

**2021 TELPAS  
Score Distributions and  
Statistics by Content Area  
and Grade**

# Glossary

This glossary provides definitions for the statistical terms that appear in the tables and graphs in Appendix D ("2021 TELPAS Score Distributions and Statistics by Content Area and Grade"). Definitions of statistical terms and concepts in the other sections are given in [Chapter 3](#) or [Chapter 6](#).

## Descriptive Statistics

**Mean** The mean is a measure of central tendency. It is the average score for the assessment. It is computed by summing the scores of all students and dividing the sum by the total number of students (N).

**Median** The median is another measure of central tendency. It is the score at the middle of the frequency distribution for the assessment. It is computed by finding the score at which there are the same number of scores above as there are below.

**Mode** The mode is another measure of central tendency. It is the most frequently obtained score for the assessment. It is determined by computing the frequency distribution and finding the score point with the highest frequency (n-count).

**Range** The range is a measure of statistical dispersion (variability or spread). It is the difference between the lowest and highest scores obtained by students on the assessment. It is computed by subtracting the lowest score from the highest score.

**Interquartile Range** The interquartile range is another measure of statistical dispersion (variability or spread). It is the difference between the 1<sup>st</sup> and 3<sup>rd</sup> quartiles (or 25<sup>th</sup> and 75<sup>th</sup> percentiles) of the score distribution for the assessment. It is computed by subtracting the score at the 1<sup>st</sup> quartile (the point that splits the lowest 25% of the scores) from the score at the 3<sup>rd</sup> quartile (the point that splits the highest 25% of the scores).

**Standard Deviation (SD)** The standard deviation is another measure of statistical dispersion (variability or spread). It is an indicator of the degree of score variation around the mean. It is computed using the following formula.

$$SD = \sqrt{\frac{\sum_{i=1}^N (x_i - \bar{x})^2}{N - 1}}$$

where  $x_i$  is the score for student  $i$ ,  $\bar{x}$  is the mean score and  $N$  is the total number of students that took the assessment.

**Variance** The variance is another measure of statistical dispersion (variability or spread) around the mean. It is computed as the square of the standard deviation (SD).

**Skewness** The skewness is an indicator of the shape of the score distribution. It measures the extent to which the score distribution "leans" to one side of the mean. A positive skewness indicates that the score distribution leans below the mean. A negative skewness indicates that the score distribution leans above the mean. A skewness of zero indicates that the score distribution is symmetric around the mean. It is computed using the following formula.

$$Skewness = \frac{N}{(N-1)(N-2)} \sum_{i=1}^N \left( \frac{x_i - \bar{x}}{s_x} \right)^3$$

where  $x_i$  is the score for student  $i$ ,  $\bar{x}$  is the mean score,  $s_x$  is the standard deviation (SD) and  $N$  is the total number of students that took the assessment.

**Kurtosis** The kurtosis is another indicator of the shape of the score distribution. It measures the "peakedness" of the score distribution. A positive kurtosis is referred to as *leptokurtic*, meaning that the distribution has a more acute peak around the mean and fatter tails. A negative kurtosis is called *platykurtic*, meaning the distribution has a lower, wider peak around the mean and thinner tails. It is computed using the following formula.

$$Kurtosis = \frac{N(N+1)}{(N-1)(N-2)(N-3)} \sum_{i=1}^N \left( \frac{x_i - \bar{x}}{s_x} \right)^4 - \frac{3(N-1)^2}{(N-2)(N-3)}$$

where  $x_i$  is the score for student  $i$ ,  $\bar{x}$  is the mean score,  $s_x$  is the standard deviation (SD) and  $N$  is the total number of students that took the assessment.

## Frequency Distributions

**Frequency (FREQ)** This is the number of students that obtained the particular score point on the assessment.

**Cumulative Frequency (CUM FREQ)** This is the number of students that obtained a score that is less than or equal to the particular score point on the assessment.

**Percentage (PCT)** This is the percentage of students that obtained the particular score point on the assessment. It is computed as:  $PCT = FREQ \div N \times 100$ .

**Cumulative Percentage (CUM PCT)** This is the percentage of students that obtained a score that is less than or equal to the particular score point on the assessment. It is computed as:  $CUM PCT = CUM FREQ \div N \times 100$ .

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**Table D.5.1. 2021 TELPAS Reading Scale Score Descriptive Statistics (Online only)**

<b>Subject</b>	<b>N</b>	<b>Mean</b>	<b>Median</b>	<b>Mode</b>	<b>Range</b>	<b>Interquartile</b>		<b>SD</b>	<b>Variance</b>	<b>Skewness</b>	<b>Kurtosis</b>
						<b>Range</b>	<b>Range</b>				
Grade 2 Reading	87,139	1486.95	1478	1414	640	113	81.08	6573.81	0.53	0.30	
Grade 3 Reading	88,886	1525.60	1512	1413	881	161	114.90	13201.41	0.51	0.15	
Grade 4 Reading	87,045	1542.01	1531	1484	902	129	102.61	10529.75	0.67	0.71	
Grade 5 Reading	84,604	1581.17	1577	1671	902	159	114.57	13125.52	0.48	0.28	
Grade 6 Reading	76,463	1544.55	1539	1592	825	125	87.98	7740.35	0.22	-0.05	
Grade 7 Reading	65,895	1552.81	1549	1603	825	128	92.06	8475.61	0.11	0.09	
Grade 8 Reading	59,675	1538.43	1540	1559	734	106	79.97	6394.83	0.09	0.46	
Grade 9 Reading	52,023	1536.64	1540	1579	734	115	85.97	7391.10	-0.03	0.74	
Grade 10 Reading	43,135	1525.12	1522	1548	675	116	87.02	7572.22	0.36	0.55	
Grade 11 Reading	30,763	1529.32	1522	1539	675	107	85.72	7348.28	0.33	0.81	
Grade 12 Reading	22,326	1527.70	1522	1504	675	107	83.66	6998.70	0.31	1.34	

**Table D.5.2. 2021 TELPAS Listening Scale Score Descriptive Statistics (Online only)**

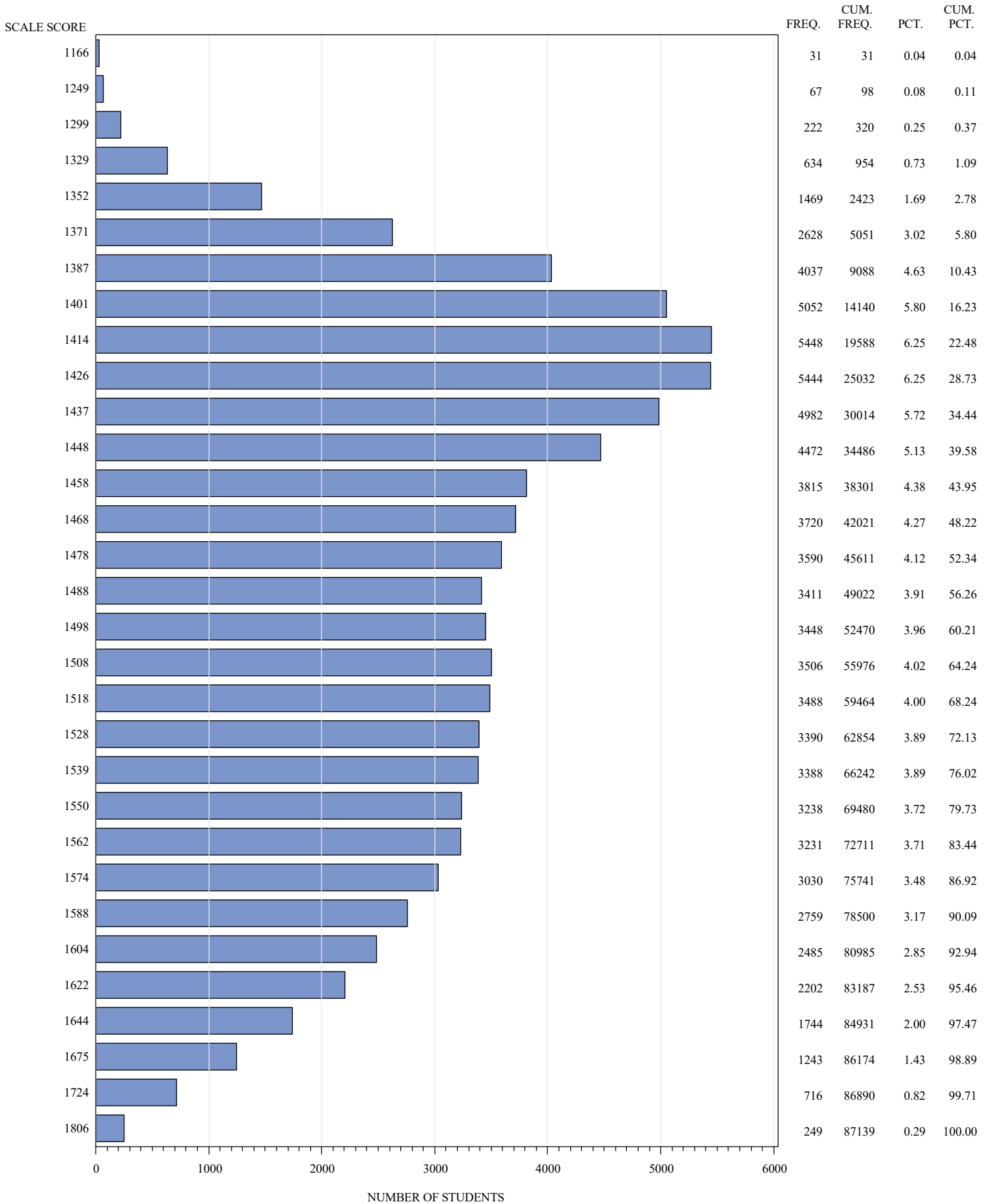
<b>Subject</b>	<b>N</b>	<b>Mean</b>	<b>Median</b>	<b>Mode</b>	<b>Range</b>	<b>Interquartile</b>		<b>SD</b>	<b>Variance</b>	<b>Skewness</b>	<b>Kurtosis</b>
						<b>Range</b>	<b>Range</b>				
Grade 2 Listening	87,143	1562.82	1560	1587	630	104	75.26	5663.32	0.16	0.49	
Grade 3 Listening	88,816	1608.96	1602	1661	630	101	80.33	6453.50	0.03	0.74	
Grade 4 Listening	86,955	1536.97	1531	1556	621	89	69.38	4813.97	0.18	0.70	
Grade 5 Listening	84,476	1560.37	1556	1585	621	82	74.86	5604.39	0.14	0.76	
Grade 6 Listening	76,374	1570.87	1572	1626	661	107	84.92	7211.73	0.06	0.55	
Grade 7 Listening	65,701	1577.21	1572	1626	661	107	88.82	7889.53	-0.01	0.57	
Grade 8 Listening	59,682	1588.05	1588	1650	661	118	93.41	8726.32	-0.05	0.33	
Grade 9 Listening	51,919	1550.77	1548	1584	538	91	73.06	5338.10	-0.09	0.96	
Grade 10 Listening	43,053	1552.23	1559	1584	538	91	73.20	5357.57	-0.04	0.66	
Grade 11 Listening	30,720	1556.30	1559	1584	538	81	71.41	5099.02	-0.07	1.00	
Grade 12 Listening	22,268	1554.10	1559	1584	538	91	68.80	4733.44	-0.06	1.45	

