Evaluating English Proficiency Requirement for Logistics Core Competency: CEFR Framework for Entry-Level Logisticians in Thailand's EEC Context

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Abstract

English is the most commonly spoken language for international communication across all industries, whereas logistics is one of the key differentiators in corporate strategy. Producing logistics graduates who go above and beyond the requirements of their chosen sector is one of the universities' main objectives. The study's objectives were to investigate the English proficiency problem and the English proficiency requirements for logistics core competencies (LCC) in the Eastern Economic Corridor (EEC). The quantitative research approach was selected, and a survey questionnaire was used based on four English skills, whereas the transportation, distribution, and logistics competency model, the association for operations management model, and the business logistics management framework were used as the basis for the survey, which is designed to collect the requirements of practitioners on the required skills for entry-level logisticians. 179 respondents from various EEC industry sectors responded. The results of the mean scores indicate that the primary issue is a deficiency in listening skills. Participants' average English proficiency for logistics was B2, with 24 skill elements. The highest needs for C1 were in logistics rules and regulations and critical and analytical thinking. The results of this study can contribute significantly to logistics curriculum designers' ability to supplement the traditional course with a crucial LCC. Future research is needed to clarify further the challenges and obstacles of developing the logistics English language skills of Thai logistics students towards CEFR B2 and C1.

Keywords: Logistics Core Competencies, EEC, Entry-Level Logisticians, CEFR

Introduction

The 20-year national strategy has set goals for competitiveness and enhancing human capital development and strengthening, together with the life-long competency development in a working period and increased competency level, skill, and ability to serve the market demand. The education reform for the 21st century will have the adaptability to create an

excellent international education system. The Master Plan and the National Strategy, which cover 2018 through 2037, are both used in Thailand. Therefore, it is crucial to develop policies that consider expanding the nation's needs, regulate production under those needs and the skill gap, and establish university educational programs that will result in graduates who can meet localized demands. The need for skills development in logistics management had increased since the latter half of the 20th century when logistics first emerged as an applied profession (Cronjé, 2015). Effective and efficient logistics boost businesses' competitive edge (Prokhorova et al, 2016). In fact, it has been said that one of the crucial differentiators in corporate strategy is logistics. This is true for any operation's management within any organization. However, the literature points to a global need for logisticians who are both educated and skilled. Universities that directly produce graduates for the workforce need more direction when constructing courses since they need to comprehend industry requirements. Lack of industrial demand research results in missed opportunities for skill development within the nation's working population and for maximizing productive employment (Siddoo et al., 2017).

Approximately 43,970 posts are being established (Eastern Economic Corridor, 2019) with the skills, abilities, and traits still being contested to match the university's undergraduate student population with the demand of the country and EEC for specialized and professional in logistics and international trade. Since that indicates the need for core competencies, the university must meet EEC's demand. As a result, they may fall short of meeting EEC's qualification requirements because there needs to be a clear and robust identification of the ability that could be required. Some developing nations have struggled to educate and produce a workforce that possesses the fundamental skills needed by the industry. As long as a supply-demand imbalance severely affects core competencies, countries will need help to catch up in a competitive international environment.

An investigation was carried out in Thailand called The Thai First-Year University Students' English Proficiency on CEFR Levels (Waluyo, 2019). Research has also been done to design the curriculum to meet employers' requests on the importance and perception of students' competencies in supply chain management and logistics (Thepmongkorn & Pitchayadejanant, 2020). However, there is a lack of empirical data examining English proficiency in the necessary skill sets for young graduates, as well as a non-availability of a framework of references and specific logistics core competencies (LCC) that undergraduate students in Thailand could have used to develop their skills.

To identify the LCC necessary for success in the EEC region, this study will explore the problem of English proficiency and the English proficiency requirement on the LCC of local manufacturers in the EEC area using the CEFR framework. For this purpose, the following research questions were formulated for this article:

What is the English proficiency problem of a logistician's entry-level skill in EEC?

What is the LCC area to focus on to improve curricula, educational content, and style?

How does the education institute enhance their English proficiency in LCC?

