

LEARNER EVALUATION OF HUMAN RESOURCES TRAINING QUALITY TO MEET REQUIREMENTS OF BUSINESSES IN THE DIGITAL ERA AT HO CHI MINH CITY UNIVERSITY OF TECHNOLOGY AND EDUCATION, VIETNAM

AVALIAÇÃO DO APRENDIZ DA QUALIDADE DA FORMAÇÃO EM RECURSOS HUMANOS PARA ATENDER AOS REQUISITOS DE NEGÓCIOS DA ERA DIGITAL NA UNIVERSIDADE DE TECNOLOGIA E EDUCAÇÃO DA CIDADE DE HO CHI MINH, VIETNÃ

EVALUACIÓN DEL APRENDIZAJE DE LA CALIDAD DE CAPACITACIÓN DE RECURSOS HUMANOS PARA CUMPLIR CON LOS REQUISITOS DE EMPRESAS EN LA ERA DIGITAL EN LA UNIVERSIDAD DE TECNOLOGÍA Y EDUCACIÓN DE LA CIUDAD DE HO CHI MINH, VIETNAM

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ABSTRACT: In the comprehensive human development policy for people to be full of knowledge, skills, experience and attitude according to the strategy of the CPV and the State at the 9th and 11th Party Congresses, training quality human resources to meet requirements of businesses in the digital era has a significant and important role in terms of both theory and practice. This article research and analyzes the evaluation of learners about human resources training quality to meet requirements of businesses in the digital era at Ho Chi Minh City University of Technology and Education (HCMUTE). The study results show that, learners evaluate the current training quality in HCMUTE on aspects such as contents of teaching, examination and assessment; learning conditions; qualifications of professional staff; library services; teaching methods of lecturers; foreign language proficiency and communication skills as good and very good; and there are very little comments that disagree.

KEYWORDS: Human resources training quality. Evaluation. Digital era. Requirements of businesses.

RESUMO: Na política de desenvolvimento humano integral para que as pessoas possuam altos níveis de conhecimentos, competências, experiências e atitudes de acordo com a estratégia do CPV e do Estado nos 9º e 11º Congressos do Partido, formar recursos humanos de qualidade para responder às necessidades dos negócios na era digital tem um papel significativo e importante em termos teóricos e práticos. Este artigo pesquisa e analisa a avaliação de alunos sobre a qualidade da formação de recursos humanos para atender às

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necessidades das empresas na era digital na Universidade de Tecnologia e Educação da Cidade de Ho Chi Minh (HCMUTE). Os resultados do estudo mostram que, os alunos avaliam a qualidade da formação atual no HCMUTE em aspectos como conteúdos de ensino, exame e avaliação; condições de aprendizagem; qualificações do pessoal profissional; serviços de biblioteca; métodos de ensino de professores; proficiência em língua estrangeira e habilidades de comunicação como boas e muito boas; e há poucos comentários que discordam.

PALAVRAS-CHAVE: *Qualidade da formação de recursos humanos. Avaliação. Era digital. Requisitos de negócios.*

RESUMEN: *En la política integral de desarrollo humano para que las personas estén llenas de conocimientos, habilidades, experiencia y actitud de acuerdo a la estrategia del CPV y del Estado en los IX y XI Congresos del Partido, capacitando recursos humanos de calidad para atender los requerimientos de las empresas en la era digital. tiene un papel significativo e importante tanto en la teoría como en la práctica. Este artículo investiga y analiza la evaluación de los estudiantes sobre la calidad de la formación de recursos humanos para cumplir con los requisitos de las empresas en la era digital en la Universidad de Tecnología y Educación de la ciudad de Ho Chi Minh (HCMUTE). Los resultados del estudio muestran que, los educandos evalúan la calidad de la formación actual en HCMUTE en aspectos como contenidos de la docencia, examen y evaluación; condiciones de aprendizaje; calificaciones del personal profesional; servicios de biblioteca; métodos de enseñanza de los profesores; el dominio de la lengua extranjera y las habilidades de comunicación son buenas y muy buenas; y hay muy pocos comentarios que no estén de acuerdo.*

