Interior Design program in particular were developed following a CDIO approach. This aims to equip students with not only strong foundational knowledge in science, technical principles, and analytical skills but also a fundamental understanding of business processes and technical economic management. Students are also encouraged to enhance their awareness of their social roles and responsibilities towards the sustainable development of the country.

Although it originated as a system for engineering education, the essence of CDIO lies in an outcome-based education process, which necessitates the design of corresponding input standards. Building this process requires a rigorous balance between science and practice. CDIO is essentially a solution for enhancing the quality of education and meeting societal demands. It can be applied to the design and standardization of training processes in various fields. Graduates who undergo CDIO-based training will possess the necessary knowledge and skills to meet the evolving demands of society and adapt to the rapidly changing times. To achieve this, business involvement in vocational training is indispensable.

Furthermore, Education 4.0 is, at its core an intelligent education model with a strong interconnection between multiple entities, including educational institutions, management bodies, and businesses. This interconnectedness provides each student with the opportunity to independently develop their skills and capacities. Simultaneously, it leveraged the application of technology in economic and societal development in the era of Industry 4.0.

The relationship between CDIO (Conceive-Design-Implement-Operate) output standards in the furniture industry and connection activities with businesses in furniture industry training is vital in ensuring that educational programs align

with industry needs and standards. Here, how are these two elements interrelated?

- **Curriculum Alignment:** CDIO output standards often define the key skills and knowledge required of graduates in the furniture industry. By connecting with businesses, educational institutions can ensure that their training programmes align with these standards. This alignment means that graduates are better prepared to meet industry expectations and excel in the field.

- **Real-world Application:** CDIO principles emphasize the importance of practical applications. Connection activities with businesses can provide students with real-world projects and challenges that allow them to apply concepts learned in their coursework. This practical experience is invaluable in reinforcing CDIO standards and preparing students for the workforce.

- **Industry Feedback:** Collaboration with businesses often involves obtaining feedback from industry professionals. Their input can help educational institutions refine their training programs to meet the CDIO standards. The feedback loop allows for continuous improvements in curriculum design and implementation.

- **Internships and Work-Integrated Learning:** Businesses often play a role in offering internships or work-integrated learning opportunities to students. These experiences give students the opportunity to implement their knowledge and skills, as emphasized in the CDIO standards, in a real work environment. This can serve as a direct bridge between academic training and operational implementation.

- **Networking and Professional Relationships:** Connection activities with businesses help students build professional relationships and networks in the furniture industry. This aspect aligns with the CDIO principle of "operate," as it fosters connections within the industry and exposes students to professionals and mentors.

- **Innovation and Problem Solving:** CDIO encourages graduates to be innovative and effective problem solvers. Collaboration with businesses often exposes students to real-world problems and encourages them to conceive creative solutions, which aligns with the "conceive" and "implement" phases of CDIO.

- **Quality Assurance:** Businesses can be a source of quality assurance for educational programmes. They can assess whether graduates meet the CDIO standards and provide input on how to improve training to ensure that students are adequately prepared for the industry.

In summary, the relationship between CDIO output standards and connection activities with businesses in the

furniture industry training is symbiotic. CDIO provides a framework for the development of skills and knowledge, while connection with businesses ensures that these standards are implemented in a real-world context, students are well prepared for the industry, and programs remain aligned with industry expectations and advancements. This interconnection is essential for producing graduates who meet the furniture industry's needs.

## 2. Literature review

Research on "Connecting Businesses with Interior Design Industry Training" explores the critical relationship between businesses and educational institutions in the field of interior design. This study focuses on how collaboration between these two entities benefits both parties and contributes to the growth and development of the interior design industry. Here is an overview of the key themes and findings from the existing research in this field.

- **Enhancing Industry-Relevant Education:** Research highlights the importance of industry-academic partnerships in ensuring that interior design students receive education that aligns with current industry needs. By connecting businesses with training programs, universities can adapt their curricula to include practical up-to-date knowledge and skills.

