Research Paper

A Comparative Analysis of English Test Scores in the Vietnamese National High School Graduation Examination During the Period 2020-2023

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ABSTRACT

English is the most used language online, with nearly one billion users typing and chatting in the language. English is now widely spoken throughout the world and is necessary for people to be able to communicate and fit into the real world. In Vietnamese high schools, learning English has become an important task for students. The aim of this paper is to carry out a comparative analysis of English test scores (ETSs) in the Vietnamese National High School Graduation Examination during the period 2020-2023. In this study, datasets of English test scores during the period 2020-2023 were first collected. To find patterns of ETSs, the frequency of ETSs was firstly calculated. Histograms were then used to plot the frequency against ETSs to study the distribution of ETSs in each year. Finally, a comparative analysis of ETSs during the period was carried out. It was found that the distribution of ETSs during the period 2020-2023 was skewed to the right, which shows that the number of high ETSs tends to be more prominent. In addition, the high ETSs in 2021 were found to be much higher than those obtained from the yeas of 2020, 2022 and 2023. Findings in this study suggest that ETSs during the period 2020-2023 met the requirements for graduate recognition. It can be concluded that the role of English language in career advancement is undeniable in this era of globalization.

Keywords: Comparative analysis, English Test Scores, Vietnamese National High School Graduation Examination, Period 2020-2023.

INTRODUCTION

Language is our primary source of communication. It is the method through which we share our ideas and thoughts with others. There are thousands of languages in the world. Every country has their own national language in addition to a variety of local languages spoken and understand by their people in different regions some languages are spoken by millions of people and others by only a few thousand (1). In global world the importance of English cannot be denied and ignored since English is the most common language spoken everywhere. English is one of the most used languages in the world. Even outside of countries like the USE and the UK, many people can speak and understand English. If you include people who speak it as a second language, an estimated 1 billion people worldwide speak English. On top of this, 67 countries have English as their official language and there are 27 countries that have English as their secondary official language (1).

As the international business language, English is becoming more important in both native and non-native English-speaking countries (2). With 54 distinct ethnic groups speaking more than 100 different languages, Vietnam is a multilingual and multiethnic nation (3). In Vietnam, English is regarded as a foreign language and is not recognized by the government or the law (3). Vietnam's English education sector has flourished

recently as the nation works to further integrate into the regional and international arena (4–6). As a result, a greater number of stakeholders including educators, administrators, researchers, policymakers, parents, and students have given English evaluation more consideration (7). While some bilingual programs allow students to study French, Chinese, and Japanese in addition to Vietnamese in high school, the majority of students study English for at least three years in high school (8). Additionally, English is taught as a required subject in basic through tertiary education, in accordance with the national strategy period 2011–2025 goal for Vietnamese EFL education (9). English is today without a doubt the most often used foreign language due to Vietnam's rapid economic integration with the rest of the world. It is a compulsory subject in the curriculum of secondary education, i.e., from Grade 6 (12 years old), across Vietnam and is also introduced as a subject from Grade 3 (9 years old) in many provinces (10). English is now used as a medium of instruction in several sectors of Vietnamese education as a result of growing awareness of the advantages of having the language skills (3). The rise in private English language centers and English language schools around the country, as well as the sizeable financial commitment made by Vietnamese parents to expensive English-language programs, are further indications of the significance of English in Vietnam. However, there is sometimes low quality English language teaching in Vietnam (11). Thus, a key factor in helping Vietnamese students study English more effectively is to carry out a comparative analysis on the distribution of English test results on the National High School Graduation Examination.