PALABRAS CLAVE: *Calidad de la formación de recursos humanos, evaluación, era digital, requisitos de las empresas*

Introduction

Studying learner evaluation of human resources training quality to meet requirements of businesses in the digital era has become a pressing issue at universities today, as it will provide the ground for changing strategies and solutions, innovating training programs, curriculums, contents of teaching, assessments, pedagogical methods and skills of lecturers, library services etc., as well as investing in improving lecturer qualifications, thus contributing to improve human resources training quality.

Vietnam's socioeconomic development strategy for the 2011-2020 period at the 11th Party Congress Documents specified: “*Rapidly developing human resources, especially high-quality ones, is focused on fundamentally renovating the national education and closely linking human resources development with the development and application of science and technology*”. Also, the general guidance on the use of “*Standards for evaluation of the quality of higher education training programs*” attached to Circular No. 04/2016/TT-BGDĐT dated

14 March 2016 of Minister of Education and Training said: Universities and academies, colleges and schools, scientific research institutes with doctoral training programs, education accreditation agencies and research groups have used approaches based on these standards to conduct surveys on student evaluation of human resources training quality and education quality of schools.

This study raises three questions: 1) how do learners evaluate the current quality of human resources training? 2) In what respects is the current human resources training quality at HCMUTE evaluated? 3) What are the reactions of learners to human resources training quality to meet requirements of businesses in the digital era?

Methodology

The research methods mainly used in this article are quantitative and qualitative methods. In quantitative research, the authors mainly use the method of analyzing secondary documents such as: books, theses, articles published in scientific research journals, articles and statistics on websites, reports and statistics on training quality assurance of Ho Chi Minh City University of Technology and Education. The purpose of this literature review is to find theoretical as well as practical directions for the authors to detect and analyze the research problem. At the same time, the literature review also helps the authors to consolidate necessary information and data to point out gaps in terms of materials, theoretical tools and methods, in order to identify new research tools and methods.

In qualitative research, the survey is conducted using online questionnaires, and data are processed using the SPSS. The survey was conducted with 1081 students at Ho Chi Minh City University of Technology and Education. Among which, male students account for 72.3%, female students account for 27.3%, first-year students account for 34.2%, second-year students account for 31.7%, third-year students account for 17.3% and fourth-year students account for 16.8%, regardless of their majors. The data are encrypted, entered and processed using SPSS 20.0 software.

Results and Discussion

Training program

Higher education programs are stipulated in clause 9, Article 2 of Regulations on quality accreditation of higher education institutions attached to Circular No. 12/2017/TT-BGDĐT stipulating quality accreditation of higher education institutions issued by Ministry of Education and Training, accordingly: a training program at a specific level of a discipline includes: objectives, output standards; training contents, methods and activities; facilities and technical infrastructure, structure, functions, duties and academic activities of the institution tasked with implementing that training program.

The training program must always be built in accordance with characteristics of the economy, politics, society, science, technology etc. of each country, as well as the requirements and trends of development of the time, and must demonstrate the continuation, inheritance, and development of existing training programs (education is a process that is historically continued in each stage of development) (DUC, 2010).

As a leading institution in the Southern region in terms of applying theoretical and practical model research in teaching and learning, HCMUTE has created every condition in terms of time, funding and human resources for scientific research and teaching, especially for the engineering sector. The university's undergraduate programs have been improved since 2012 with training duration of 4 years and 150 credits, and are developed towards the approach of CDIO (Conceive - Design - Implement - Operate) in order to help learners meet requirements of the society according to the output standards desired by stakeholders. By June 2019, the university has had 12 majors meeting education accreditation standards of the region (AUN). In addition, the university also organized for the development of 38 new training programs of 132 and 125 credits, which are introduced from the 2018-2019 academic year. The university has added 5 new undergraduate majors following the integration trends, which are: Graphic design; Restaurant and Catering Management; Construction Management; Architecture; and Renewable Energy. Also, the university added a master's program in Economic Management and a doctoral program in Civil Engineering.