- **Internships and Work-Integrated Learning:** Studies often emphasize the significance of internships and work-integrated learning opportunities for interior design students. Collaboration with businesses provides students with real-world experiences and insights, helping them bridge the gap between theory and practice.

- **Fostering Innovation:** Research suggests that these collaborations lead to innovation within the interior design industry. Joint projects and research initiatives between academia and business can result in the development of new design concepts, materials, and technologies.

- **Career Development:** Many studies have explored the positive impact on students' career development. Graduates who engage in industry-connected training are often better prepared to secure employment and have a competitive advantage when entering the job market.

**Networking and Professional Relationships:** Establishing professional relationships and networks is a common topic in this area of research. Collaboration between businesses and educational institutions provides students with opportunities to connect with industry professionals, which can lead to future employment and mentorship opportunities.

- **Curriculum Development:** Research often delves into how the input of industry experts can shape the curriculum of interior design programs. This ensured that graduates were equipped with the practical skills and knowledge required by the industry.

- **Knowledge Transfer and Best Practices:** Studies may explore how businesses can transfer industry-specific knowledge and best practices to educational institutions. Knowledge transfer enhances the quality of education and promotes industrial standards.

- **Measuring Impact:** Researchers often seek to quantify the impact of these collaborations. This includes assessing how partnerships with businesses affect student learning outcomes, industry growth, and the overall program quality.

Several notable studies have been conducted on connecting businesses in Interior Design education at universities. Here are some examples: connecting businesses

with interior design industry training can be achieved through various approaches. One approach is to incorporate design education into the day-to-day advice provided by professionals such as lawyers, accountants, bankers, and marketing specialists [1]. This requires continuing education regarding the design of these non-design consultants. Another approach is to provide business education specifically tailored to interior designers, covering topics such as planning and launching an interior design business as well as strategies for growth and success [2]. Additionally, it has been found that graduates who have received preparation in business and communication skills through accredited programs are more likely to find employment in the interior design profession [3]. These skills, such as public speaking and oral presentations, are transferable and valuable to the workplace. Overall, connecting businesses with interior design industry training involves integrating design education into various professional settings and providing the necessary business skills for success [4] [5].

The following is a summary of studies related to this topic:

- **"Industry-Academia Collaboration in Interior Design Education: A Case Study":** This study focuses on specific cases of collaboration between businesses and universities in Interior Design education. It analyzes the benefits and challenges of this model, and evaluates the effectiveness of such connections in the learning process.

- **"Enhancing Interior Design Education through Industry Partnerships":** This study delves into how the relationship between universities and businesses can enhance the quality of education in the field of Interior Design. It addresses specific details of how such collaborations can improve students' practical skills and meet market demands.

**The Role of Business in Interior Design Education: A Comparative Study** This study compares the role of businesses in Interior Design education at various universities. It discusses different methods and models of business-school collaboration and evaluates their effectiveness.

**Evaluating the Impact of Industry Collaboration on the Interior Design Curriculum:** This study focuses on assessing the impact of collaboration with businesses on the Interior Design curriculum. This includes measuring improvements in students' skills and knowledge after participating in business-related activities.

In summary, research on connecting businesses with interior design industry training underscores the mutually beneficial relationship between academia and the industry. Such collaborations play a pivotal role in enhancing interior design students' education, fostering innovation, and promoting career opportunities. These findings emphasize the importance of continued collaboration between educational institutions and businesses in interior design.

## 3. Methods

The study was conducted to carry out a sociological investigation involving a total of 60 participants. Among them, 30 businesses operating in the field of Interior Design have established collaborative partnerships with the Department of Interior Design at Hanoi Architecture University, while the remaining 30 businesses are not currently linked with the mentioned department. Half of the business group operates in the field of consulting/design/construction, and the remaining half belongs to commercial and manufacturing groups.