This study aims to fill a gap in the literature for the first time with new information and knowledge. Entrepreneurs and educational institutions in the EEC could be able to discover and build up LCC for recent graduates with the guidance of the findings. The framework enables educational institutions to design curricula and procedures to educate logistics students and qualify them for careers in the area, not just for domestic enterprises but also for multinational corporations. In addition, in efforts to support their students' development of the English-language proficiency required to fulfill job demands and decrease the inadequate LCC, lecturers can develop the teaching material, methodology, and style in a way that makes it possible for new techniques to be developed.

Literature review

Logistics core competency

In the Irish context, Brophy and Kiely (2002) introduced the competency definition as "an approach whose has come due to its ability to identify behavior that could be connected with effective performance". Additionally, all logistics staff employees require IT competence to do their daily duties. Furthermore, they must be capable of leading people, communicating clearly, and generating intelligent decisions (Hoberg et al., 2014). This study's primary focus is evaluating English language proficiency in the context of the LCC, which refers to the abilities, knowledge, and attributes that have a measurable impact on the effectiveness of logistics operations. As a result, only academic competencies acquired via learning from educational institutions and logistics skills will be the subject of this research.

Academic competencies

Academic competencies are essential skills that are typically gained in a classroom environment. They consist of mental processes and modes of thought. The majority of professions and businesses are likely to accept academic qualifications. Looking at the practitioner-oriented literature, the Employment and Training Administration (ETA) and the US Department of Labor (DOL) (United States Department of Labor, 2010) originally created and deployed the Advanced Manufacturing Competency Model (AMCM) in 2006 as a method for manufacturing skill certification and enhancement of the industry's credibility. The fundamental or core competencies that any industry requires of its personnel are included in competency models and skills certification. The academic competencies that we will use in this study from the TDL Competency Model are as follows: communication (verbal and visual), reading, locating and using information, writing, STEM (science, technology, engineering, and mathematics), critical and analytical thinking, and information technology fundamentals.

Another significant international logistics group, The Association for Operations Management (APICS) (2011) has created a competency framework for companies. APICS has followed the guidelines set by the Employment and Training Administration, United States Department of Labor. With the advantages of this model, scholars have conducted various investigations using APICS covering the realm of logistics competencies. For instance, Tramarico et al. (2015) conducted a study on the assessment of training on supply chain

management with CPIM from APICS. They revealed that the employees and managers who receive APICS CPIM (Certified Production and Inventory Management) from the training are empowered and prepared to make the best decisions for their company. While this observation was made over a decade ago, in particular, Lummus (2007) discovered that APICS influence and contribution progressed and enhanced supply chain management processes over more than 15 years. Moreover, Kotzab et al. (2018) proposed the APICS model (CPIM) to identify the specific competencies of logistics and supply chain professionals for a lifelong learning perspective. In the Thai context, the APICS framework is part of an inquiry into differences in importance and perception of the skills of logistics and supply chain management students to confirm the curriculum to fulfill employers' demands (Thepmongkorn & Pitchayadejanant, 2020). Math, Statistics, Analytical Thinking, Reading and Writing for Comprehension, Applied Science and Technology, Supply Chain Fundamentals, Foundations of Business Management, Materials Management Fundamentals, and Operations and Enterprise Economics are the academic competencies components of the APICS model that this study uses.

Logistics skill

Many international studies have been conducted to identify the standard skill sets needed for successful logistics. Scholars like Poist (1984) developed the Business Logistics Management (BLM) framework for supply chains and the advancement of logistics abilities after analyzing early research in the 1980s. This framework includes 80 skills and knowledge designated for entry-level supervisors and logistics. Previously, Gammelgaard and Larson (2011) suggested the three basic abilities in logistics: fundamental managerial and interpersonal skills, fundamental technological and quantitative skills, and fundamental supply chain skills. Recently, Lin and Chang (2018) reported the logistics skills of entry-level professionals in Taiwan and implemented broader logistics skills to evaluate the logistics practitioners. By examining the importance and perception of expertise in logistics and supply chain management, Thepmongkorn and Pitchayadejanant (2020) suggest that BLM can be used in Thailand to improve the curriculum and make it more compatible with the requirements of employers by examining the importance and perception of expertise in BLM. Overall, this study used Lin and Chang's (2018) list of logistics skills for entry-level professionals, which included knowledge of international logistics, transportation management, intermodal logistics, global logistics management, logistics law and regulation, logistics information systems, delivery management, quality assurance management, transportation economics, supply chain management, warehouse management, electronic commerce, distribution management, enterprise resource planning, order management, inventory management, logistics system simulation, purchasing, production planning, and retailer management. Management abilities, however, should be addressed in this study.