To assess the training capability to meet requirements of the society, based on the survey results from Quality Assurance Department, the university has timely conducted an evaluation of training objectives, quality, needs and desires of learners. The results obtained are as follows (see Table 1).

Table 1 - Training programs help students perfect their learning and work skills

Question	Disagree	Neither agree nor disagree	Agree
1. The training programs help you build effective learning methods	6.6	19.8	73.7
2. The training programs help develop your skills to collect and process information	5.4	15	79.6
3. The training programs help develop your problem-solving skills	5.8	17.3	76.9
4. The training programs help you build communication and presentation skills	6.2	16.3	77.6
5. The training programs help develop your research skills	6.6	19.1	74.3
6. You find yourself having achieved the output standards (knowledge, skills, attitude) of the training program	3.7	18.5	77.8

Source: Ho Chi Minh (2017)

According to the statistics, 73.7% of students said that the training programs help build effective learning methods; in addition, over 70% of students said the programs help them perfect their skills of collecting and processing information, solving problems, communication, presentation and research, and 77.8% find themselves having met the output standards of training programs.

In addition to the available data, the authors also conduct the survey with 1081 students through the evaluation of the curriculum. It is seen through the results that, the percentage of respondents who "agree" and "strongly agree" that the training programs help them develop skills in research, communication and presentation, solving problems by themselves, collecting and processing information, and building effective learning methods is very high, above 60% in general. The number of students who feel that the training programs are fair also accounts for a significant proportion. The percentage of students who "disagree" regarding the knowledge, skills and attitude provided by the training programs is very low (Table 2).

Table 2 - Training Quality Evaluation

Criteria	Strongly agree	Agree	Neutral	Disagree	Strongly disagree
Develop research skills	16.4	50.0	22.5	3.1	8.0
Develop communication and presentation skills	17.8	51.1	19.7	3.3	8.1
Develop problem-solving skills	16.3	52.4	20.6	3.3	7.4

Develop skills to collect and process information	11.8	52.6	25.1	2.5	7.9
Develop effective learning methods	11.7	49.0	28.6	2.7	8.0

Source: Survey results of the topic, 2020

With the objective of "putting learners at the center" towards developing their research, creativity and application skills, the training program is evaluated as meeting the practical needs of the society, thus has helped a high percentage of students find suitable jobs. According to a survey conducted by Quality Assurance Department of HCMUTE in May 2017, 85.5% of students could find jobs. The employment rate of HCMUTE students before graduation is quite high (38%); within a month after graduation, this rate is 23%; within 3 months, 7%; meanwhile, 20% are still looking for a job, and 12% are yet to find a job because of having other plans. The student employment survey conducted every 6 months by Quality Assurance Department - HCMUTE has the following results (Table 3).

Table 3 - Comparison of student employment rate between graduation batches

Criteria	March 2015	September 2015	March 2016	September 2016	March 2017
Employed	47.7	63.8	53.5	68.1	67.7
Looking for a job	44.2	28.7	33.6	20.3	20.2

Source: Source: Ho Chi Minh (2017)

From the above statistics, the comparison of data through surveys shows that students graduating in September always has higher employment rate than those graduating in March; and the percentage of students employed in March 2017 is quite high (67.7%). In addition, the compatibility between the job and the major to meet requirements of the society is also highly appreciated. This proves that the strategy and approach to improve training quality of the university is perfectly in line with the trend of the society.

Student satisfaction with the current job is one of the basic criteria of universities' CDIO approach. For HCMUTE, the satisfaction level of alumni for their current jobs according to the survey conducted by Quality Assurance Department- HCMUTE is very high (85%) (HANOI, 2017).

From the above results, the training programs of HCMUTE have been designed according to the output standards and ensure to develop learners' capacity. After completing their studies, students can collect and process information, solve problems, improve their knowledge, skills and attitude by their own to best meet job requirements in order to have stable jobs and high income. The curriculum design has helped 85% of students to feel satisfied with their current jobs.