The survey was conducted between August and October



Figure 2. The need of commercial businesses groups when collaborating with the Interior Department

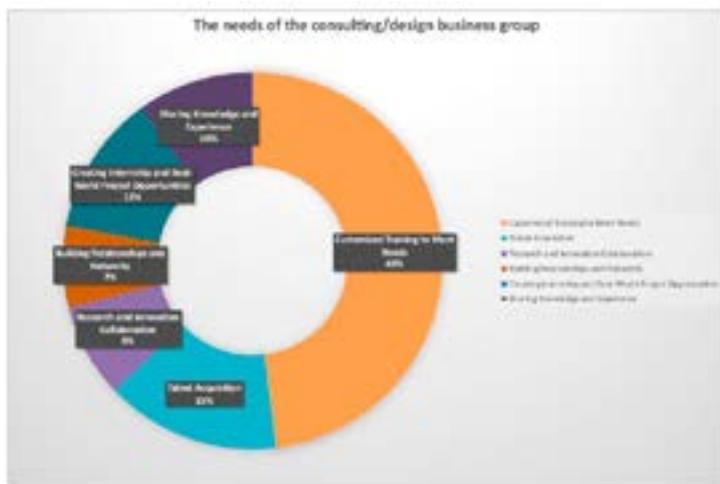


Figure 3. The need of commercial businesses groups when collaborating with the Interior Department

2023. The research team from the Department of Interior Design at Hanoi Architecture University executed the study utilizing both direct and indirect interviews through an online questionnaire via the Google Form platform. The primary objective of this research is to identify the requirements, preferences, and perspectives of businesses seeking and establishing collaborative partnerships with the Department of Interior Design at Hanoi Architecture University.

## 4. Results & discussion

### 4.1. Survey Results

When businesses collaborate with the field of Interior Design education, they have several expectations and primary objectives, including

- **Talent Acquisition:** One of the primary objectives of businesses collaborating with Interior Design education is to seek and recruit new talent. They aim to have the opportunity to discover and hire outstanding and talented students through these educational programs.

- **Customized Training to Meet Needs:** Businesses want Interior Design training programs to reflect actual needs and industry standards. They hope that these programs will equip students with the practical knowledge and skills required to work in real-world Interior Design.

- **Research and Innovation Collaboration:** Companies wish to collaborate with universities in research and development projects. This helps them drive innovation in the industry, develop new products and technologies, and maintain market competitiveness.

- **Building Relationships and Networks:** Businesses aim to build relationships and networks with universities and students. This can lead to business opportunities, long-term relationships, and the identification of potential partners.

- **Creating Internship and Real-World Project Opportunities:** Companies want to provide internship and real-world project opportunities for students. This helps them to train and evaluate young talent in a real-world environment and find a high-quality workforce upon graduation.

- **Sharing Knowledge and Experience:** Businesses may wish to share their knowledge and experience with students and universities. This could involve providing lectures, mentoring, and reference materials to support the learning process.

The biggest need for businesses when connecting with the IT industry is "Customized Training to Meet Needs," followed by communication.

Using analytical and statistical methods, it can be seen that the highest demand for the group of interior design consulting businesses when cooperating with the interior design department of the University of Architecture is: "Customized Training to Meet Needs" with a billion 48% rate, followed by "Talent Acquisition" demand at 15%, "Creating Internship and Real-World Project Opportunities" demand at 10%. Meanwhile, for the commercial business group, their biggest wish is "Building Relationships and Networks" with a proportion of 31%, followed by "Research and Innovation Collaboration" with 23% and "Sharing Knowledge and Experience" with 18%.

In summary, businesses desire to collaborate with Interior Design education to discover talent, ensure that training programs meet their needs, drive innovation, build relationships, and share knowledge to support industry development and improve the quality of education. This requires connection and cooperative activities to be diverse, differentiated, and in-depth.