**Table D.5.3. 2021 TELPAS Speaking Scale Score Descriptive Statistics (Online only)**

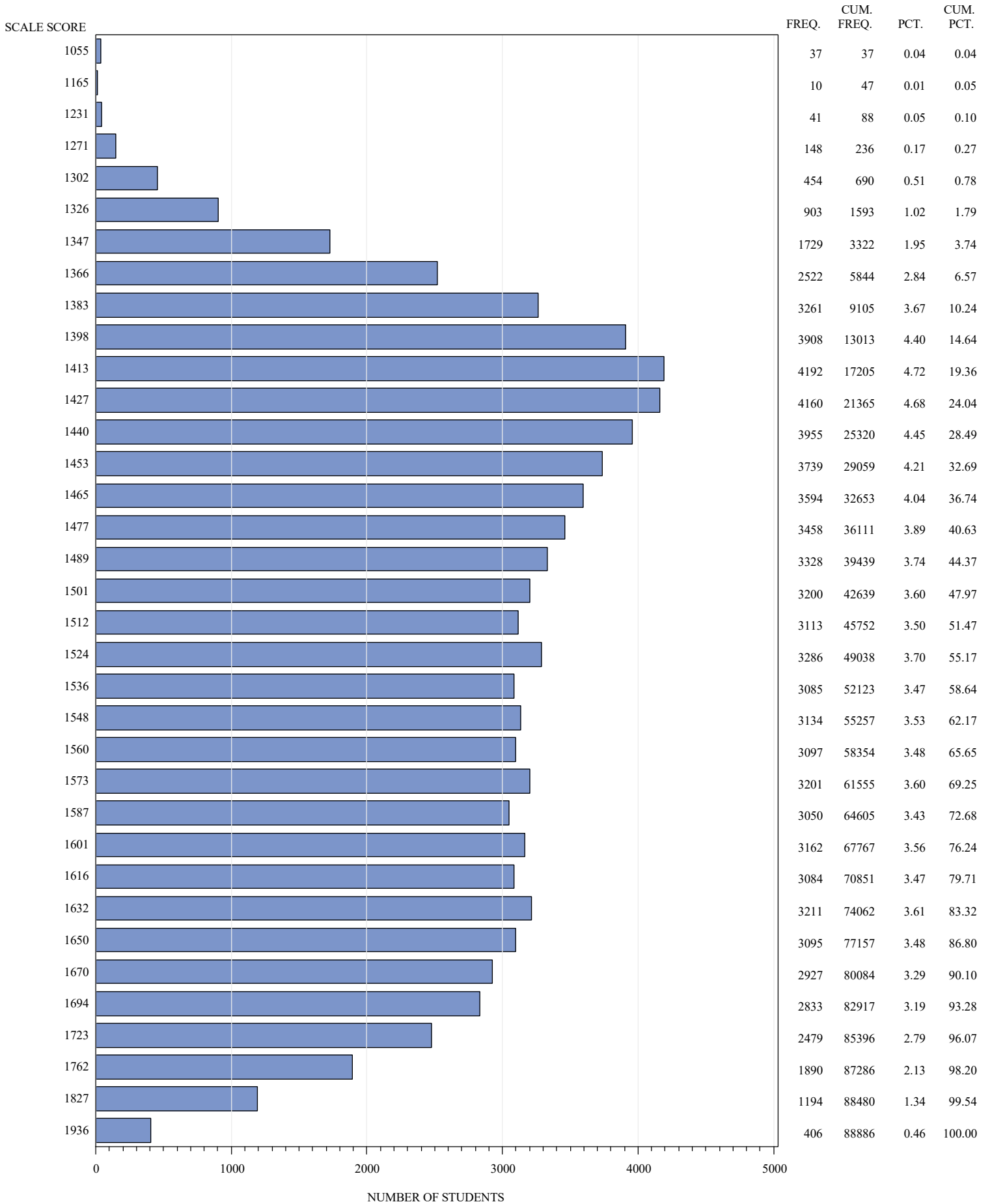
<b>Subject</b>	<b>N</b>	<b>Mean</b>	<b>Median</b>	<b>Mode</b>	<b>Range</b>	<b>Interquartile</b>		<b>SD</b>	<b>Variance</b>	<b>Skewness</b>	<b>Kurtosis</b>
						<b>Range</b>	<b>Range</b>				
Grade 2 Speaking	87,143	1458.05	1469	1497	513	95	77.44	5996.62	-0.32	0.29	
Grade 3 Speaking	88,816	1488.71	1497	1515	513	86	77.15	5951.51	-0.39	0.70	
Grade 4 Speaking	86,955	1518.22	1518	1541	366	66	57.14	3265.33	-0.59	1.02	
Grade 5 Speaking	84,476	1522.14	1529	1541	366	66	59.55	3546.01	-0.62	0.96	
Grade 6 Speaking	76,374	1512.47	1515	1544	292	63	51.85	2688.93	-0.24	0.23	
Grade 7 Speaking	65,701	1505.23	1507	1544	292	69	53.00	2808.76	-0.21	0.09	
Grade 8 Speaking	59,682	1503.27	1507	1544	292	69	54.18	2935.61	-0.20	-0.01	
Grade 9 Speaking	51,919	1506.33	1509	1395	318	71	63.73	4061.13	-0.05	-0.38	
Grade 10 Speaking	43,053	1509.28	1509	1395	318	71	65.24	4255.89	-0.06	-0.42	
Grade 11 Speaking	30,720	1514.33	1517	1568	318	91	67.23	4519.28	-0.09	-0.44	
Grade 12 Speaking	22,268	1513.79	1517	1395	318	91	67.15	4509.25	-0.10	-0.45	



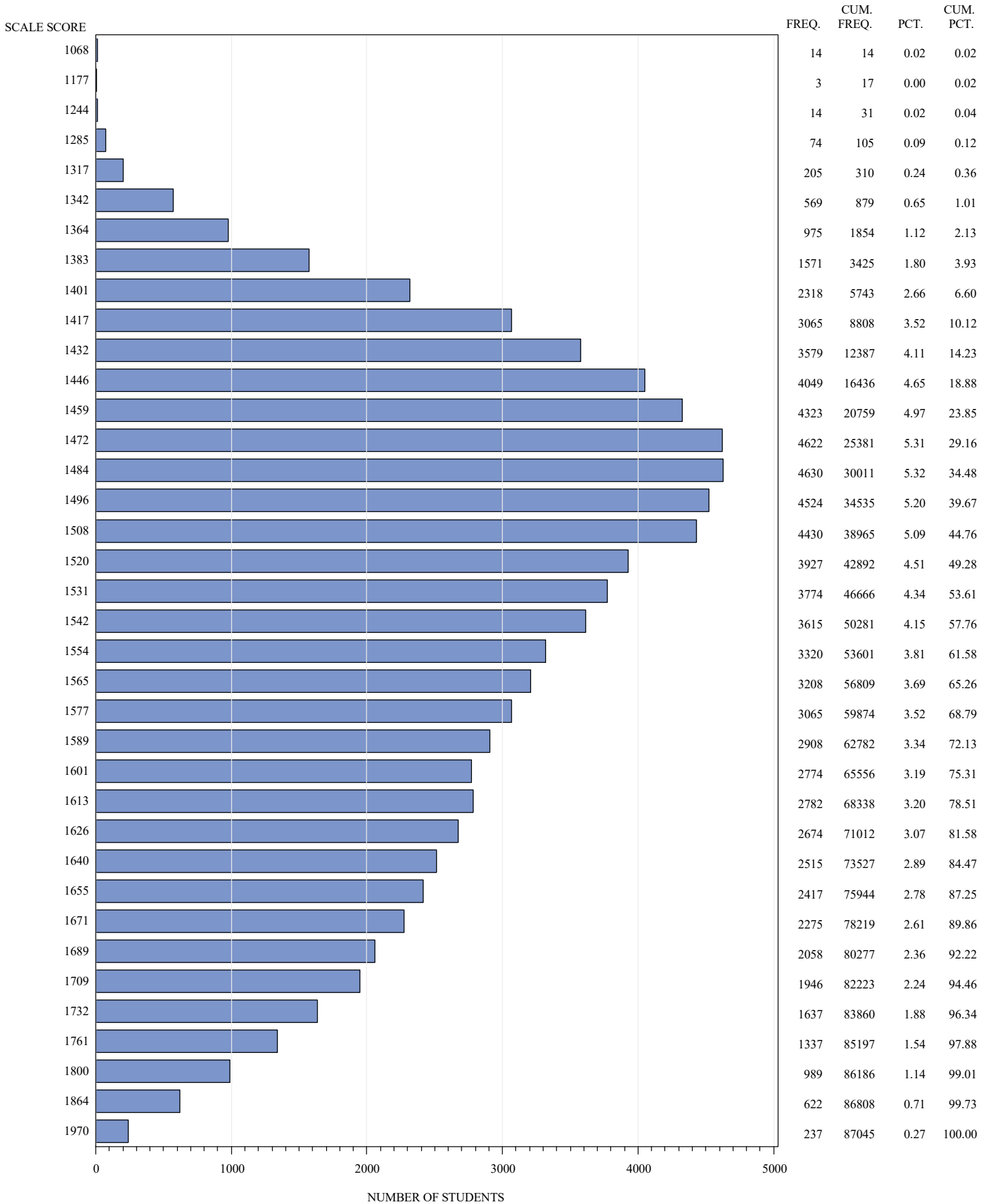
**Figure D.5.1 2021 TELPAS Grade 2 Reading  
Frequency Distribution of Scale Scores  
Online Students**