Common European Framework of Reference (CEFR)

The most notable element of the CEFR is its worldwide informative ability scale, which contains three wide brands, each with two expertise-based levels communicated as "can-do" explanations. Table 1 demonstrates the Basic User, Independent User, and Proficient User. There are two sub-levels within each major group, giving a total of six levels: A1, A2, B1, B2, C1, and C2. These six levels comprise the worldwide scale of the CEFR, whose descriptors are listed in the official CEFR publication (Council of Europe, 2017). The language-neutral CEFR provides a thorough, skill-by-skill assessment of learners. It is a helpful resource for curriculum designers, teachers, trainers, and graduate users (Kaewwichian & Jaturapitakkul, 2018).

In summary, the researchers incorporate and select the academic skills of the TDL Competency Model (AMCM) together with the APICS: Distribution and Logistics Managers Competency Model (The Association for Operations Management, 2011), the logistics skills of the BLM model (Murphy and Poist, 1991) and unduplicated competencies from many publications (Thepmongkorn & Pitchayadejanant, 2020; Lin & Chang 2018). Previous studies' gaps include focusing solely on the BLM model and a lack of research in Thailand. With the first gap fulfillment, the skills of the TDL Competency Model and APICS model are added to the study because this framework is implemented globally to train logistics and supply chain practitioners to be professionals in logistics and supply chain management. In addition, the collected English proficiency in the LCC was analyzed by CEFR to suggest that the English proficiency competencies should be developed and focused on by educators or instructors in Thailand. The conceptual framework is shown in Figure 1.

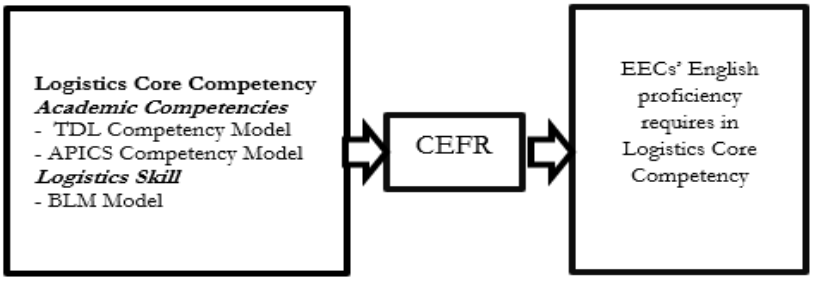

Figure 1 Conceptual framework

Methodology

Participants

The population used in this study was entrepreneurs in the EEC in Chonburi, Rayong, and Chachoengsao provinces. The sample includes entrepreneurs from ten target industries, including next-generation automotive, innovative electronics, affluent, medical and wellness tourism, agriculture and biotechnology, food processing, robotics, aviation and logistics, biofuels and biochemicals, and digital and medical hubs. The samples were delivered accordingly to Chonburi Province, Rayong Province, and Chachoengsao Province, with 400 pieces. In addition, 179 survey respondents in the EEC area were recruited as participants in

this study. 34 skills were extracted from the literature based on a comprehensive review of the literature on the LCC and the CEFR. After thoroughly examining these 34 items and using expert opinions, 3 academic skills were excluded from the list. The skills were also adjusted to avoid repetition and ensure appropriateness in the EEC context. Finally, 31 skills were considered for this study and grouped into two categories: academic and logistics skills.