### Solutions

Develop interdisciplinary interior training programs adapted to the labor needs of businesses

Interdisciplinary interior training programs combine knowledge and skills from various fields to prepare students for careers in interior design, architecture, or related fields. These programs emphasize the importance of cross-disciplinary learning in creating well-rounded professionals. There are a few examples of interdisciplinary interior training programs.

- **Interior Design and Architecture:** These programs integrate interior design knowledge with architectural principles. Students learn how to design interior spaces that harmonize with architectural structures.

- **Interior Project Management:** Focusing on project management and interior design, these programs teach students how to plan, execute, and manage interior design

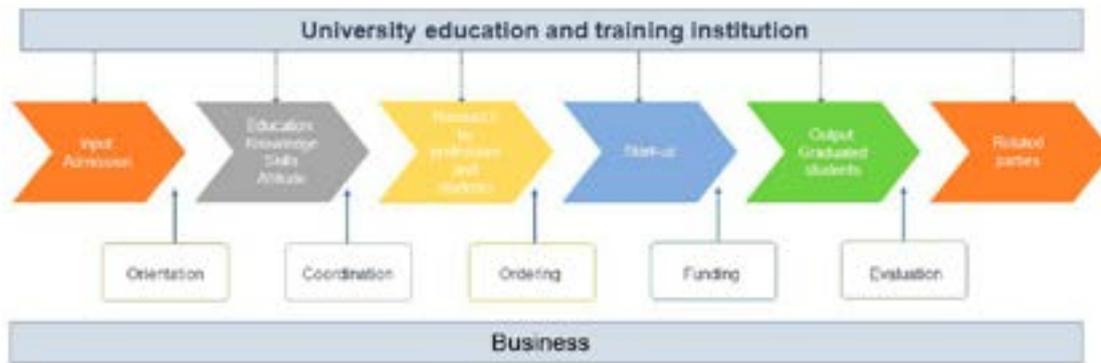


Figure 4. The role of businesses in the Interior Design education process

projects effectively.

- **Art and Applied Art in Interior Design:** These programs merge art and interior design, encouraging students to be creative and develop a strong aesthetic sense while designing interior spaces.

- **Interior Design and Environmental Science:** These programs connect environmental science with interior design to teach students how to create sustainable and environmentally friendly interior spaces.

- **Interior Design and Business:** Focusing on business and interior design, these programs prepare students to manage interior design firms or work in business-related roles in the interior design industry.

- **Interior design and marketing:** Intersect as they influence brand identity, customer experience, and visual communication. They collaborate in retail and hospitality spaces to optimize layouts and enhance sales. Sustainability is a common concern and both industries engage in collaborative campaigns. Interior designers can provide insights into market research. Synergy between them creates a holistic brand experience.

Interdisciplinary interior training programs offer students a broader skill set and more holistic understanding of interior design and related fields. They encourage creativity, critical thinking, and adaptability, enabling graduates to excel in their career. To develop interdisciplinary training programs, it is necessary to implement the following synchronous solutions:

- **Market Research and Analysis:** Begins conduct research and analyze the labor market to understand the needs of businesses in the interior design field. This includes identifying job positions, the required skills, and knowledge.

- **Establish Collaboration with Businesses:** Collaborate with businesses in the interior design sector to identify their specific needs and build cooperative relationships. This may involve the formation of business advisory committees or internship programs for students.

- **Training Objectives:** Based on the information gathered from research and cooperation with businesses, we set specific training objectives for the interdisciplinary program. Determine the skills and knowledge that must be taught to meet business needs.

- **Develop the Curriculum:** Build an interdisciplinary curriculum based on established objectives. This includes integrating courses from various fields and providing opportunities for students to learn through internships and projects.

- **Ensure Quality:** Ensure the quality of the program by regularly evaluating and adjusting its content based on

feedback from businesses and students.

- **Build a Network:** Create a network with businesses and organizations in the interior design field to provide internship opportunities, employment, and other activities for students.