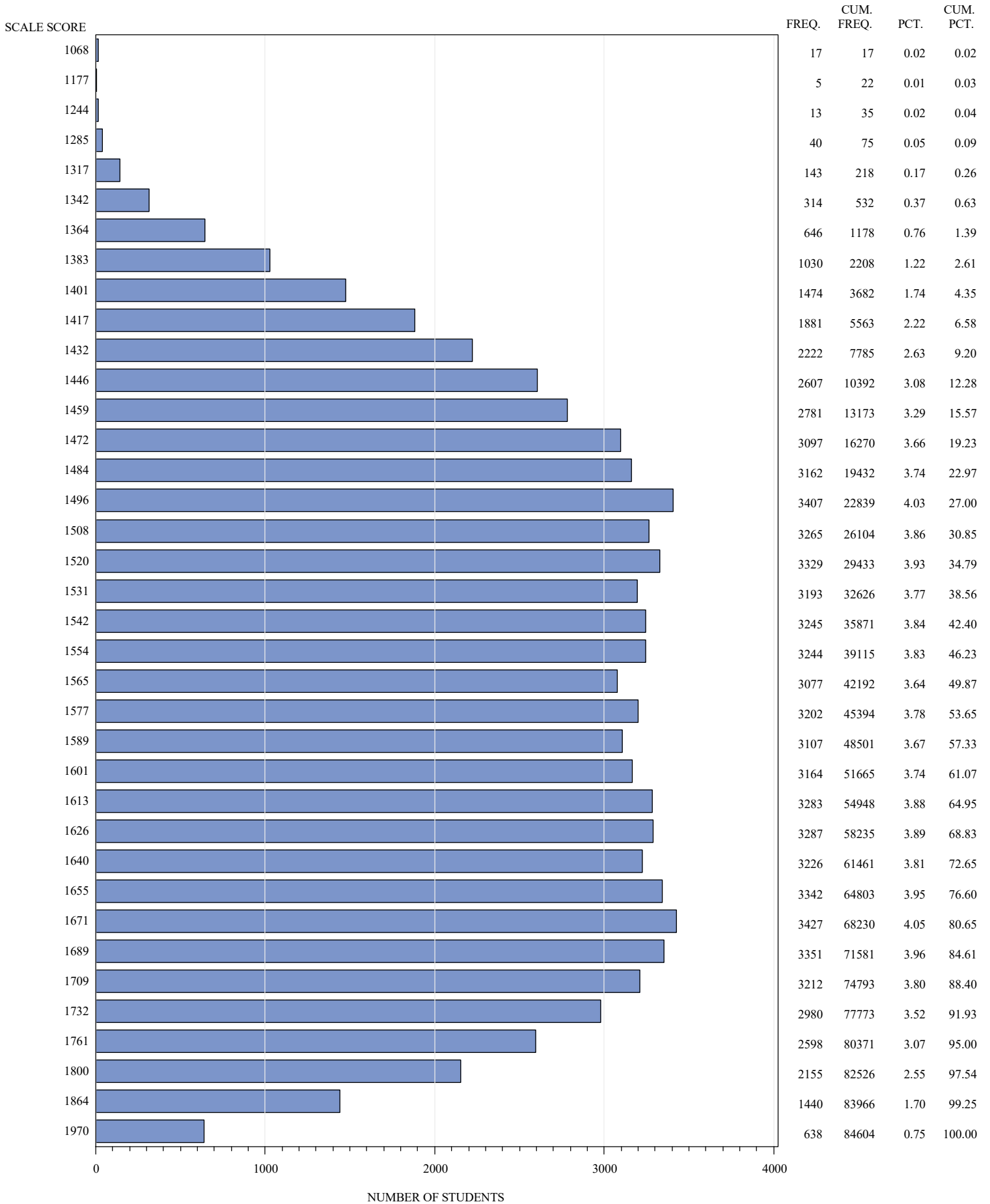
**Figure D.5.2 2021 TELPAS Grade 3 Reading  
Frequency Distribution of Scale Scores  
Online Students**



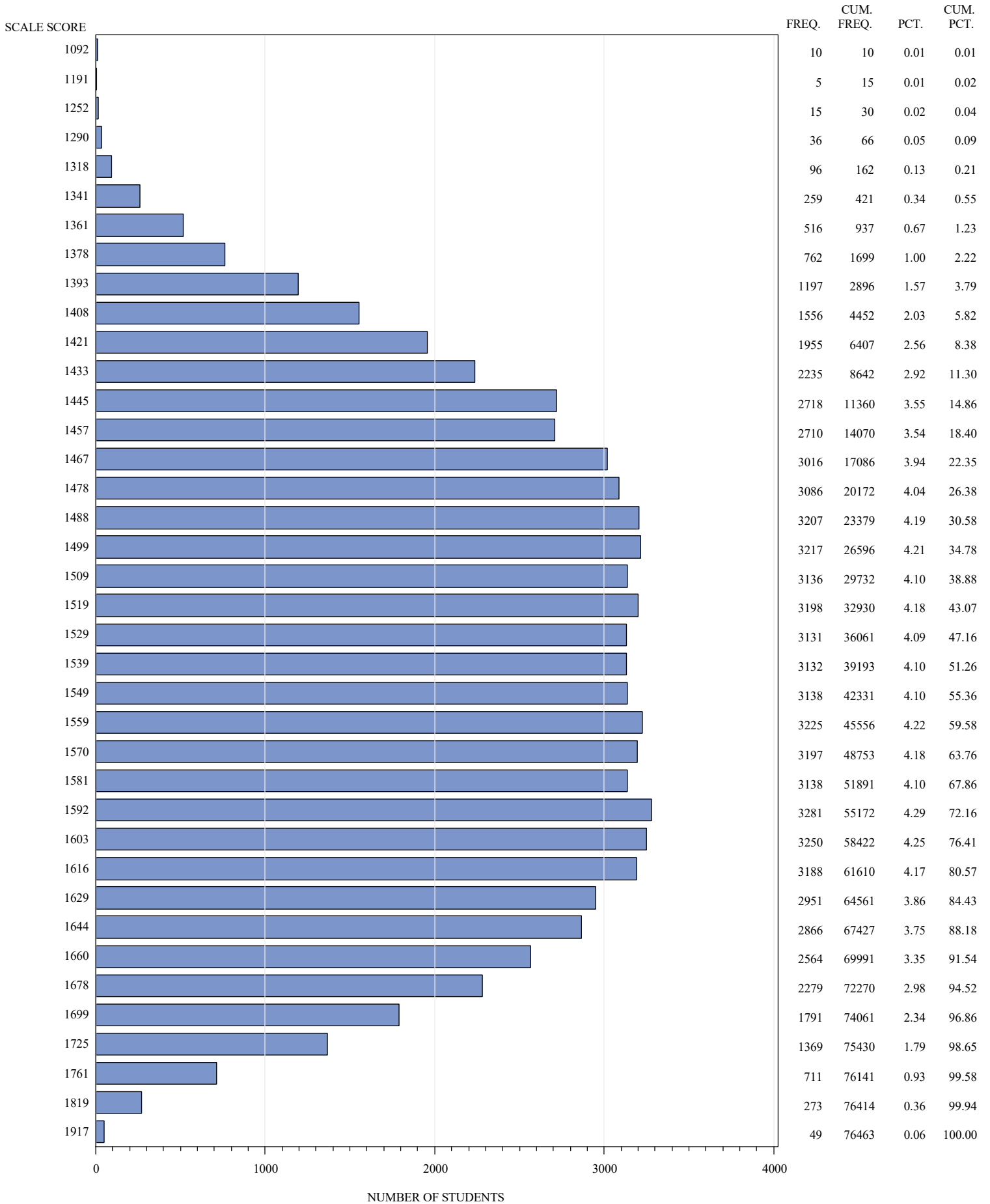
**Figure D.5.3 2021 TELPAS Grade 4 Reading  
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Online Students**



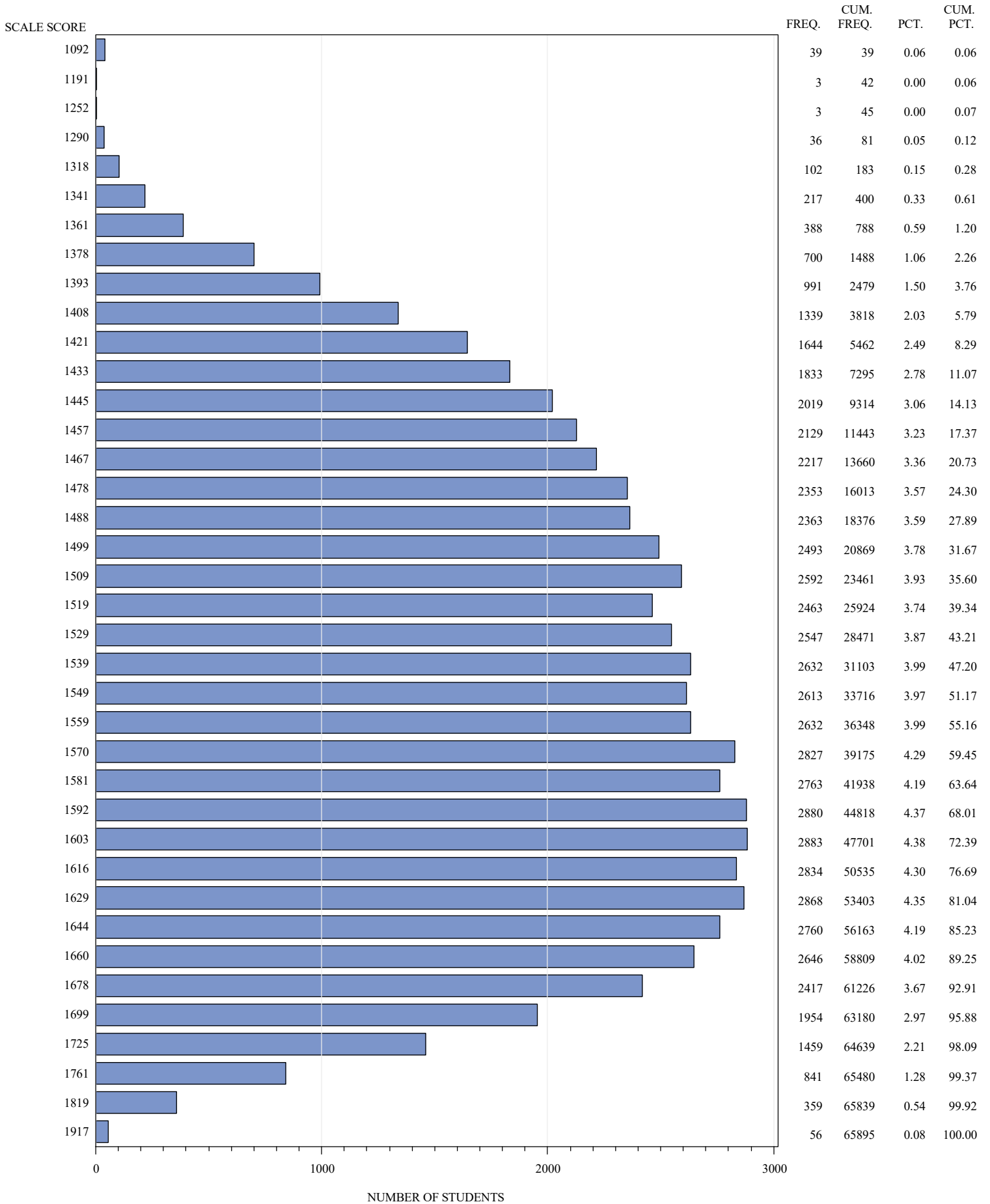
**Figure D.5.4 2021 TELPAS Grade 5 Reading  
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Online Students**