English is the dominant or official language in a number of countries, including many former British Empire territories (1). As English has become more and more important as an international language, in most countries around the world, large numbers of students are being required to learn it through compulsory programs in schools and universities (12). Many research studies conducted in various Asian countries have identified that English helps improve job performance and boosts the prospects of promotion. A recent study indicated that poor English language skills slows down flow of effective communication, causes misinterpretation, create frustration and create barriers among the employees. In the corporate world, English is the most regularly used language and the knowledge of English has become one of the most important employability skills (13). English is currently the most popular foreign language taught and learned in Vietnam. The Vietnamese government has implemented many changes to improve the English competencies of the Vietnamese people (14). It is a compulsory subject from Grade 3 to Grade 12 of the Vietnamese general education system (3). As English has become more and more important as an international language, in most countries around the world, large numbers of students are being required to learn it through compulsory programs in schools and universities (12). In Vietnam, despite the current extrinsic pressures to learn English as a foreign language, many students don't seem ever to have developed any interest in learning English, or if they have, they seem to have lost that interest for some reason, that is, they have become demotivated. In both cases, their achievement in English as a foreign language has been negatively affected. Therefore, the aim of this paper is to carry out a comparative analysis of English test scores in the Vietnamese National High School Graduation Examination.

In this study, we first collect datasets of English test scores during the period 2021-2023. To find patterns of ETSs, the frequency of ETSs was then calculated. Histograms were then used to plot the frequency against ETSs to study the distribution of ETSs in each year. Finally, a comparative analysis of ETSs during the period was carried out.

MATERIALS & METHODS
Materials
A comparative analysis of English test scores in the Vietnamese national high school graduation examination during the period 2020-2023 plays an important role in the study of the performance of high school students. It is therefore, in this study, to carry out the comparative analysis, we used datasets of English test scores which were collected from 749285, 866993, 866196, and 876102 examinees in the Vietnamese National High School Graduation Examination during the period 2020-2023, respectively.

Methods
Construct a frequency distribution
The frequency of a particular value is the number of times the value occurs in the data.

The distribution of a variable is the pattern of frequencies, meaning the set of all possible values and the frequencies associated with these values. Frequency distributions are portrayed as frequency tables or charts. Frequency distribution tables can be used for both categorical and numeric variables. Continuous variables should only be used with class intervals, which will be explained shortly. Frequency is a count of the number of times a specific event occurs or is a number of events occurring during a given time interval (15). A frequency histogram is a bar graph that shows the frequency that data occurred within certain ranges.

The data in a frequency distribution can also be presented using relative frequencies as shown in equation (1):

$$Relative\ frequency = \frac{Absolute\ frequency\ of\ each\ interval}{Total\ number\ of\ observations} \quad (1)$$

The frequency of a class interval is the number of observations that occur in a particular predefined interval. The endpoints of a class interval are the lowest and highest values that a variable can take. Class interval width is the difference between the lower endpoint of an interval and the lower endpoint of the next interval. The frequency distribution defines how often each different value occurs in the data set.

Use of histograms to study the distribution
A histogram is a graphical representation of data points organized into user-specified ranges. Similar in appearance to a bar graph, the histogram condenses a data series into an easily interpreted visual by taking many data points and grouping them into logical ranges or bins. An approximation of the distribution of numerical data is a histogram. Karl Pearson was the one who initially used the term (16). The first step in creating a histogram is to "bin" (also known as "bucket") the entire value range. To do this, divide the range into a number of intervals, and then count the number of values that fall

into each interval. Typically, the bins are given as successive, non-overlapping intervals of a variable. The bins (intervals) must be adjacent and are often (but not required to be) of equal size (17). A bar with a height proportionate to the frequency is drawn over each bin if their sizes are equal. Histograms are frequently used for density estimation, which is the process of estimating the probability density function of the underlying variable. They also provide a general idea of the density of the data's underlying distribution. Any histogram used to calculate probability density has its entire area normalized to 1. A histogram and a relative frequency plot are the same if all of the interval lengths on the x-axis are one. In contrast, a histogram is a graph that displays the distribution of numerical data, in this case, the results of the English test. This kind of bar chart displays the frequency or quantity of observations inside various, so-called bins, of numbers. Typically, the bins are defined as non-overlapping intervals of a variable, such as English exam scores. A histogram and a relative frequency plot are