Instrument

The questionnaires were sent out to 400 companies by post, and it was divided into four parts. The first part asked the respondents about their job position and their industry, while the English skills problems were discovered in the second part. The third part asked the respondents to rate their opinions of the English LCC levels on the CEFR of the 31 skill items. For example, in terms of academic skills, the respondents were asked to rate the critical and analytical thinking skill expectations according to the CEFR level: (A1) is able to answer simple questions; (A2) is able to communicate with English-speaking colleagues, but there are limitations. (B1) be able to read and write simple emails; (B2) be able to use English to communicate with non-native speakers; (C1) be able to communicate fully; (C2) be able to communicate at a native speaker level. The fourth part was about suggestions. Using a content analysis approach to gather responses helped the questionnaire respondents better understand the purpose of the study and provided an opportunity to comment and suggest during the completion of the questionnaire.

The power to discriminate each item of the questionnaire was more significant than 0.20 for 35 items, with a value between 0.41 and 0.91. Cronbach's alpha was computed for respondent ratings of their requirements on LCC in academic competencies and logistics skills. Determination of reliability by Cronbach's Alpha cognitive analysis method testing for content validation. The results showed that Cronbach's alpha coefficient was .952, which is considered a highly reliable and highly usable questionnaire in this study.

To address the research objectives, respondents self-assessed and reflected on the perceived problems and the English proficiency required for logistics core competency. The first section of the survey instrument captured demographic characteristics regarding the employment period, current position, industrial nature of the establishment, and the province where the establishment is located. Secondly, the correspondent was asked to rate the problems of English skills in reading, writing, listening, and speaking of fresh graduates' logistics for their company. The 5-point Likert scale for these questionnaires (one being the most minor problem and five being the most severe problem). Thirdly, the correspondent was asked to rate, on a scale of one to six (one being less and six being extremely needed), the need for English proficiency of entry-level professionals in LCC with the CEFR. With the 6 CEFR scales implemented, the answers to these questions ranged from A1 (least needed: primary user) to C2 (extremely needed: proficient user). Lastly, the open-ended questions for suggestions or comments were required to be added by the correspondent.

Data collection and data analysis

Data collection using questionnaires is a method for collecting data. The sample group of 400 mailing places received 179 returned items or 44.75 percent of the total questionnaires. And it collected information from March to May 2020. The data obtained through the questionnaires were analyzed using descriptive statistics, with mean scores, percentages, and standard deviations used appropriately for the descriptive data. While open-ended questions using content analysis.

Findings

The questionnaires were validated, and the response rate of 179 participants was satisfactory. The data has been examined and presented in the table using simple statistics such as percentage, mean, and standard deviation.

Sociodemographic characters of participants

The average employment age was discovered to be mainly over 5 years, with 43.02 percent being the highest. The majority of those in the sample group, 46.93 percent, held management jobs. The automobile industry employed most of the sample group, accounting for 40.22 percent. Chonburi Province, which accounted for 46.93 percent.

English proficiency problems statistics

It was found that the problem of English language competency in the logistics of the sample group had mean scores around three, with the greatest being listening (M = 3.58, SD = 0.67) followed by writing (M = 3.27, SD = 0.77) speaking (M = 3.23, SD = 0.84) and the least problem being reading (M = 3.13, SD = 0.62) (see table 1).

Table 1 The mean scores, the standard deviation of English skill proficiency problem

	Mean	**Standard Deviation**
Listening	3.58	0.67
Speaking	3.23	0.84
Reading	3.13	0.62
Writing	3.27	0.77

LCC requires English proficiency

Statistics on the required level of English proficiency in the LCC of the EEC's ten targeted industries. Determine the following CEFR levels: A1, A2, B1, B2, C1, and C2. This is divided into 11 academic competencies and 20 logistics skills as shown in table 2.