- **Continuously Update the Program:** The interior design field and businesses can change over time. Therefore, it is essential to continuously update the program to ensure that it reflects current reality.

- **Establish a Strategic Partnership Model:** Build long-term strategic partnerships between universities and businesses in the furniture industry. This requires commitment from both sides to jointly develop training programs, research projects, and related activities.

- **Provide Ongoing Learning Opportunities:** Support students with opportunities for continuous learning and knowledge updates after graduation, such as postgraduate courses or related training programmes.

- **Promote Long-Term Commitment:** Both businesses and universities must show long-term commitment to this relationship. Long-term collaboration ensures stability and continuous improvement in the quality of training.

Developing interdisciplinary interior training programs adapted to the labor market's needs requires close collaboration with businesses and a long-term vision to maintain the program's competitiveness in the labor market.

Proposing education activities for the Interior Design field with business participation.

Connecting businesses in various activities related to Interior Design education, such as research, training, construction, design consultation, and community building, brings about numerous advantages for both universities and enterprises. Here's how the collaboration works within each activity:

**Research:**

**Organizing conferences and scientific seminars:** Businesses can sponsor and participate in organizing research events to share knowledge and connect with experts.

**Conducting scientific research projects:** Companies can collaborate in funding or participating in research projects to ensure that they meet real-world demands.

**Support Research and Innovation:** Businesses can support research and new developments in the industry. This encourages innovation in furniture design and contributes to industry development.

**Training:**

Training human resources as per business requirements:

Enterprises can collaborate to determine training needs and even contribute to curriculum development.

**Developing short-term and long-term courses:** Companies can provide practical knowledge and necessary skills through short-term courses or long-term training programs.

**Workforce training for businesses:** Collaboration in employee training ensures that new hires are effectively and efficiently trained.

**Collaborate in Curriculum Design:** Businesses can participate in the design of training programs. By providing input from the industry, universities can ensure that their educational programs reflect the real needs of the furniture industry.

**Construction and Building:**

**Implementing new technologies/materials in education:** Collaboration between universities and businesses ensures that students are introduced to the latest technologies and materials during their studies.

**Involving students in real construction/production:** Companies can provide practical experience opportunities for students, allowing them to apply their knowledge in real-world settings.

**Design Consultation:**

**Involving students in consultation/design activities:** Businesses can collaborate with universities to allow students to participate in real consulting and design projects.

**Create Internship and Real-World Projects:** Businesses can offer internship and real-world project opportunities for students. This helps students apply knowledge in real-world environments and develop practical skills.

**Community Building:**

**Professional knowledge exchange:** Enterprises can engage in knowledge-sharing and networking activities with educational communities and students.

**Domestic and international connections:** Collaboration with businesses can expand networking opportunities for students and provide them with learning and working experiences in various locations.

**Communication:** Companies can partner in communication efforts to share knowledge and information about industry events, projects, and achievements.

Cooperation in these various activities ensures that the Interior Design field produces high-quality talent and meets market demands while driving industry development and innovation.

**Develop Communication Strategies:** Develop communication strategies to promote and market activities related to this connection. This can attract interest from other businesses and enhance existing relationships.

**Develop Relationships and Networks:** Collaborating with businesses helps students build relationships and networks in the furniture industry. Businesses can help students connect with experts and create employment opportunities after graduation

**Build Shared Resources:**

Create platforms or databases for sharing educational materials, information, and resources. This helps businesses and universities efficiently share knowledge and study materials.

## 5. Discussion

While the solutions mentioned above have numerous benefits in creating a better learning and working environment for students and businesses, there are also some limitations and challenges to consider.

- **Cost:** Developing interdisciplinary training programs and building infrastructure to support teaching and learning requires significant financial investment. This can be a barrier, particularly for smaller universities and businesses.

- **Consensus and Management:** Effective implementation of these solutions requires consensus and effective management between universities and businesses. Creating an effective consensus and management can be challenging, especially when there are differences in objectives and priorities.