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The histogram can be classified into different types based on the frequency distribution of the data. There are different types of distributions, such as normal distribution, skewed distribution, bimodal distribution, multimodal distribution, comb distribution, edge peak distribution, dog food distribution, heart cut distribution, and so on. The histogram can be used to represent these different types of distributions. There are six major patterns in histograms that can be described as "skewed left", "unimodal, symmetric", "skewed right", "bimodal", "multimodal", "symmetric". Each pattern is displayed in Figure 1.
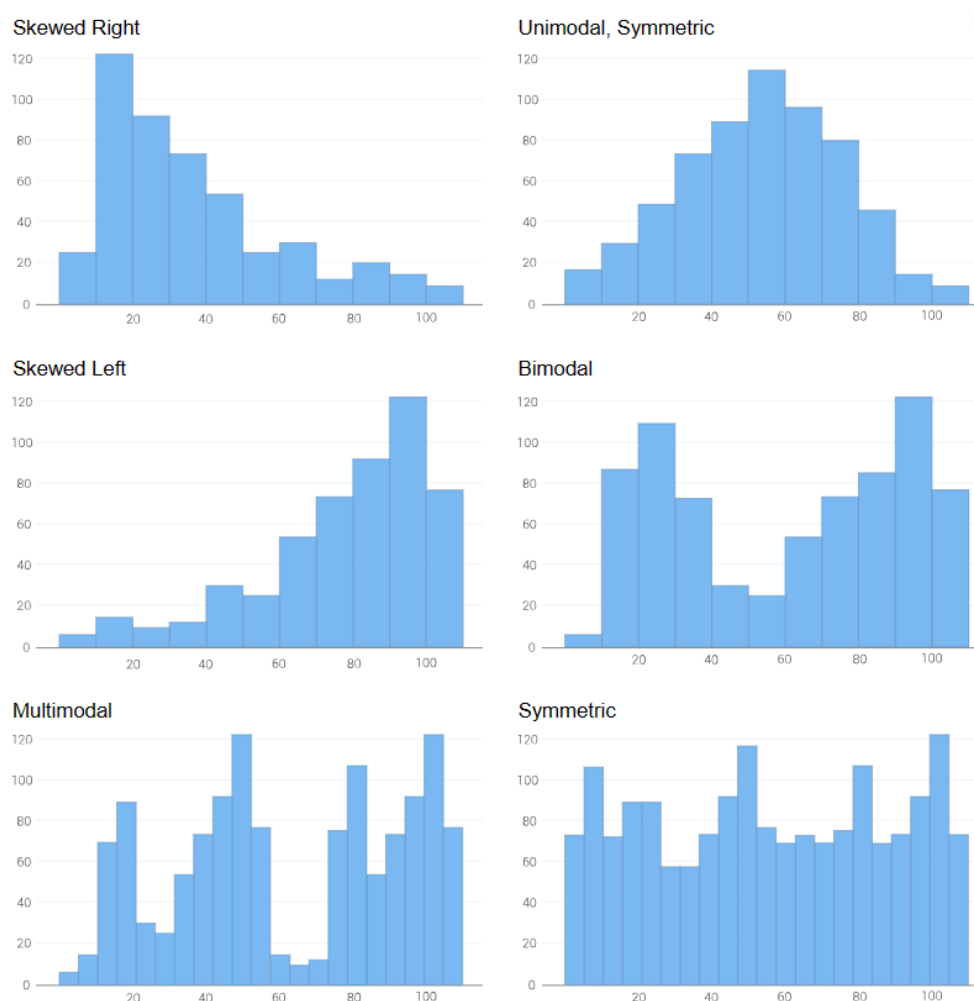
Figure 1. Types of distribution in histograms.