Table 2 Mean values, standard deviations, and CEFR level of LCC

Logistics Core Competency	M	SD	CEFR Level
Academic Competencies			
Critical and Analytical Thinking	4.53	1.83	C1
Math, statistics, and analytical thinking	4.36	0.79	C1
Operation and enterprise economic	4.34	0.07	B2
Materials management fundamentals	4.31	1.13	B2
Information Technology Fundamentals	4.11	0.92	B2
Communication—Visual and Verbal	4.06	0.45	B2
Supply chain fundamentals	4.02	0.52	B2
Science, Technology, Engineering, and Math	4.00	1.73	B2
Foundations of business management	3.93	1.33	B2
Reading and writing for comprehensive	3.77	1.14	B2
Locating and Using Information	3.77	1.07	B2
Logistics Skill			
Logistics Law and Regulation	4.64	4.15	C1
Electronic Commerce	4.49	2.81	C1
Transportation Economics	4.42	1.68	C1
Logistics Information System	4.40	2.36	C1
Enterprise Resource Planning	4.30	0.24	B2
Distribution Management	4.23	0.32	B2
Transportation Management	4.17	1.13	B2
Delivery Management	4.17	0.50	B2
Production Planning	4.15	1.22	B2
Intermodal Logistics	4.07	1.03	B2
Supply Chain Management	4.03	1.14	B2
Order Management	3.98	1.39	B2
Quality Assurance Management	3.95	1.50	B2
Logistics System Simulation	3.84	1.01	B2
International Logistics	3.79	1.34	B2
Purchasing	3.74	1.03	B2
Global Logistics Management	3.65	2.27	B2
Inventory Management	3.55	2.02	B2
Warehouse Management	3.52	2.21	B2
Retailer Management	3.37	2.27	B1

In table 2, the mean scores of academic competencies vary from critical and analytical thinking to locating and using information ($M = 3.77$, $SD = 1.07$). While the skills required based on CEFR levels were identified, the top two are C1, and the rest are B2. Among the eleven academic competencies, the five most academic competencies were identified based on

the mean scores of the academics provided by the respondents. These include critical and analytical thinking; math, statistics, and analytical thinking; operation and enterprise economics; materials management fundamentals; and information technology fundamentals. While the level of logistics skills varied from logistics law and regulation ($M = 4.64$, $SD = 4.15$) to retailer management ($M = 3.37$, $SD = 2.27$). The logistics skills required based on CEFR levels were identified, the top four are C1 and the rest are B2, with one skill being B1. The top five logistics skills required with the highest mean scores were identified. They were logistics law and regulation, electronic commerce, transportation economics, logistics information systems, and enterprise resource planning.