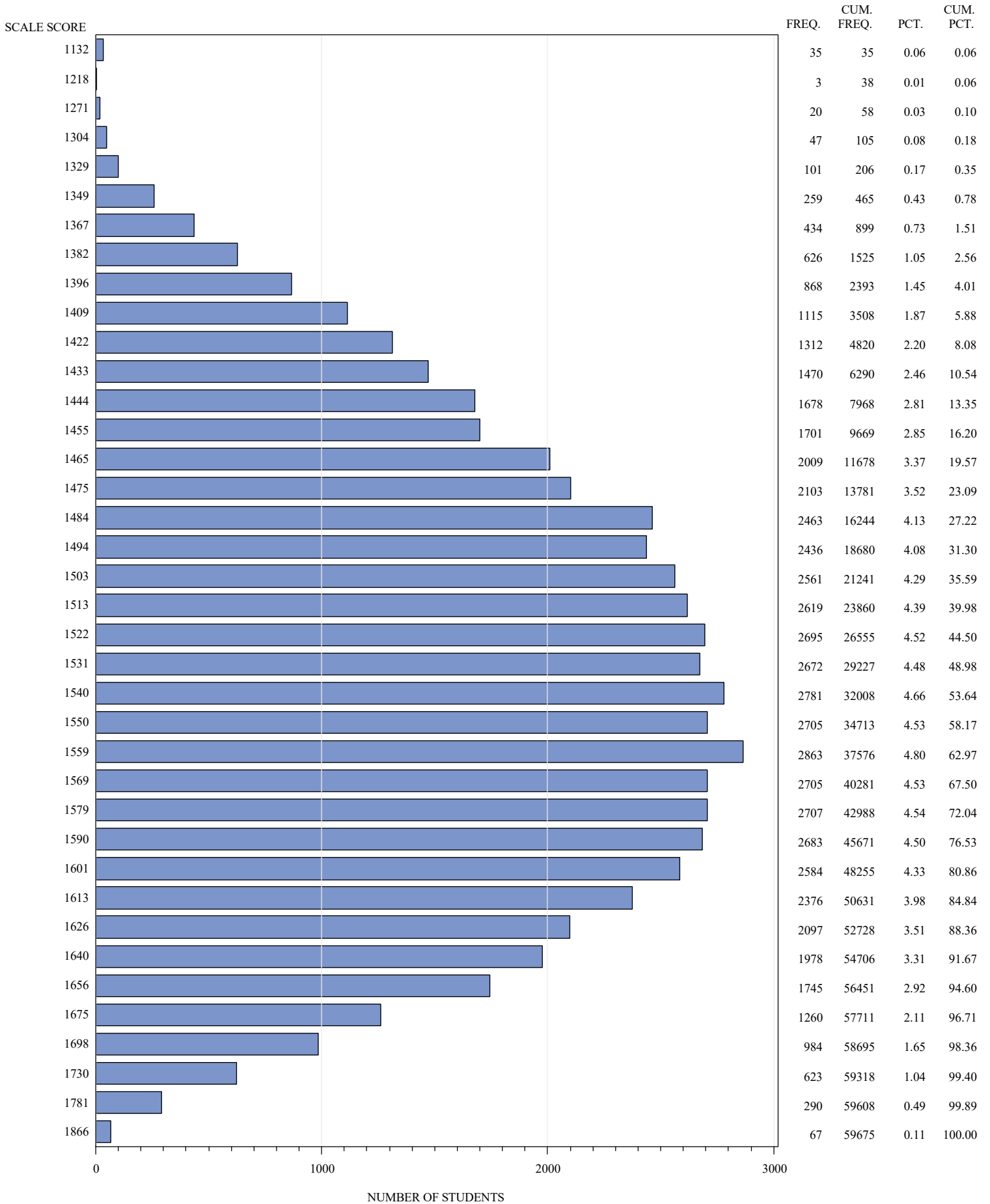
**Figure D.5.5 2021 TELPAS Grade 6 Reading  
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Online Students**



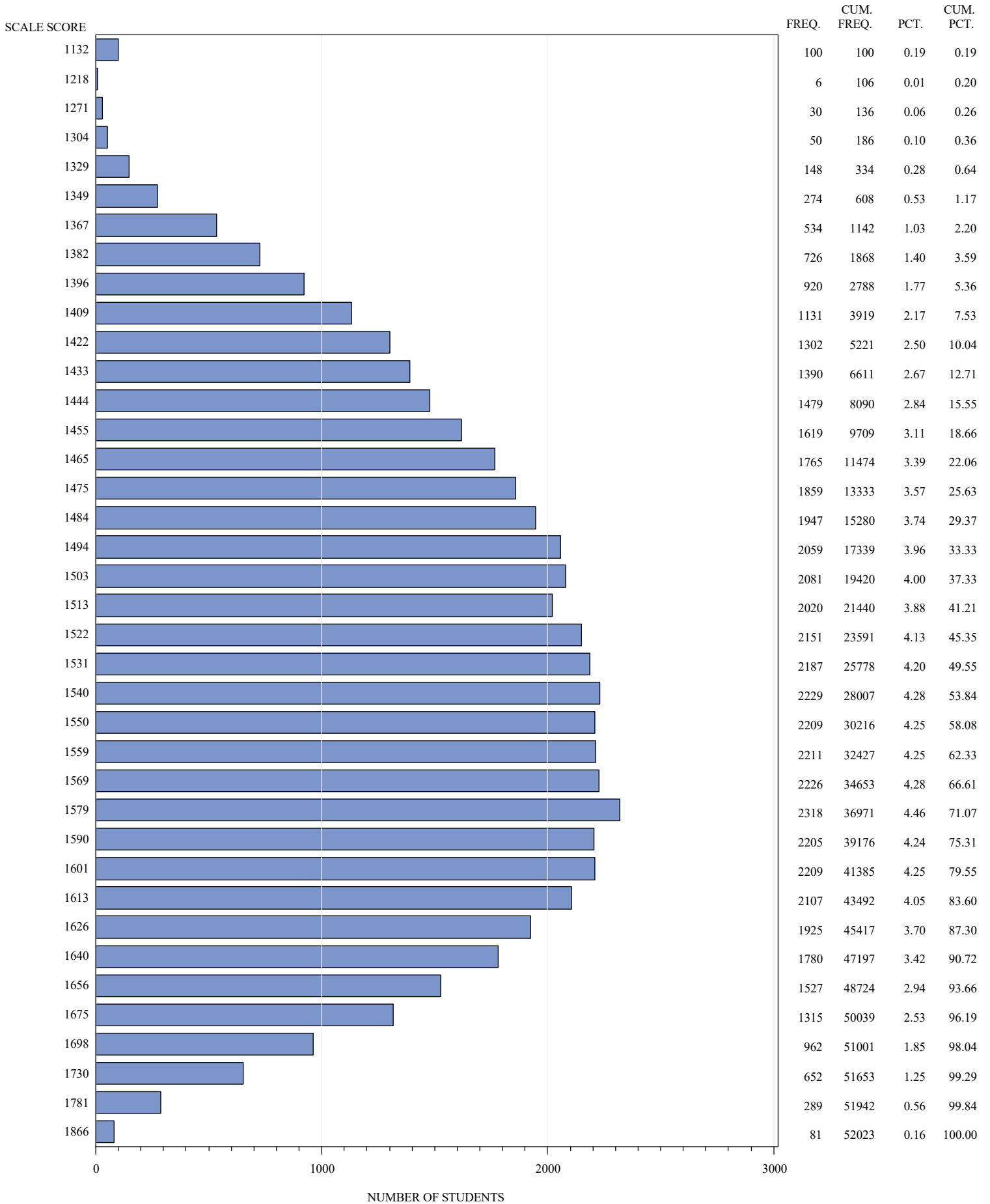
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Online Students**