RESULTS & DISCUSSION
Comparative analysis of the frequencies of English test scores

The frequencies of English test scores in the Vietnamese National High School Graduation Examination in the period of 2020 - 2023 were statistically summarised in Table 1. Data from Table 1 show that the he highest number of zeros were detected in the years of 2020 and 2022, followed by the number of ETS with zeros in the year of 2023 and 2021, respectively. Meanwhile, the number of ETSs reaching 0.2 was quite similar to those obtained in years. Similarly,

the lowest ETSs in the range of 0.4 to 1.0 were also detected in the years of 2020 and 2022, respectively.

Regarding the maximum score in the English exam, a total of 4345 candidates scoring 10 points was found in 2021, followed by 2023, 2022 and 2020 with corresponding numbers of 494, 425 and 225, respectively. Meanwhile, the number of candidates scoring 9.8 was highest in 2021 (10,543 examinees), followed by 2023 (2,222 examinees) and 2022 (1,824 examinees) and the lowest was in 2020 (672 examinees). This is similar to the number of examinees scoring 9.6. The highest numbers were found in 2021 (16586 examinees), followed by the years of 2023 (5460 examinees) and 2022 (4111 examinees), respectively. The lowest number was detected in 2020 (1367 examinees).

Table 1. Summary of frequencies of English test scores during the peroid 2020-2023

ETSs	Years				ETSs	Years			
	2020	2021	2022	2023		2020	2021	2022	2023
0,0	13	1	13	6	5,0	26106	25860	30700	32844
0,2	1	0	0	1	5,2	23932	24631	29077	31110
0,4	5	0	4	0	5,4	22050	23337	27268	29487
0,6	30	3	23	12	5,6	19904	22660	25439	27915
0,8	102	34	112	38	5,8	18173	21964	23862	26531
1,0	392	106	271	135	6,0	16453	21090	22414	24751
1,2	1099	361	678	362	6,2	14850	20102	21222	23612
1,4	2263	73	1374	1022	6,4	13674	19403	19744	22103
1,6	4431	1619	2927	1966	6,6	12482	18911	18991	21201
1,8	8283	3302	5113	3410	6,8	11427	18665	18071	20276
2,0	12427	5868	8263	5852	7,0	10650	18354	17093	19147
2,2	18461	8732	12251	8734	7,2	10106	18464	16295	18972
2,4	24565	12280	16803	12421	7,4	9461	18219	15800	18126
2,6	29001	16517	21590	16601	7,6	9403	18498	15355	17946
2,8	33167	20491	26094	20744	7,8	8779	18915	15135	17575
3,0	35670	23980	30207	24243	8,0	8543	19319	14689	17236
3,2	37285	26527	33323	27391	8,2	8062	20258	14546	17512
3,4	37335	28537	35634	30085	8,4	7478	21176	14191	17022
3,6	36730	29183	36884	32408	8,6	6653	22490	13702	17120
3,8	35597	29498	38064	33932	8,8	5735	23724	12652	16526
4,0	34627	29504	37883	34393	9,0	4532	24471	11115	15248
4,2	32682	28943	36594	35450	9,2	3325	24251	9070	13262
4,4	31295	28317	35940	34992	9,4	2253	21582	6757	9620
4,6	29713	27791	34027	34848	9,6	1367	16586	4111	5460
4,8	27816	26867	32576	33738	9,8	672	10543	1824	2222
5,0	26106	25860	30700	32844	10,0	225	4345	425	494

Comparative analysis of the distribution of English test scores

Data from Figure 2 shows the distribution of ETSs over the period of 2021-2023. Data from Figure 2-a shows that the distribution of ETSs in 2020 was skewed to the right, which shows that the number of high ETSs tends to be more prominent. A large number of candidates scored between ETSs of 2-5. At the same time, the peak of the histogram was also detected around the point of 4 (four). Data from Figure 2-a demonstrate that the distribution of ETSs were distributed with two peaks, the first peak at ETS of 4, the second peak at the ETS of 9.5. According to the Council of the Vietnamese National High School Graduation Examination, there were a total of 749,285 candidates taking English subject, of which the average and median of ETSs were 4,58 and 4.2, respectively. The ETS achieved by the most candidates was 3.4 points. The number of candidates having a score of less than one was 543, accounting for 0.07%. The number of candidates scoring below the average was 472,990, accounting for 63.13%. A total of 225 candidates scoring 10 in the English test in 2020.