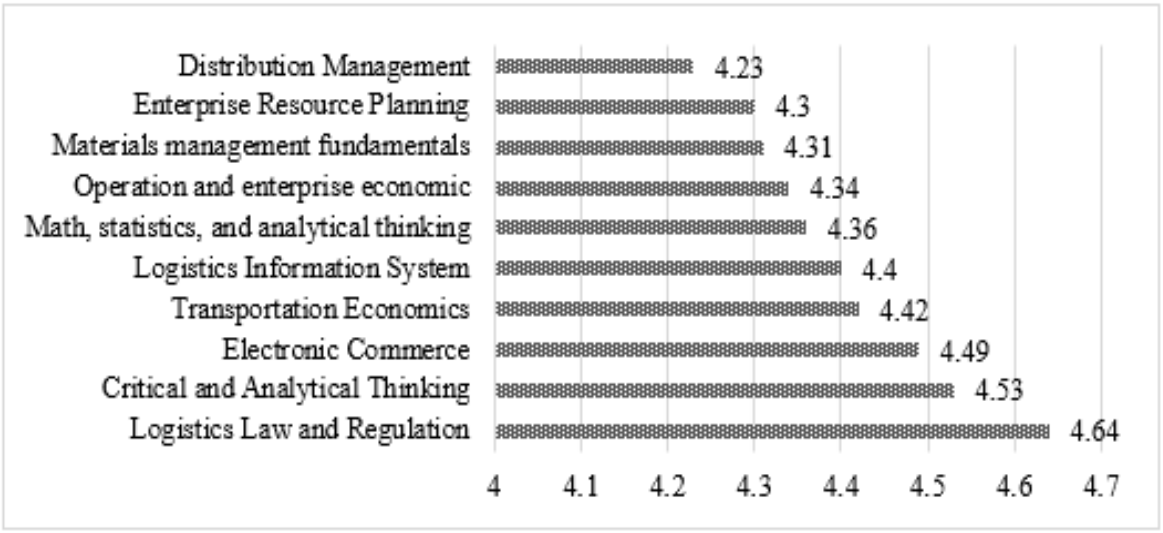

Figure 2 Top ten for LCC

In summary, figure 2 illustrates the top ten for LCC, which was identified based on the respondents' mean scores of the English proficiency required. Among the ten most required competencies and skills, six are logistics skills: logistics law and regulation, electronic commerce, transportation economics, logistics information systems, enterprise resource planning (ERP), and distribution management. Although critical and analytical thinking, math, statistics, and analytical thinking, operation and enterprise economics, and materials management fundamentals are all academic competencies.

To conclude, there is a percentage of the level of requirements for graduate users of English from the LCC of graduates in logistics for the EEC (figure 3). The English proficiency test on the LCC is an employer's requirement and evaluation. The CEFR level and the percentage distributed across the 31 competencies and skills are shown in Figure 4. With 24 skills, B2 has the highest CEFR percentage (78%), followed by C1 with 6 skills (19%) and B1 with 1 skill (3%) respectively.

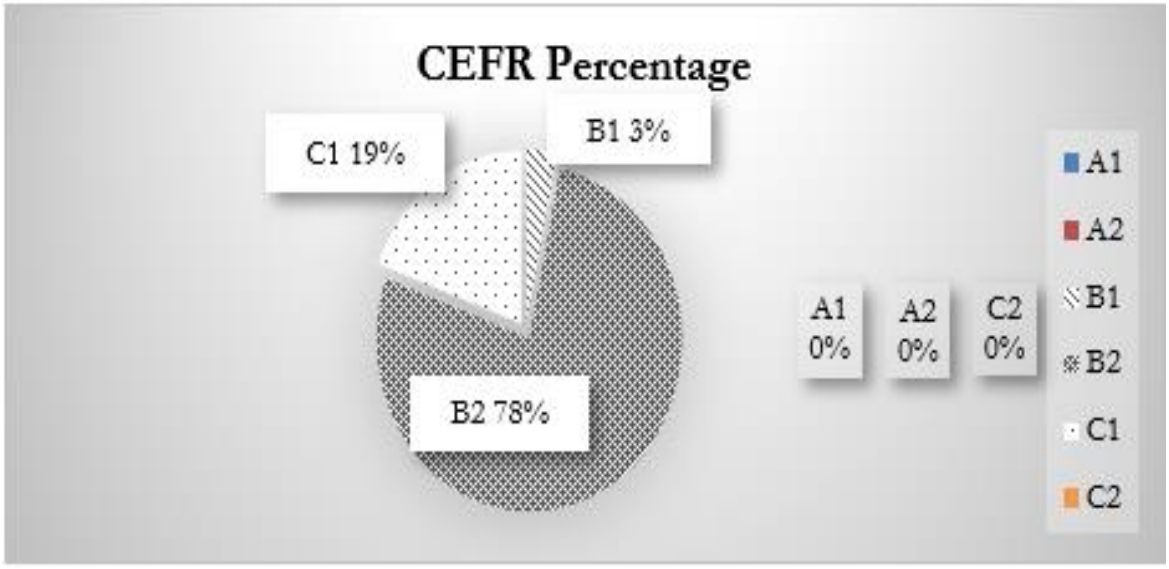

Figure 3 Pie Chart showing the percentage of the CEFR requirement

Discussions

The quantitative research findings were employed to answer the three research questions.

RQ1: What is the English proficiency problem of a logistician's entry-level skill in EEC?