However, the results also show that the current curriculum design of the university has yet truly promoted effective learning methods (the "disagree" answer in the observed variables ranges from 2.5% to 3.3%). Therefore, it is necessary to develop training programs associated with the development of students' ability to build effective learning methods.

Training content

Training content is one of the core issues of a training program. In designing the training programs, HCMUTE has clearly defined their training content in determining duration of each module, learning and practice materials, as well as the depth of the contents. This has helped the university to be quite successful in meeting expectations of learners as well as requirements of the society. Most students in the survey rated the training content as "good" (over 53%) and "very good" (over 18.6%); the "poor" and "fair" answers account for less than 24%, among which the percentage of "poor" is very low (less than 3.2%) (see Table 4).

Table 4- Student evaluation of training content

Criteria	Poor	Fair	Good	Very Good
Achieve training goals	1.6	17.4	61.6	19.4
Content/depth of training	1.5	20.8	58.0	19.8
Training duration	2.0	20.5	58.9	18.6
Learning materials	2.7	20.1	54.4	22.7
Practice assignments	2.2	18.3	55.9	23.5
Meet expectations	3.2	24.3	53.5	19.1

Source: Survey results of the topic, 2020

Thus, perfecting major-based training content is one of the issues that need to be considered and a top priority in improving human resources training quality at colelges and the university.

Contents of teaching, examination and assessment

Renovating assessment methods in teaching and examination is an annual job to catch up with the new education. Especially, with the CDIO-oriented design of training programs, pedagogical renovation is increasingly required; how lecturers teach and assess and how students learn are the subjects of this research.

Ho Tan Nhut and Doan Thi Minh Trinh once analyzed the way of teaching and learning:

[...] in order to achieve the double goal of absorbing knowledge and learning skills better, rearranging students' study time and applying the best practices in teaching and learning methods are essential and should be done throughout the curriculum. To meet this need, we propose the following two aspects to be improved: 1) increase active and experiential learning, and 2) establish integrated learning experience leading to a firm grasp of specialized knowledge, personal skills and communication skills; as well as skills for creating products, processes and systems. Education research shows that active learning skills can significantly promote students' learning process. Active learning takes shape when students are more involved in operating, applying and evaluating ideas. Active learning in theory-prone subjects may include segments of time for students to contemplate and conduct group discussions and respond instantly to what they are learning (NHUT; TRINH, 2010, p. 10-32).

The results of this research show that, students "strongly agree" and "agree" in terms of teaching, examination and assessment contents; the "disagree" and "neither agree nor disagree" answers are really low and insignificant (Table 5).

Table 5 - Students' evaluation of teaching, examination and assessment contents

Criteria	Neither agree nor disagree	Strongly agree	Agree	Disagree
Lecturers are fair and objective in assessing and satisfactorily resolve complaints	8.9	36.3	52.4	2.3
Lecturers clearly inform of format and content of examination and assessment	7.0	39.6	51.5	0.0
Lecturers often relate to practice in the teaching process	7.3	34.0	55.7	3.1
Lecturers often make a connection between the subject and the training program	10.5	28.2	58.4	3.0
Stick to the detailed syllabus	11.1	23.0	62.2	3.6

Source: Survey results of the topic, 2020

It can be seen that the teaching, examination and assessment contents currently applied at HCMUTE have more or less met the expectations of learners, which has contributed to the success of the university in training human resources to meet the practical needs of the society today.