- **Competition:** Universities and businesses may compete to attract and retain talented individuals, especially in fields with ample job opportunities. Competition can create an environment that may not be optimal for collaboration.

- **Time and Resources:** Developing new training programs and maintaining collaborative activities requires substantial time and resources from both parties. If not well managed, investment in time and resources can become a burden.

- **Changes in the Industry:** The Business and industrial environments can change rapidly. Established training programs and relationships may become less effective if they are not regularly updated and adjusted to reflect these changes.

- **Sustaining Long-term Relationships:** Effective collaboration requires long-term commitment from both parties, universities, and businesses. However, this can be challenging to manage.

Despite these limitations and challenges, the development of interdisciplinary training programs and the promotion of collaboration between universities and businesses still have the potential to improve the quality of education and meet the needs of the labor market.

Additionally, in the context of building a curriculum closely tied to the labor market's needs, it is essential to align with the current conditions and circumstances of the educational institution to make it easily applicable at the present moment. Specific suggestions that can be implemented immediately include enhancing elective courses so that students can construct their own customized curriculum according to their abilities and diverse business needs.

## 6. Conclusions

In conclusion, with the onset of the 4.0 technology revolution, the landscape of education is undergoing a significant transformation. Traditional education institutions, such as universities, are no longer the sole proprietors of knowledge creation and dissemination. Instead, a more equitable and integrated "school - business" model is emerging, one that places theoretical knowledge and practical application on an equal footing. The success of higher education institutions, particularly universities, hinges on their ability to align their offerings with the real-world needs of society and businesses, rather than adhering to a one-size-fits-all approach. Education must pivot towards a learner-centric paradigm, where the quality of educational outcomes takes precedence.

These proposed solutions serve as a compass for fostering effective collaboration between businesses and universities in the context of furniture industry training. They

are designed to ensure that educational standards and curricula align with the specific requirements and industry standards of the furniture sector.

In practice, the adoption of a business-academia partnership model necessitates flexibility. The progression can begin with individual partnership arrangements and evolve into more comprehensive collaborative efforts.

Ultimately, the objective is to transform universities into institutions dedicated to "technology transfer training," eventually evolving into "research and implementation universities." This progressive approach is vital for shaping the future of education and the symbiotic relationship between academia and industry./.

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## Factors influencing blended learning adoption...

(continued on page 109)

Therefore, universities recognize the importance of investing in technological infrastructure, such as computer labs, network connectivity, and educational support software. They also provide guidance and training for both instructors and students to familiarize them with and master the use of technology for blended learning. However, during the implementation of blended learning, various technical issues arise, causing difficulties for students who then blame instructors for not supporting them timely.

(ii) In terms of institutional structure: Implementing blended learning in higher education is not a new concept in Vietnam, especially after the COVID-19 pandemic. Universities have established relevant institutional structures; however, due to the rapid expansion of blended learning, the institutional quality of blended learning remains limited. Specifically, the implementation is often inadequately prepared, leading to rushed plans. Policies and mechanisms to support instructors and students are lacking, and regulations and procedures for blended learning are not yet complete. Communication aimed at enhancing awareness of blended learning for

both instructors and students is still insufficient. This results in apprehension and hinders the adoption of this form of learning.

Thirdly, there are research gaps and potential future research directions. In general, to enhance the adoption of blended learning in higher education, four factors need to be considered: technology, institutional structure, the role of instructors, and student participation. Technology and institutional structure have been extensively researched, while the roles of instructors and students have received less attention. However, instructors and students are directly involved in blended learning and play a crucial role in its adoption. In particular, domestic research on this topic has primarily focused on improving technological and institutional factors. Therefore, future research could delve deeper into the pedagogical skills of instructors and the needs of students in blended learning. This can lead to more comprehensive proposals to improve the adoption of these participants towards blended learning in higher education in the future./.

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