English proficiency problems

The first primary purpose of this study is to identify the most English-skill problems in an EEC context in Thailand. According to the survey, the listening issue is of the greatest severity. However, the issue of listening has long been recognized by many academics. In other words, Anderson and Lynch (1998) noted that oral communication entails both listening and speaking—people must listen to and reply to what their interlocutors say. Their communication will break down if they are unable to attend effectively. These findings are consistent with Cubalit (2016) that English learners' reading, writing, and grammar in Thai universities receive greater attention than listening and speaking. Due to a complete lack of opportunities for students to practice spoken English, most have weak listening and speaking skills. Furthermore, a study conducted in Iran by Namaziandost et al. (2019) stated that the association between listening problems and strategy utilization among learners was statistically significant and negative. It's also crucial for second language teachers to be aware of the many types of listening comprehension issues so that listeners can employ the appropriate solutions. Many people believe that one should pay attention when a supply chain manager speaks or issues an order; hence supply chain professionals must be good listeners (Gammelgaard & Larson, 2011). On the other hand, the students needed to be made aware of the importance of listening skills. It's probably because it's not seen as a skill.

RQ2: What is the LCC area to focus on to improve curricula, educational content, and style?

Logistics core competencies

Academic Competencies

Entry-level users in the EEC field, generally at the B2 level, require academic competencies within the CEFR framework. For instance, the B2 in operation and enterprise economic competencies means the logistics entry-level can understand and present the value of information or raw materials and exhibit the ability to transform them into a good or service that is more useful to the consumer than the raw data. For example, utilize cost accounting tools to track all costs related to a product and determine a business's success or failure rate.

Additionally, the CEFR analysis in Table 2 reveals that the academic competencies with the highest C1 scores were identified as critical and analytical thinking, math, statistics, and analytical thinking. According to a survey by the international logistics company Coyote Logistics (Emsi Burning Glass, 2021), not just scheduling, ERP, or supply chain management but also critical thinking is currently the most in-demand talent for the position of supply chain specialist. Earlier, Flores et al. (2012) noted that while higher education now recognizes the importance of developing critical thinkers, it has yet to do so. Students who graduate with these skills deficits need to prepare to think critically when entering the workforce. Leadership productivity needs to improve in cognitive processing skills. As revealed by the Society for Human Resource Management and the Pew Research Center of over 1400 educational professionals, the top talents of academic deficiency include critical thinking, communication, and the capacity to deal with complexity and ambiguity (Wilkie, 2019). Critical thinking has long gone beyond being only a component of academic discourse and instructional strategy. In today's rapidly evolving world of information flow, critical thinking is widely emphasized as a goal of higher education, and the relevance of critical thinking to an organization's performance is stressed in the modern labor market. Critical thinking is one of the methods for creating and fostering social and human capital (Indrašiene et al., 2021).

The future of work in logistics: Forecasting skills

The global impact of the pandemic on logistics management sheds light on the newer trends in the regions, which require a strong and dynamic LCC set with qualifications such as a good command of English and analytical skills. For example, the automotive sector in EEC would instead employ a logistical at entry-level who can comprehend basic logistical concepts and complex supply chains, with systematic thinking and logical thinking skills to deal with problem-solving, improve logistics quality, or support standardization in logistics function. Even in the entry-level logistics officer position, the English proficiency is fair to good, with the skills required to achieve the job targets of root cause finding and solution providing, analyzing logistics operation performance, continuous operational improvement mindset, and seeking to maximize efficiency on their own, etc. On the other hand, Hofstra et al. (2020) study the competencies needed for bachelor's degrees in logistics, data science knowledge will become more critical, and it will be more crucial to have abilities for cooperation, problem-solving, and creativity, in addition to software and IT.

While knowledge of basic and advanced logistics laws and regulations is essential, whether a law or regulation is enacted at the municipal, provincial, or national level, it will directly influence the company. Any failure to comply with the rules could lead to penalties for the company. Well, comprehend transportation economics, ideal and practical, and technology and information management. An information system provides significant value to an organization that pays off in the long run. Technological and digital disruptions are causing substantial shifts. Companies must look closely at redesigning their logistics roles and skills to match the new reality.

RQ3: How does the education institute enhance its English proficiency in LCC?