Learning conditions

Sources of information and documents; equipment for learning, experiment/practice; area of campus and construction works owned by the university are the outstanding strengths built in over 50 years of establishment and development. In recent years, the University has actively promoted the connections with domestic and foreign enterprises, companies and corporations to find funding for modern equipment for scientific research and non-

governmental training, in order to create conditions for students to have access to advanced equipment. Some prominent sponsors are Rockwell, Panasonic, Tektronix, Intel Vietnam, Siemen Vietnam, Renasas etc., with the total sponsorship of about 26 billion VND. In addition, the university also invests 22 billion VND to upgrade and expand infrastructure, apply information technology to training, improve management quality, meet requirements of lecturers and students in credit-based training, deploy online training systems such as E-Learning, Mobile Learning, etc. In addition to the equipment purchased under projects, the university also regularly procure additional equipment, with the total amount of about 6 billion VND/year. Currently, there is a total of 2,069 computers at the university, of which 1,512 are for learners. The number of computers for officers at functional departments are 577. All computers are connected to the internet through transmission lines including 03 Leased Line of over 320 Mbps and 12 FTTH of 12 Mbps (HO CHI MINH CITY UNIVERSITY OF TECHNOLOGY AND EDUCATION, 2016).

The university has 256 classrooms for learning theories, 1 digital classroom, as well as 158 workshops and laboratories. With the current number of students (regular, converted) of 15,516, the average floor area for construction of works directly serving teaching and learning per student is 3.95m², higher than the current standard (2.5m²/student). Annually, the concretization of investment items is planned for budget according to the general process of Ministry of Education and Training. The university also implemented the 1/500 plan of the entire Campus 1 (No.01 Vo Van Ngan, Thu Duc, HCMC) which has been submitted to the competent authorities for approval as basis for investments to increase and strengthen the infrastructure to meet long-term development needs. Also, self-study areas are set up within the premises of each faculty, including the dormitory, with free Wi-Fi to serve the needs of self-study and research of students (HO CHI MINH CITY UNIVERSITY OF TECHNOLOGY AND EDUCATION, 2016).

With efforts in improving learning conditions for students, the university has received "strongly agree" and "agree" answers from students (accounting for over 70%) regarding class size, quality of audio-visual media, service facilities, etc.; the "disagree" and "neither agree nor disagree" answers are insignificant (Table 6).

Table 6 - Student evaluation of learning conditions

Criteria	Neither agree nor disagree	Agree	Strongly agree	Disagree
Reasonable class size for practice/experiment	2.9	57.4	24.7	15.0
Quality of audio-visual media	5.5	59.0	25.3	10.2
Classroom facilities and equipment make it easy for students to actively learn	3.1	56.5	29.0	9.0
The class size facilitates active learning methods	11.0	56.2	17.7	15.1

Source: Survey results of the topic, 2020

Through the above analysis, it is shown that the current learning conditions of HCMUTE students more or less meet the needs of learners, giving them the opportunity to promote active learning methods. Fully equipped and modern laboratories and practice rooms help students improve their skills and qualifications to meet the output standards of the trainings program designed and developed by the university/schools/faculties.

Qualifications of lecturers

The qualifications of lecturers and staff are one of the decisive factors of human resources training quality at educational institutions today. Such qualifications both demonstrate their ability in terms of professional knowledge, skills, adaptability and application of science and technology to their teaching practice, as well as the standard for recruiting human resources to meet the education and training needs of the university.

According to the statistics of Organization and Personnel Department - HCMUTE, as of June 2019, the university has 819 officers and employees. Among which, 41 lecturers hold the title of Associate Professor and have PhD degree; 157 have PhD degree; 406 have Master's degree; 157 employees have bachelor's degree; and 59 with other qualifications. The lecturers ensure to meet the prescribed standard qualifications of teachers and teach in their trained major; ensure professional structure and qualifications according to regulations. They also have foreign language and computer skills to meet requirements of scientific training and research tasks. Most lecturers have good pedagogical skills, thus they are proficient in conveying lessons using case studies and modern teaching methods (E/M-learning) to attract students.

According to our research, as well as the evaluation from the survey conducted every semester by Admission and Student Affairs Department, most lecturers are highly appreciated for their pedagogical skills and methods. Our research findings show that the teaching qualifications of lecturers are highly appreciated (Table 7).