**Figure D.5.7 2021 TELPAS Grade 8 Reading  
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Online Students**

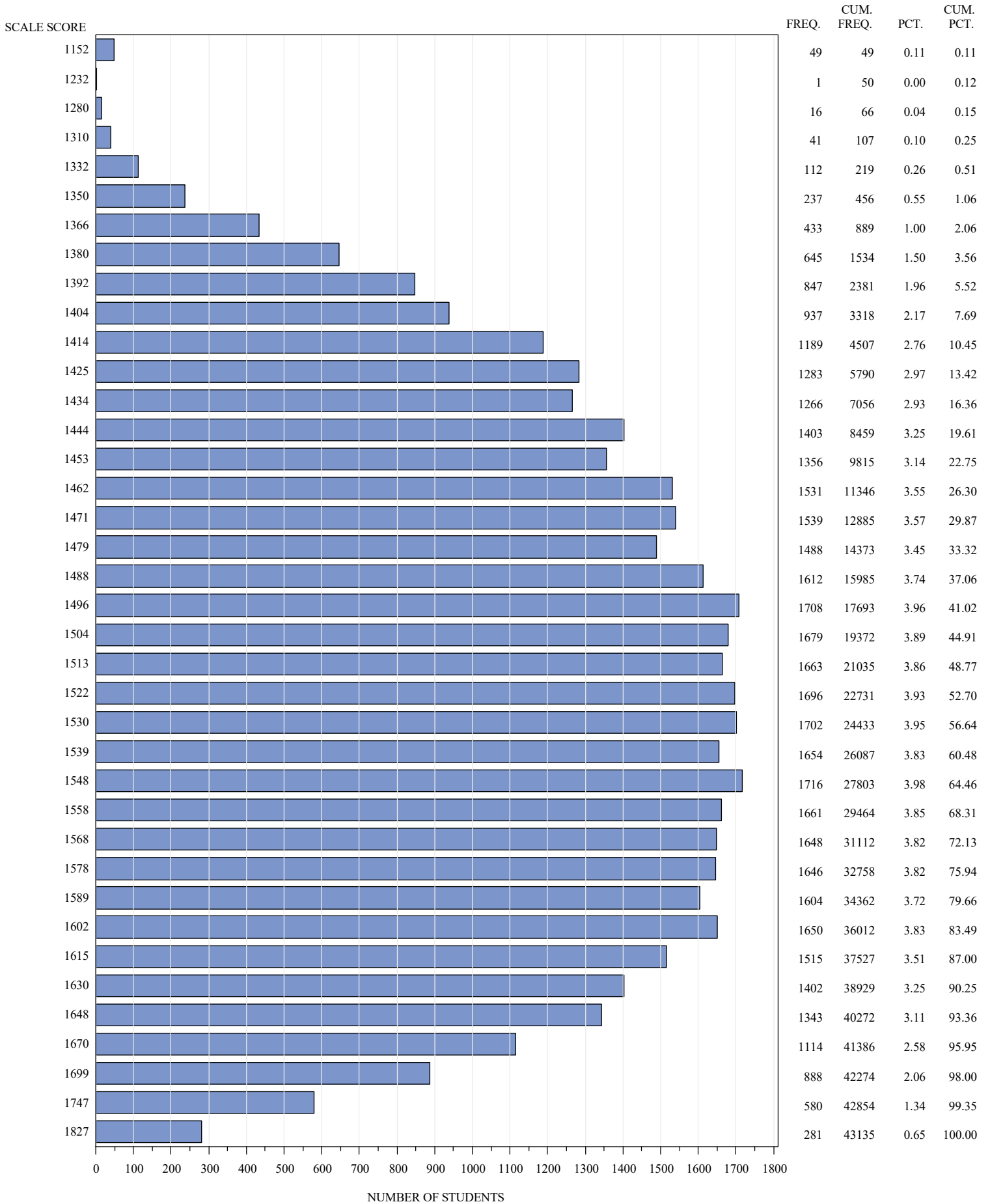


**Figure D.5.8 2021 TELPAS Grade 9 Reading  
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Online Students**

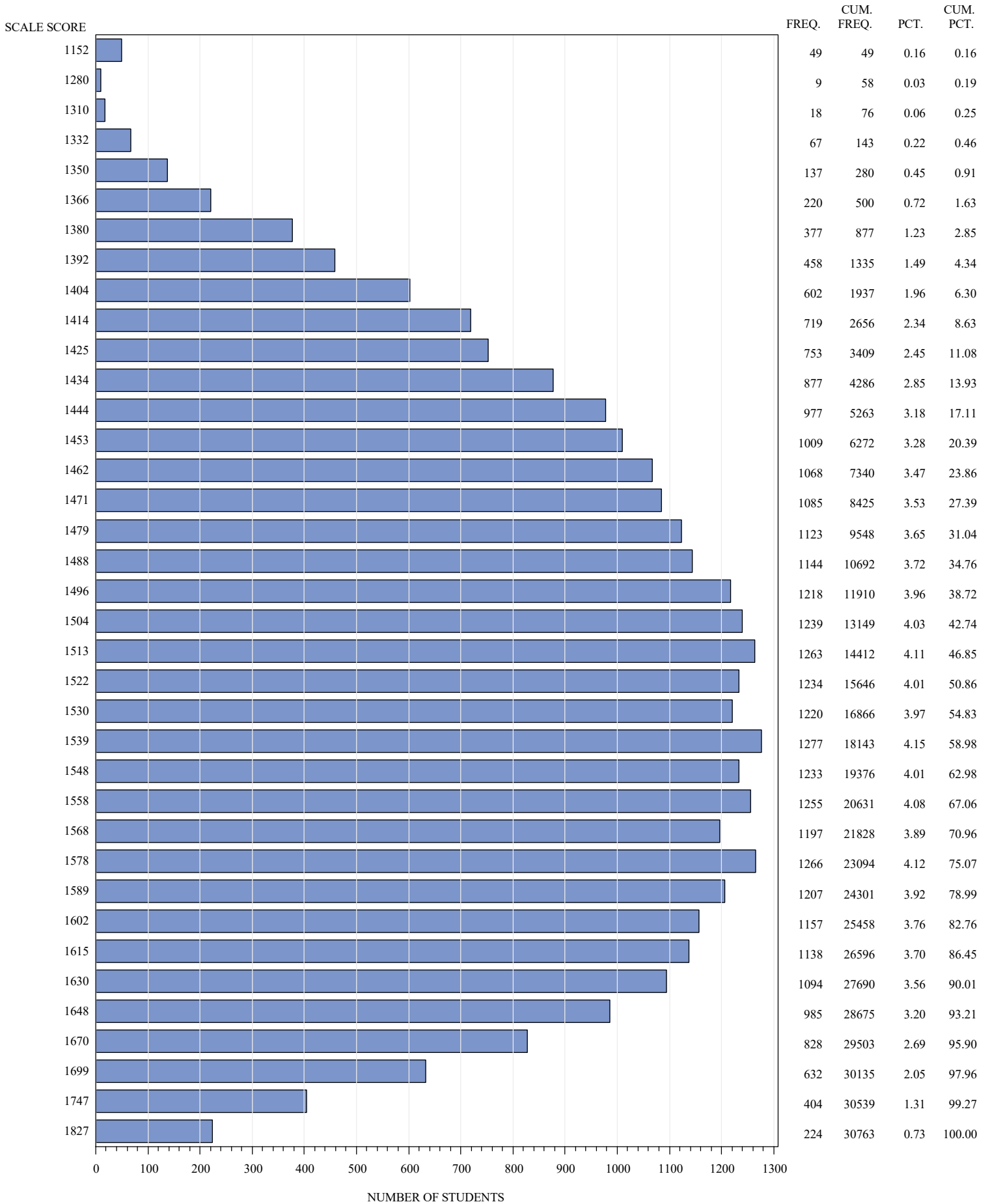




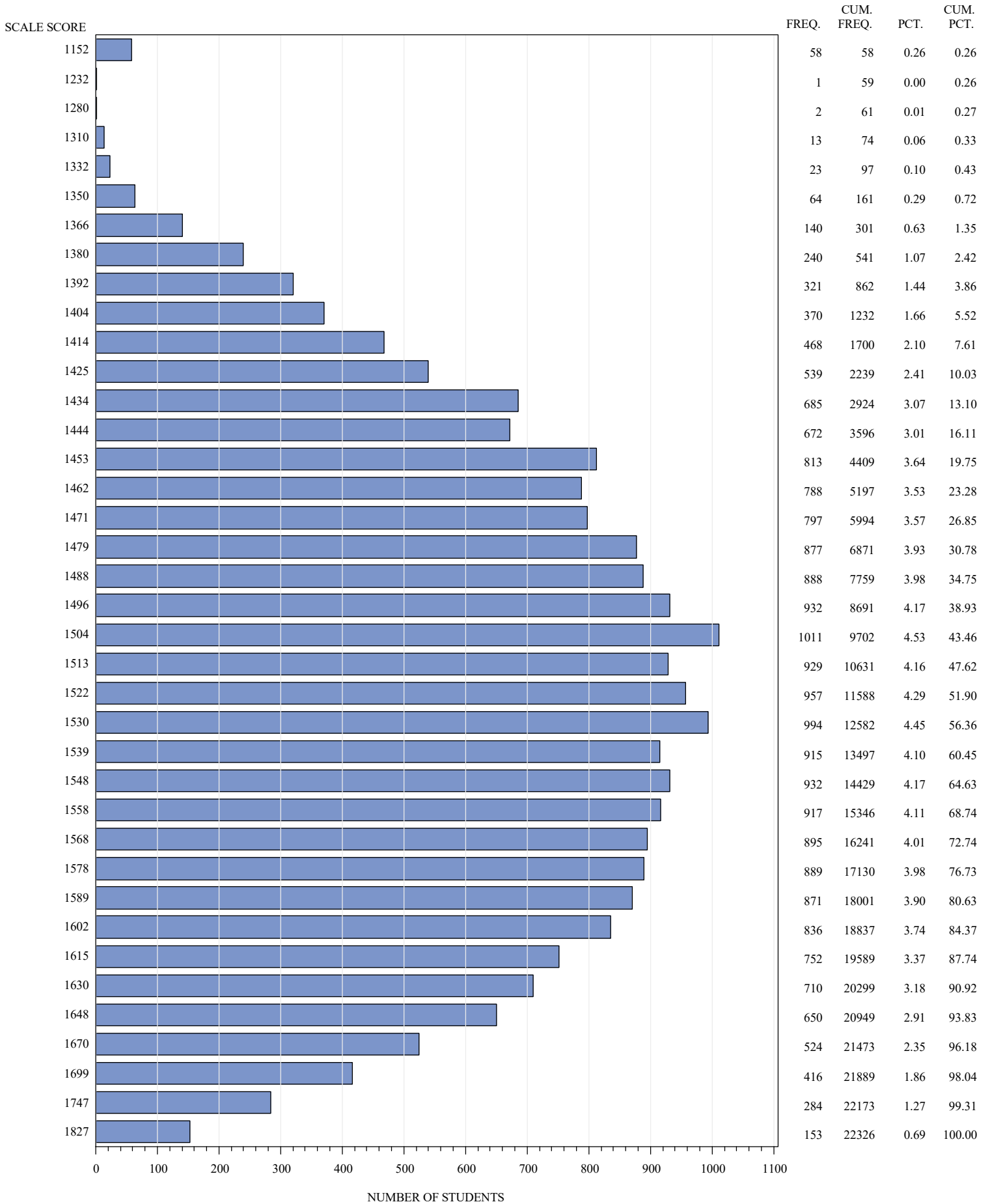
**Figure D.5.9 2021 TELPAS Grade 10 Reading  
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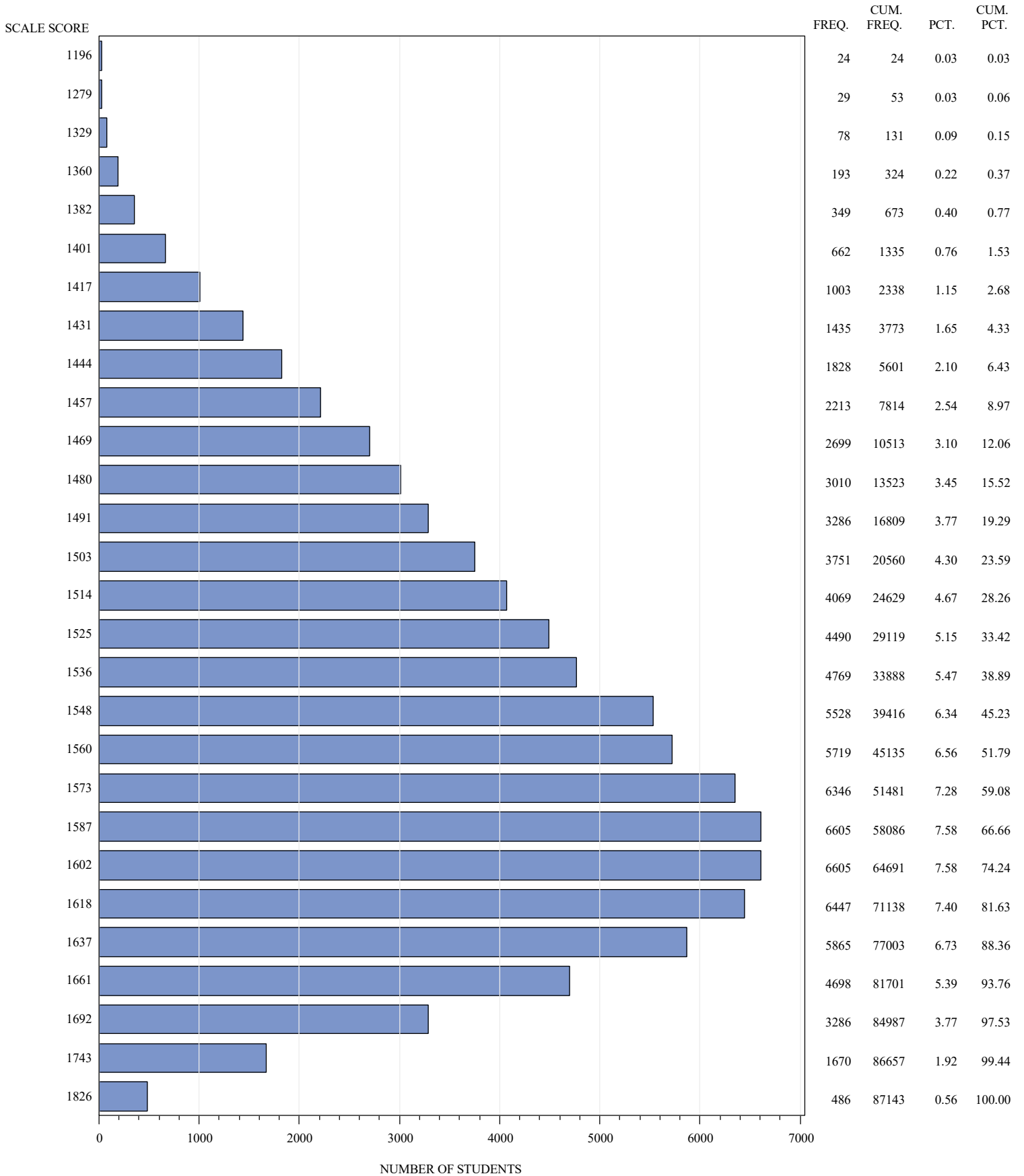
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Online Students**