Practical-based

The teaching and learning process ought to have a learning orientation. It is similar to learning a first language. Learning begins with listening, then continues with speaking, reading, and writing as you connect sounds and images. Numerous academics have examined how students' listening skills grow with a focus on practice, including Sari et al. (2019) conducted a survey using applications on a smartphone to study English and found that, especially for listening skills, it is a lot of fun for students and improves their proficiency. While the study by Hardiah (2019) found that audiovisual materials can help students enhance their listening skills. Furthermore, during the lecture, the students grow more engaged and excited, as seen by the group discussion phases that apply to collaborative learning. In addition to the usage of audiovisual media, the topic material chosen by students has an impact on their listening comprehension results. Listening was regarded as the most challenging skill for foreign language students by Darti and Asmawati (2017), who also discovered that listening devices, listener factor, and physical readiness are crucial aspects that significantly impact hearing. Alternatively, Etemadfar et al. (2020) reported the requirement for using a flipped classroom to educate and acquire English listening comprehension and to improve student achievement.

To impart knowledge, the university should conduct lectures in English for students to study and practice simulation and logistics skills without cost or credit, with the sole purpose of measuring results by establishing KPIs and having all students present in English in every lesson and before graduation. There should be an English test for employment interviews. Organize English language training for the organization's communication efforts and additional MRP expertise, such as SAP.

The collaborative of education and enterprise: Apprenticeship

The Cooperative Work-Integrated Education (CWIE) program, a novel educational strategy, was recently unveiled by the Ministry of Higher Education, Science, Research, and Innovation (TSU). A curriculum was created in conjunction with the educational, public, private, and community sectors to balance the supply and demand for skills. One can progress in their current career while also preparing for future prospects if they are competent in the workforce's needs (EEC, 2019). An EEC Model Type A is an educational approach built on the EEC Model that entails collaboration between BOI, educational institutions, and EEC industrial businesses to carry out that program. Students must be equipped with the skills,

information, attributes, and experience required to respond to corporate needs and contribute. Education and curriculum design must ensure that the students have the skills, knowledge, features, and expertise essential to engage in business, suggest a solution, and provide student employment (Board of Investment, 2019). Similar to the study conducted in China by Lin et al. (2021) mentioned that the main goal of modern apprenticeship training institutions, which were developed in partnership with businesses and schools, is to successfully develop students' professional talents in e-commerce under the direction of teachers.

Conclusions

This study empirically investigated the English proficiency problem and the requirement for LCC based on CEFR from the perspective of an EEC. The issue that graduate students in logistics experience the most challenges with is listening to proficiency. To meet the requirements of the EEC labor market, we prepare highly qualified fresh logistics graduates who have mostly English ability in B2. Some of the most unique needs for C1 critical thinkers are competence in law and regulation, e-commerce, transport economics, and familiarity with logistics technology. This study has suggested education on LCC is needed for graduates' success in the EEC area. This must be highlighted in strategic education documents, such as educational programs and curricula logistics. More preparation is needed for teachers or tutors who plan to teach in English. The instructor gradually incorporated the preferences and interests of the students into the lecture, for example, by having the class practice listening to social media with various tools and applications. Students' attitudes toward the language will improve if they are exposed to the advantages of English in the workplace through field trips or internships. This is done to enhance the views and learning of the students. In addition, universities must change their curricula to better meet the market's demands, as the industry requires every type of workforce to develop the workforce it needs.

As a result of this high-quality graduate production, graduates will perform better on the job and advance more quickly in their careers. While the EEC businesses employ competent workers, they are expected to fulfill their responsibilities. As a result, companies can lower their logistics expenditures and generate more revenue and profit, and their greater competitiveness enables them to expand their operations. As a result, operators' performance has increased across several EEC industries.

Several limitations in the study should be addressed, and they provide opportunities for future research. The study only focused on the EEC of Thailand and was conducted with the quantitative method while in the COVID-19 pandemic. Future may consider the emphasis on broader participants in Thailand industrial estate, a mix of quantitative and qualitative with Delphi technique, depth-interview, and focus group. In addition, consider whether the logistic courses in Thailand should be collected with English language courses to meet the needs of graduate users or not. More research is needed to clarify further the challenges and obstacles of developing the English language skills of Thai logistics students towards CEFR B2 and C1.

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