In 2021, a total of 866,993 examinees took the English test. The average score of this exam was 5.84. The average score achieved by the most examinees was 4. There were 144 examinees with poor scores (1 or less). In addition, there were 349,175 examinees with scores below 5. The distribution of ETSs in 2021 was shown in Figure 2-b. Data from Figure 2-b illustrates that the number of

ETSs with high scores tends to be concentrated towards the right where many high scores were mainly concentrated. It is

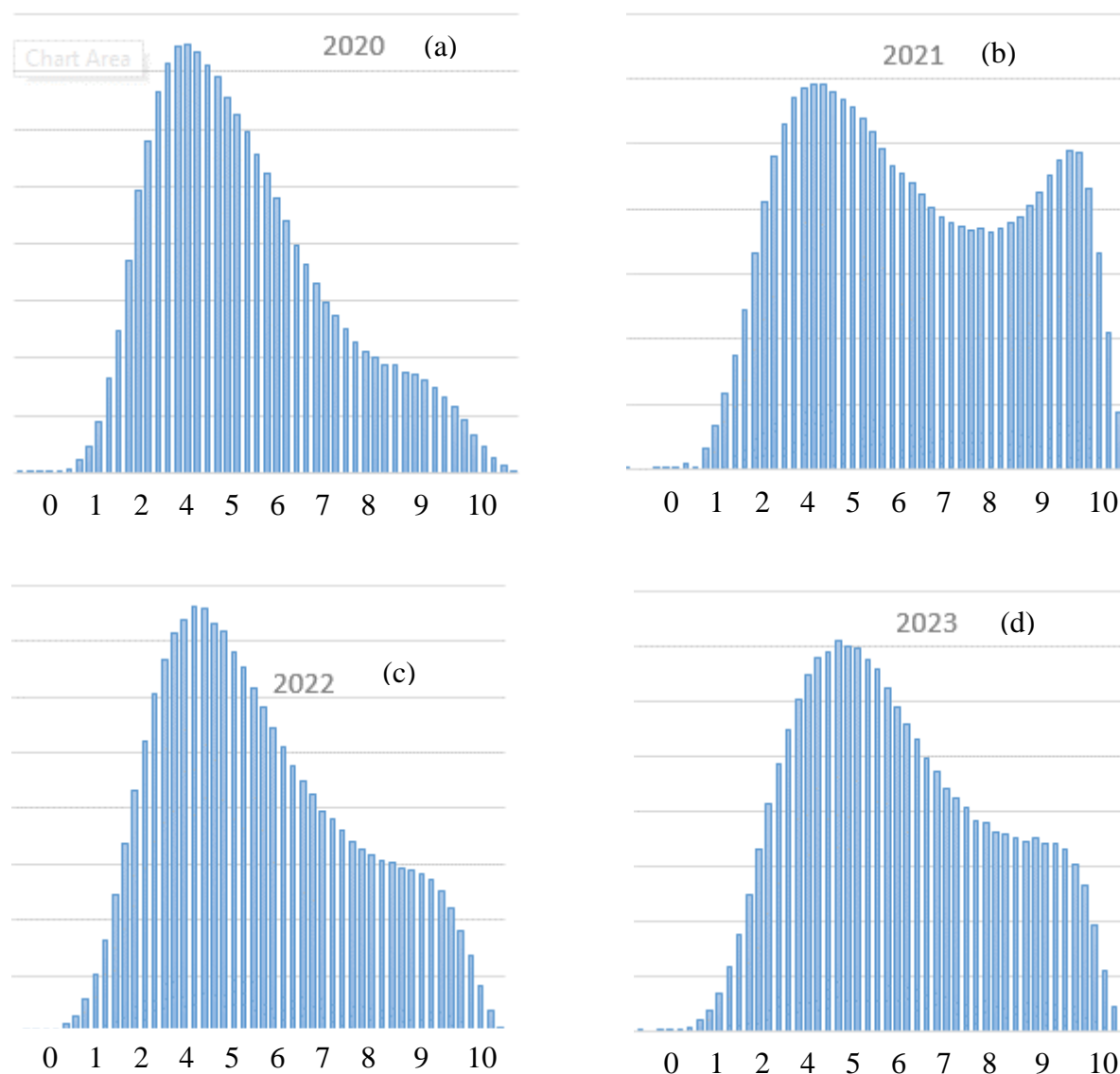therefore, the ETSs in 2021 were much higher than those of 2020.