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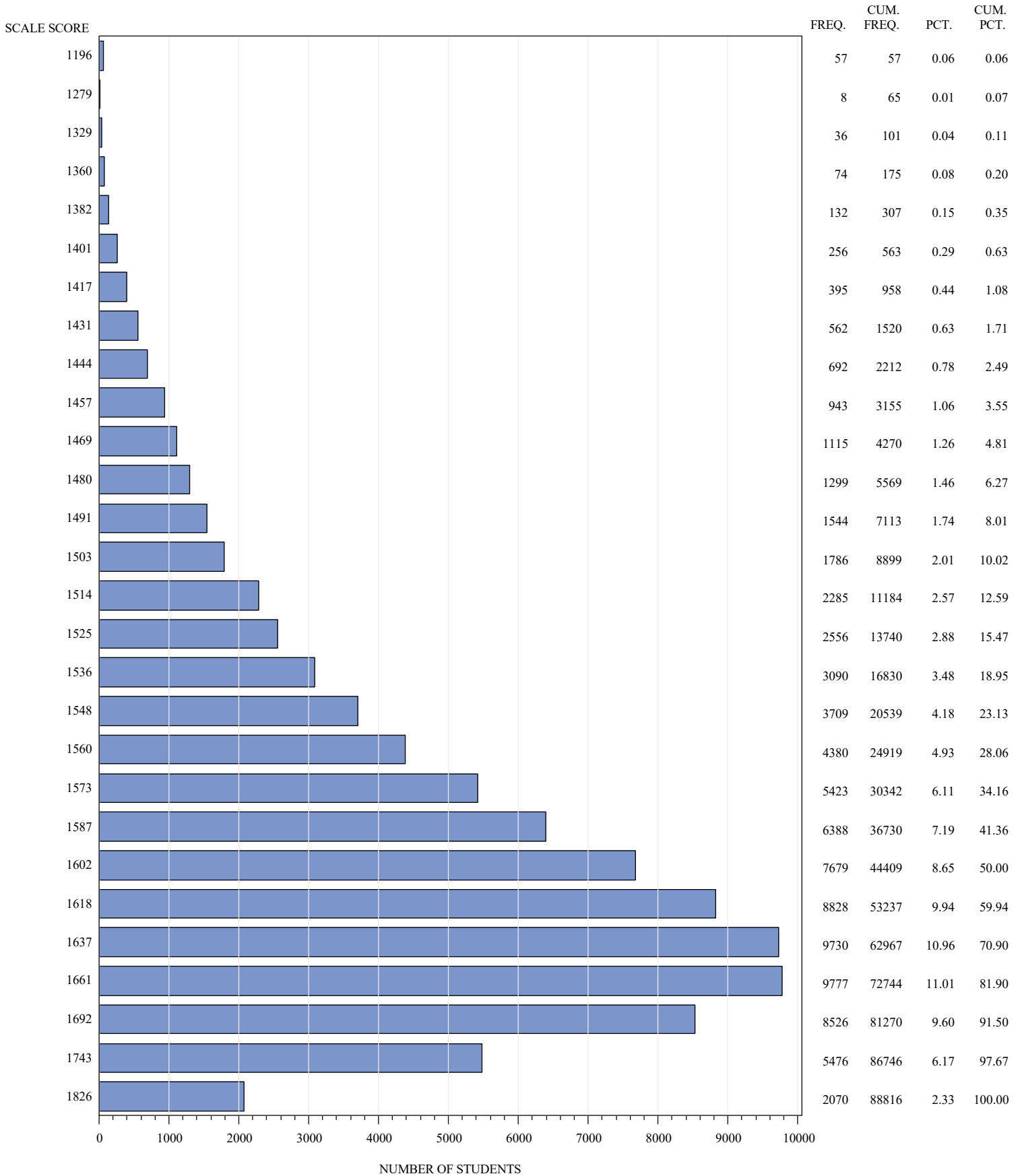
**Figure D.5.12 2021 TELPAS Grade 2 Listening  
Frequency Distribution of Scale Scores  
Online Students**



*Notes:*

Students who took the listening holistic rating version of the test are not included in the frequency distribution tables.

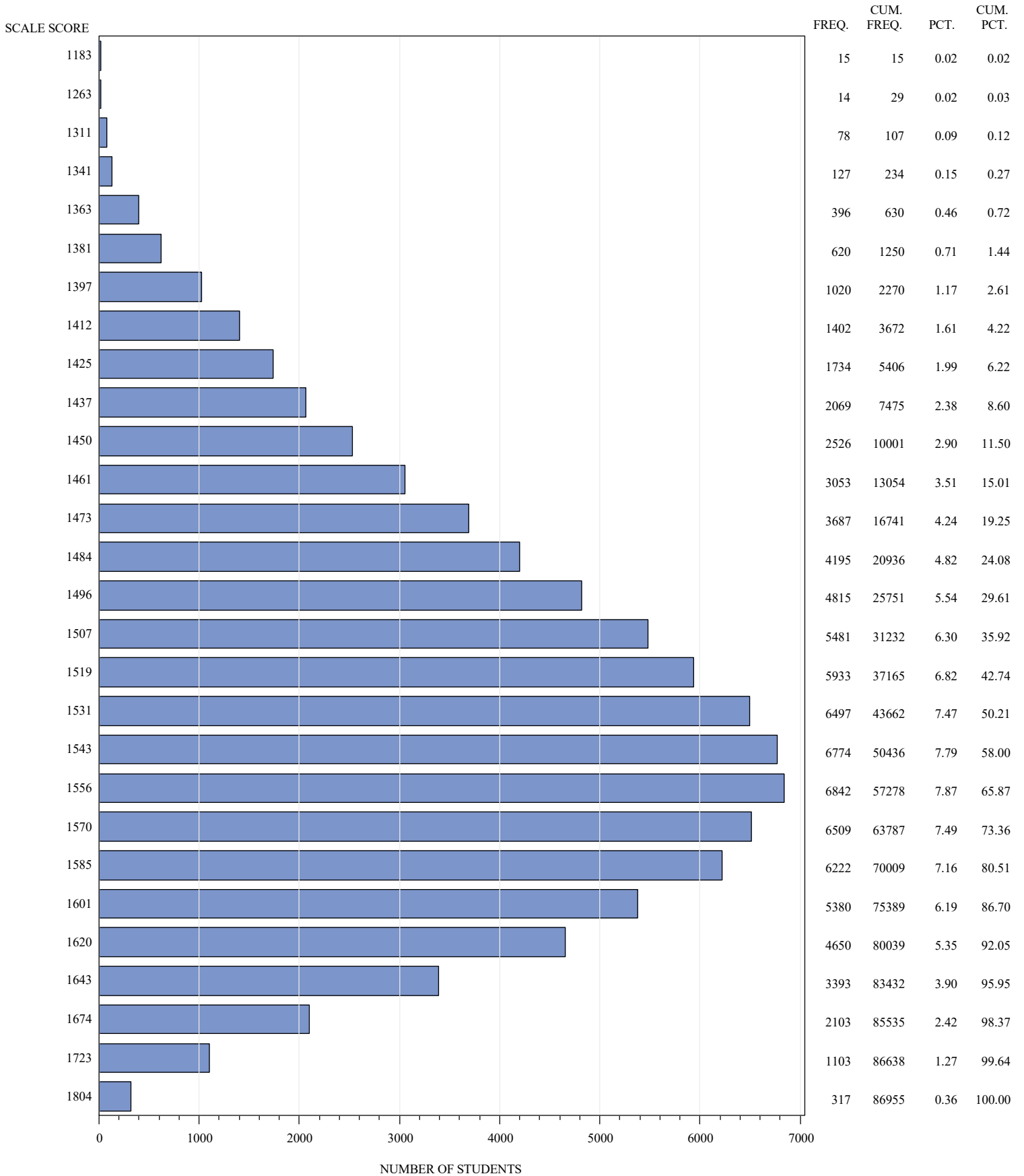
**Figure D.5.13 2021 TELPAS Grade 3 Listening  
Frequency Distribution of Scale Scores  
Online Students**



*Notes:*

Students who took the listening holistic rating version of the test are not included in the frequency distribution tables.