Table 7 - Student evaluation of lecturers' teaching qualifications

Measurement	Poor	Good	Very Good
Ability to communicate and attract students to learn	4.0	77.9	18.1
Use of relevant examples and case studies	3.1	69.9	27.0
Help and care/guide for students in the course	4.2	69.1	26.7
Overall evaluation of lecturers	1.6	72.1	26.3

Source: Survey results of the topic, 2020

The results show that, HCMUTE has made efforts to build its teaching staff in terms of quantity and quality according to state regulations to ensure the sustainable development of training and scientific research in accordance with the medium-term development quality plan in 2011-2015 with a vision to 2020, meeting the needs of training human resources for industrialization, modernization and international integration.

Library services

The library has a stable organizational structure and a flexible service policy with a team of young, highly qualified and dynamic employees; the service staff have many innovations for professional improvement and high service capacity; rich and diverse materials of different types; suitable equipment and means of operation for the needs of users; thorough and comprehensive application of information and technology in library activities. Since 2002, the library has been equipped with library management software for the borrowing, returning and searching for materials via internet-connected computers. By 2015, the library management software had been upgraded with a more modern technology platform, in line with the trend of applying mobile technology and the strong demand in exploiting electronic materials on mobile devices. Thanks to that, the university has supported readers in their search for e-materials and quickly understands their needs through weekly, monthly and yearly statistics. Readers can look up for materials, check their availability in the archive and register to borrow when they are available. In addition, the library also coordinates with external partners to find solutions for providing a wireless network system that covers the entire library campus. Also, the library annually organizes training courses to equip students with necessary library skills in exploiting and using the library. In order to well perform the task of supporting learning as well as its functions and duties, the Library is always conscious of developing its human resources to be full of expertise and appropriate skills, and updated with current knowledge. In addition, with the goal of comprehensive

quality assurance and continuous improvement, the library regularly receives readers' feedback from surveys and evaluations of reader satisfaction, as well as comments through periodic meetings and dialogues between the university's leaders and students. Such feedback and comments are handled, responded to and put into action by the library to constantly improve its service quality (HO CHI MINH, 2016).

Our research findings show that, a high percentage of students "agree" and "strongly agree" with the current library services (accounting for over 70%); while those with "neutral" evaluation also accounts for a significant proportion (Table 8).

Table 8 - Evaluation of library services

Criteria	Disagree	Neutral	Agree	Strongly agree
Correctly identify information request, effectively help students access and exploit information resources at the library	1.2	25.9	57.3	15.6
Able to cover sources of information, proficiently use search tools, able to look up information on the internet	0.9	23.2	57.7	18.2
Able to analyze and consolidate information to guide and advise information users	0.9	26.1	56.2	16.8
Evaluate information and sources of information with analysis	1.0	27.1	54.6	17.2
Access and use information effectively and legally	0.8	22.5	58.6	18.1
Have effective communication and interaction skills with groups of information users as well as the ability to deal with situations during the service process	1.1	23.6	57.1	18.2
Pedagogical skills	1.8	25.5	56.5	16.2

Source: Survey results of the topic, 2020

Evaluation of the library's services is one of the basic criteria that determine the success of several education and training institutions, especially in the current era of digitalization and integration, where students are having a very high demand for information and materials for their learning, research and creativity. Therefore, library services reflect how the library works to serve the needs of learners as well as renovate and create electronic library to meet the need for effective information search. The library services of HCMUTE are quite highly appreciated by the students in the survey. This proves the university's focus on investing in and perfecting library services to meet the need for information and learning materials for learners, which is one of the factors contributing to the improvement of human resources training quality at the university.

Teaching methods of lecturers

According to Ho Tan Nhut and Doan Thi Minh Trinh (2010, p. 33),

in order for students to learn effectively and efficiently, an integrated learning experience is required. Integrated learning includes learning experience leading to professional knowledge combines with personal and communication skills, product, process and system building skills, ..., problem-solving is a necessary technical skill

The report on teaching and learning of lecturers and students in academic year 2016 - 2017 shows that the university has initially succeeded in applying *digital teaching* program with more than 58 million visits to LMS page to study and research, and more than 238,000 tests and assessments done. In the constant movement of the fourth industrial revolution, the role of teacher also changes. Teachers are no longer those who directly teach and impart knowledge, but become instructors for students to "learn through projects", etc.