Figure 2. Histograms of English test scores during 2021-2023.

Table 2. Descriptive statistics of English test scores.

Years	Number of examinees	Number of examinees having ETSs below 1	Number of examinees having ETSs below 5	Average score	The average score achieved by the most examinees	Median
2023	876,102	192 (0.022 %)	392,784 (448,33)	5.45	4.2	5.2
2022	866,196	423 (0.05%)	446,648 (51.56%)	5.15	3.8	4.8
2021	866,993	144 (0.02%)	349.175 (40.27)	5,84	4.0	5.6
2020	749.285	543 (0,07%)	472.990 (63,13%)	4,58	3.4	4.2

The results of analyzing the national English high school graduation exam score in 2022 show that there were 866,196 candidates participating in the English test, of which the average score was 5.15, the median score was 4.8; The score with the most candidates was 3.8. The number of candidates with a

score below 1 was 423 examinees (accounting for 0.05%). The number of candidates scoring below the average is 446,648 examinees (accounting for 51.56%). Similar to those obtained in 2021, data from Figure 2-c illustrate that the distribution of ETSs in 2022 also peaks at the ETS of 4

(four). At the same time, the distribution of ETSs was skewed to the right, indicating that high ETSs appeared more than those of 2022. The distribution trend of ETSs in 2023 was also quite similar to those in 2022. Data in Figure 2-d illustrate that the distribution of ETSs in 2023 was right-skewed. In particular, the peak of the histogram was found around the ETS of 5 (five). This result shows that the ETSs in 2023 were higher than those of 2022. According to results announced by the Ministry of Education and Training of Vietnam, a total of 876,102 examinees took the English test in 2023 as shown in Table 2. Data from Table 2 illustrate that the average and median scores for English were 5.45 and 5.2, respectively. The average score achieved by the most examinees was 4.2 with 35,450 examinees. The number of examinees having scores of less than 1 was 192 (accounting for 0.022%), whereas the number of examinees having scoring less than 5 is 392,784 (accounting for 44.83%).

CONCLUSIONS

The purpose of this study was to carry out a comparative analysis of English test scores in the Vietnamese National High School Graduation Examination during the period 2021-2023. In this study, datasets of English test scores during the period 2021-2023 were first collected. To find patterns of ETSs, the frequency of ETSs was firstly calculated. Histograms were then used to plot the frequency against ETSs to study the distribution of ETSs in each year. Finally, a comparative analysis of ETSs during the period was carried out. It was found that the distribution of ETSs during the period 2020-2023 was skewed to the right, which shows that the number of high ETSs tends to be more prominent. In addition, the high ETSs in 2021 were found to be much higher than those obtained from the yeas of 2020, 2022 and 2023. Findings in this study revealed that ETSs during the period 2020-2023 met the requirements for graduate recognition. It can be concluded that the role of English language in career advancement is undeniable in this era of globalization. Though English language proficiency is not the only criterion for career development, its importance in the corporate world is widely recognized.

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