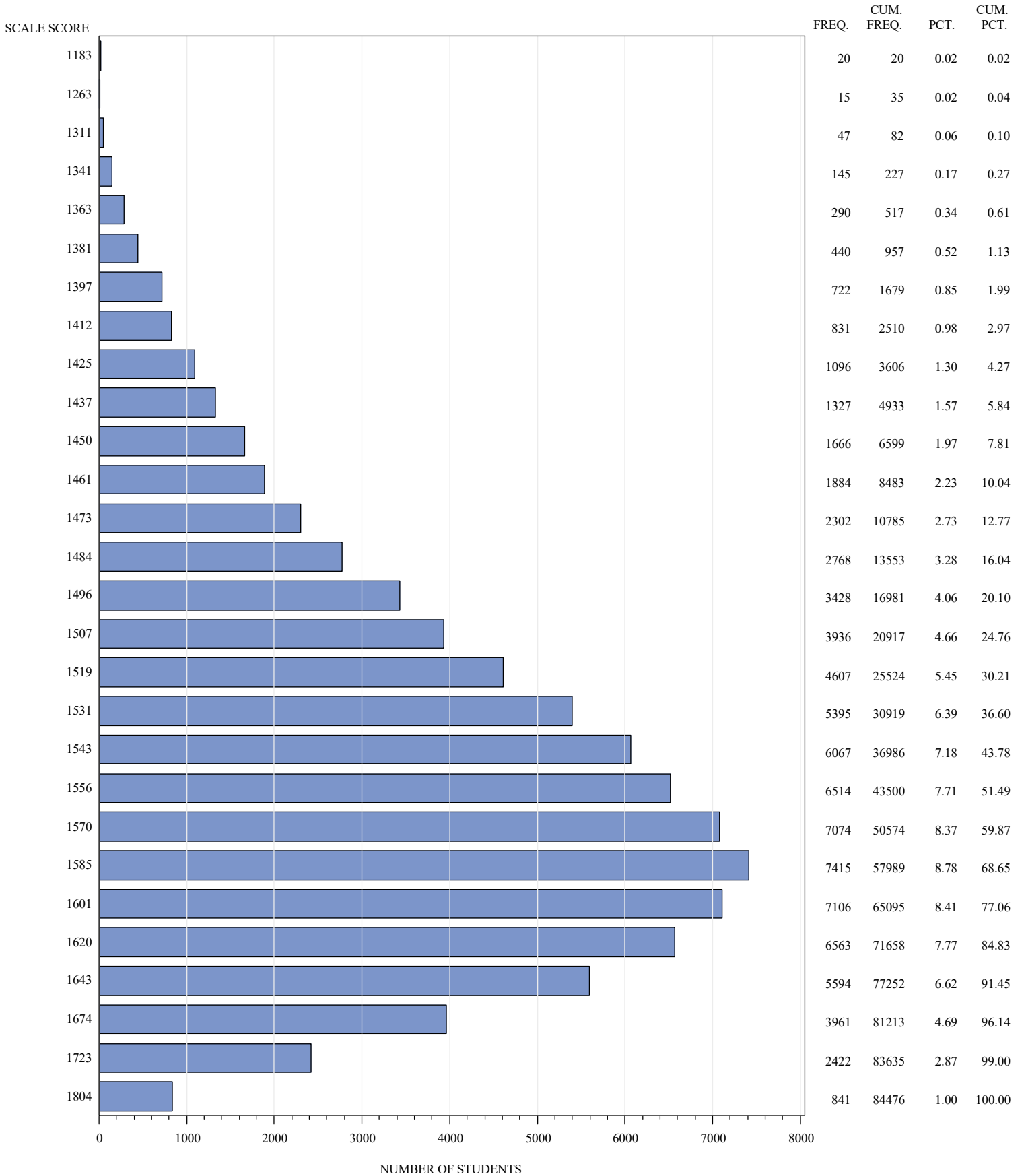
**Figure D.5.14 2021 TELPAS Grade 4 Listening  
Frequency Distribution of Scale Scores  
Online Students**



*Notes:*

Students who took the listening holistic rating version of the test are not included in the frequency distribution tables.

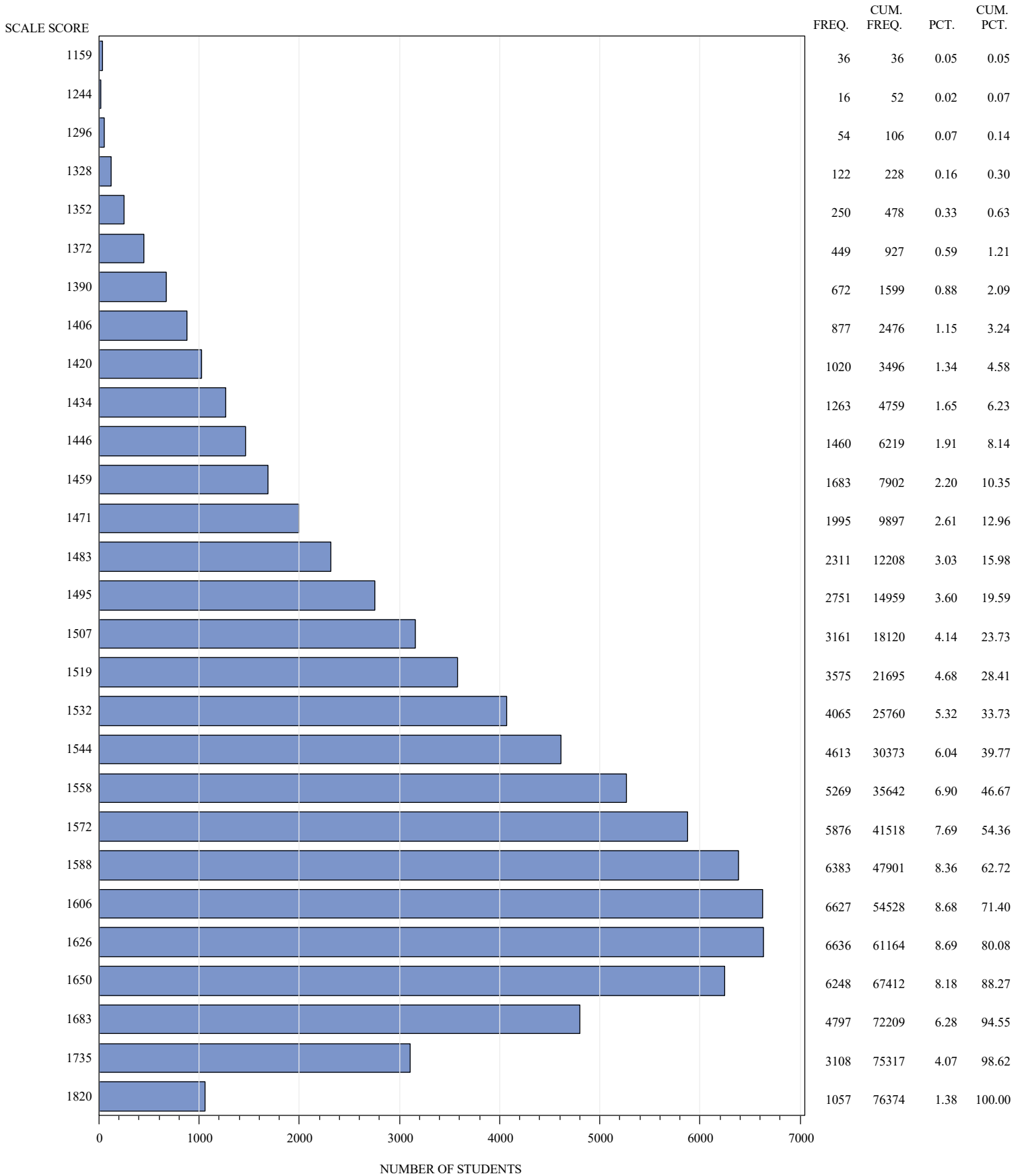
**Figure D.5.15 2021 TELPAS Grade 5 Listening  
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Online Students**



*Notes:*

Students who took the listening holistic rating version of the test are not included in the frequency distribution tables.