The teaching methods used by lecturers in the digital era is a smooth combination between pedagogical skills and the ability to apply information technology and practical knowledge in lectures to encourage students to be active and creative. Lecturers go to class with modern teaching methods to impart knowledge and skills, thus guide students to learn, analyze, assess and solve problems by themselves.

One of the key issues in the teaching methods of lecturers is communicating in an easy-to-understand manner and ready to answer students' questions in a timely manner to helps students understand lectures.

According to our research findings, most students (over 75%) "agree" and "strongly agree" with the teaching methods of lecturers at the university (Table 9).

Table 9 - Student evaluation of lecturers' teaching methods

Criteria	Neither agree nor disagree	Strongly agree	Agree	Disagree
Teach in an easy-to-understand manner	15.5	25.8	54.1	4.6
Enthusiastically answer students' questions	7.0	38.7	52.3	2.0
Apply a variety of teaching methods	7.3	34.9	55.3	2.6
Give detailed information of the course syllabus	5.5	38.1	55.3	1.1
Meet the output standards of the course	9.4	29.6	59.5	1.5
Timely assess and respond to students	7.4	32.5	57.2	3.0

Source: Survey results of the topic, 2020

In fact, lecturers can have many different teaching methods, and the degree of applying them depends on the practical needs and the output standards of the training program. From our perspective, the lecturers in general are well evaluated by students in

terms of their teaching methods, which helps to improve the quality of human resource education and training to meet requirements of businesses as well as social practices.

Information Technology

Resolution 46/CP dated 04 August 1993 on developing information technology in our country defined the objectives of: Building initial solid foundations for an information infrastructure in the society capable of meeting the basic needs of information in state management and socioeconomic activities; while actively building information technology into one of the country's key industries, in order to prepare for our country to have a worthy place in the region as we enter the 21st century. Information technology is a combination of many modern scientific and technical fields, especially electronics, informatics and telecommunications. According to the conventional conception, the IT workforce mainly consists of experts in system analysis, design and programming, teachers and researchers in information technology, installation and maintenance engineers for the repair of computers and installation of software, computers and communications networks etc. (DUC, 2002, p. 206).

The study results show that students highly appreciate the ability to use information technology in accessing learning materials as well as the application of E/M-learning, self-study at home, social media and web technology today; the "good" and "very good" answers account for more than 70% (Table 10).

Table 10 - Student evaluation of information technology applicability

Criteria	Poor	Good	Very Good	Fair
Application of information technology in accessing learning materials	3.0	58.1	31.7	7.3
Use of information technology in E/M-learning	4.3	54.4	29.9	11.4
Application of social media and web technology at schools	2.9	55.1	32.1	9.9

Source: Survey results of the topic, 2020

Foreign language and communication

In the face of the rapid change in science and technology, especially under the strong influence of Industry 4.0, the opportunity is great, but so is the challenge; in which, foreign language is considered one of the main factors in the international integration trend. Understanding the needs of the society, the university always focuses on training foreign

language for learners and help to equip students with good skills, so that after graduating, they can meet requirements of the society. Therefore, according to the statistics of Quality Assurance Department - HCMUTE from 27 April 2017 to 30 May 2017, a relatively high proportion (52%) of students has English proficiency that completely meets or relatively meets job requirements; 37% partly meet job requirements and only 2% cannot meet job requirements (HANOI, 2017).

According to the survey, four skills of listening - speaking - reading - writing of HCMUTE students are at fair, good and very good levels; the poor level is very low (Table 11).

Table 11 - Student evaluation of foreign language and communication skills

Measurement	Very Good	Good	Fair	Poor
Presentation skills	12.1	41.1	39.8	7.0
Social relationship building skills	12.3	44.4	38.3	5.1
Teamwork skills	12.2	48.8	36.1	2.9
Writing skill	7.8	37.4	43.3	11.5
Reading skill	8.2	39.1	45.6	7.1
Speaking skill	8.9	34.6	44.4	12.1
Listening skill	7.3	37.2	42.4	13.2

Source: Survey results of the topic, 2020

In addition to foreign language, communication is also the key for flexible business operation. These skills are important for winning and keeping customers. Renovating, contributing to quality processes, resolving conflicts and providing feedback etc. are connected in effective communication skills. Workers spend most time of the day using a certain way of communication, and success at work is associated with communication skills. At work, workers always interact with others; thus, teamwork and communication between individuals are needed for productivity. Communication skills include the ability to evaluate and express appropriate attitudes, handle unwanted attitudes from others, withstand stress, etc. Especially, in the international environment, communication skills have a certain place in deciding the career and opportunity for promotion of workers.

Indicators of foreign language and computer proficiency for work, as well as the skills to exploit information and gain more knowledge are very important to the young human resources today. This fact is requiring education and training policy makers as well as students themselves to have appropriate strategies and roadmaps to improve foreign language and information technology proficiency, to meet job requirements in the context of international integration.

Some solutions to improve human resources training quality to meet requirements of businesses in the digital era

To strengthen the social network between the university, the labor market and businesses on the existing foundations, HCM University of Technology and Education needs to establish and maintain a large network in Ho Chi Minh City, Binh Duong, Dong Nai and some businesses in neighboring provinces. Towards the training goal in the integration trend, the university needs a more comprehensive forecast of human resources, statistics of the existing human resources, demands and numbers according to professions being trained at the university now. A strong social network with companies and businesses must be built to obtain external evaluation of the university's training quality, thus contribute to limiting the non-participation in external evaluation of training quality applied by companies and businesses.

The determination of training goals and output standards according to CDIO approach is necessary for every training program and training module. To do this, the university needs to focus on improving training quality and qualifications of its lecturers, especially their foreign language and computer proficiency towards providing training to meet regional and international standards.

Training content of short and medium terms should be developed towards ensuring the quality of human resources training and meeting expectations of learners and employers (market and businesses).

The university and its lecturers need to coordinate with each other to carry out examinations and evaluations, so that the output quality of human resources will be even higher in the coming time.

The university also needs to further improve its classrooms, especially smart ones and determine a reasonable class size to better improve teaching and learning quality. Lecturers and students should be encouraged to exploit and use the digital classroom effectively to create conditions for students to prove their initiatives and creativity.

Conclusion

As a result of the analysis, students have very good evaluation of the training quality at the university. Only a relatively low percentage of students does not highly appreciate the training programs, training content, teaching, examination and assessment contents, learning conditions, lecturers' qualifications, library services, lecturers' teaching methods, information

technology, foreign language and communication skills provided by the university. However, determining the right needs for training in accordance with requirements of the labor market and businesses and for training high-quality human resources plays a crucial role in every training program. Currently, HCMUTE has been developing training programs targeting the labor market and businesses as well as the demands and qualifications of learners, which helps avoid waste of time and money and improve training quality. With external evaluation from companies and businesses, the correct identification of market and business demands must be done logically, continuously and synchronously to build a long-term and sustainable strategy, thus forecast the demand for human resource training in the trend of international integration and help the training programs of the university to meet AUN standards. To do that, the university needs to properly assess the demands of the labor market in order to design training programs and contents towards promoting the capacity of learners; using soft skills and foreign language proficiency requirements from external evaluation of companies and businesses as standards to develop training programs that help learners promote their soft skills and their use of foreign language; as well as regularly hold seminars for students to actively participate in and build their own skills. Towards achieving the training goal in the integration trend, the university needs a more comprehensive forecast of human resources, statistics of the existing human resources, demands and numbers according to professions being trained by it. A strong social network with companies and businesses must be built to obtain external evaluation of the university's training quality, thus contribute to limiting the non-participation in external evaluation applied by companies and businesses.

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