**Figure D.5.16 2021 TELPAS Grade 6 Listening  
Frequency Distribution of Scale Scores  
Online Students**

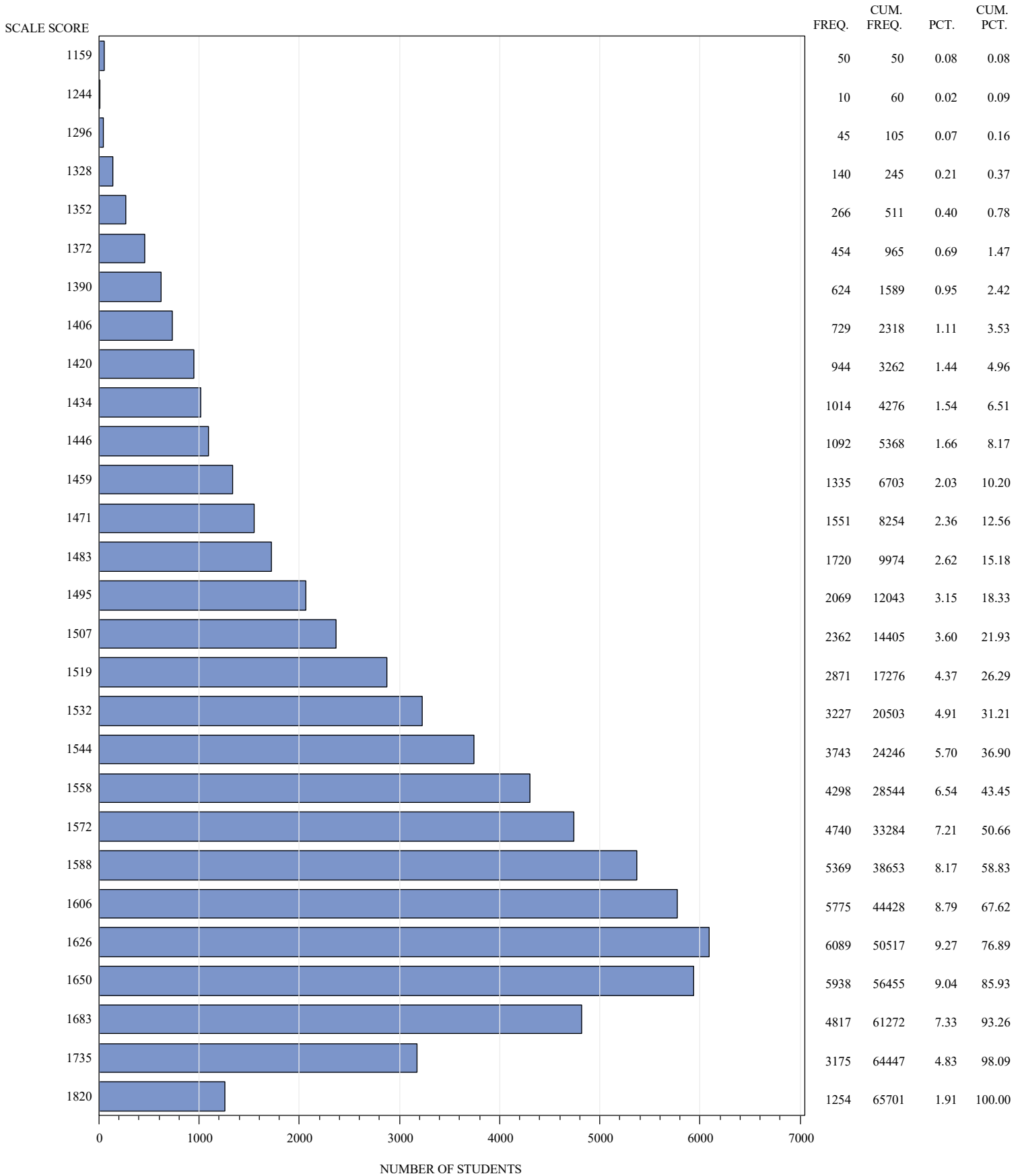


*Notes:*

Students who took the listening holistic rating version of the test are not included in the frequency distribution tables.



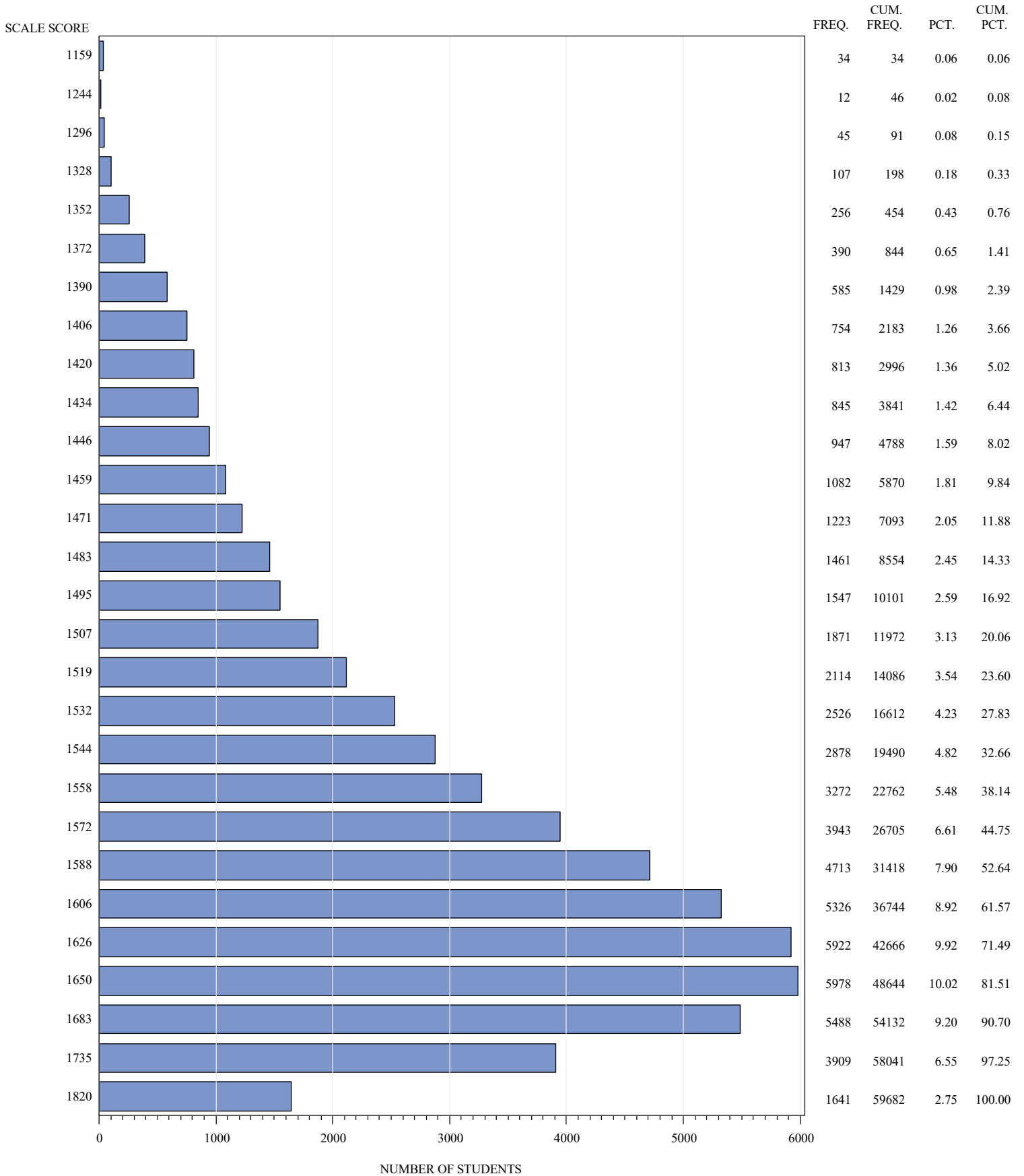
**Figure D.5.17 2021 TELPAS Grade 7 Listening  
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Online Students**



*Notes:*

Students who took the listening holistic rating version of the test are not included in the frequency distribution tables.

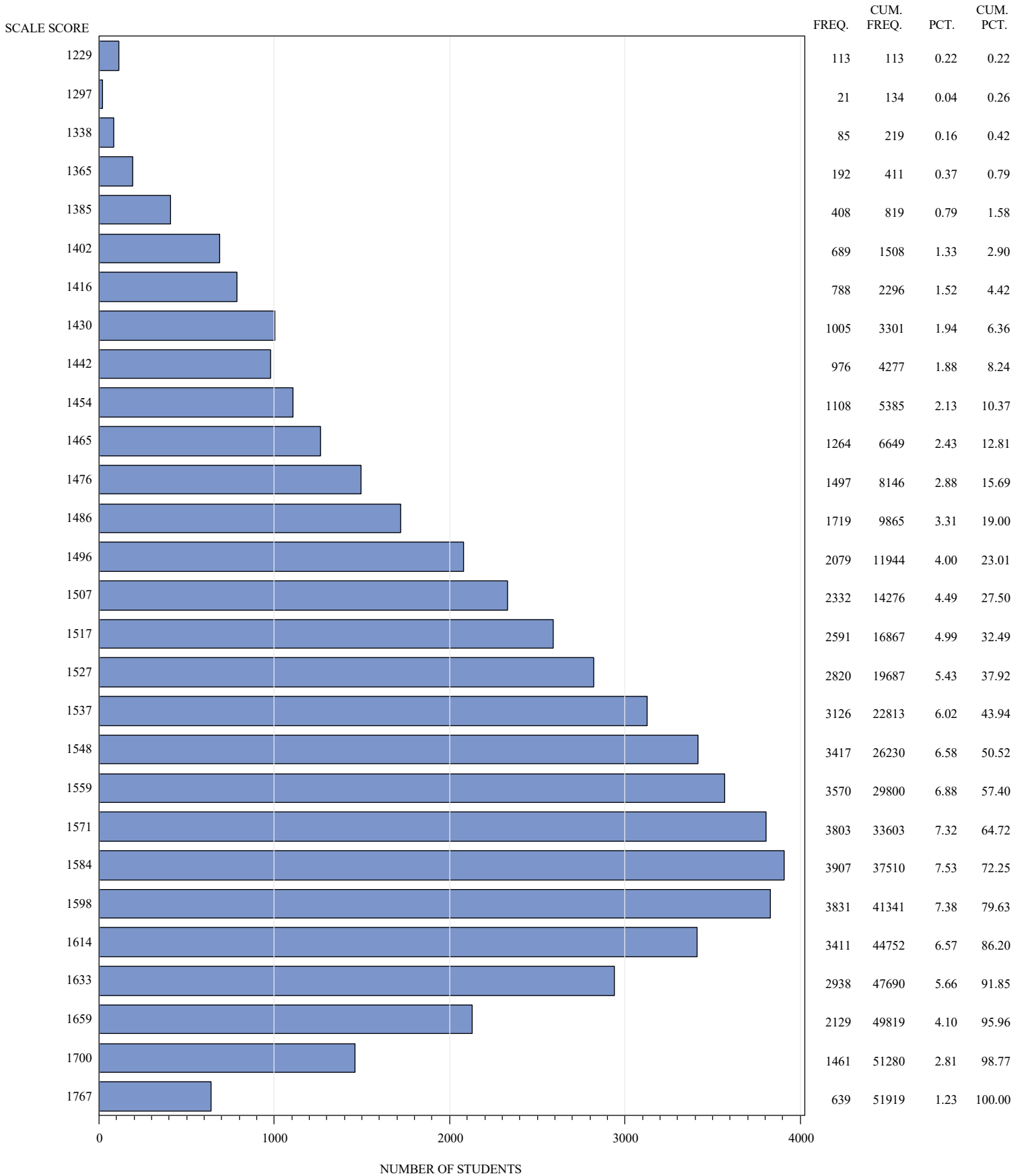
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Online Students**



*Notes:*

Students who took the listening holistic rating version of the test are not included in the frequency distribution tables.

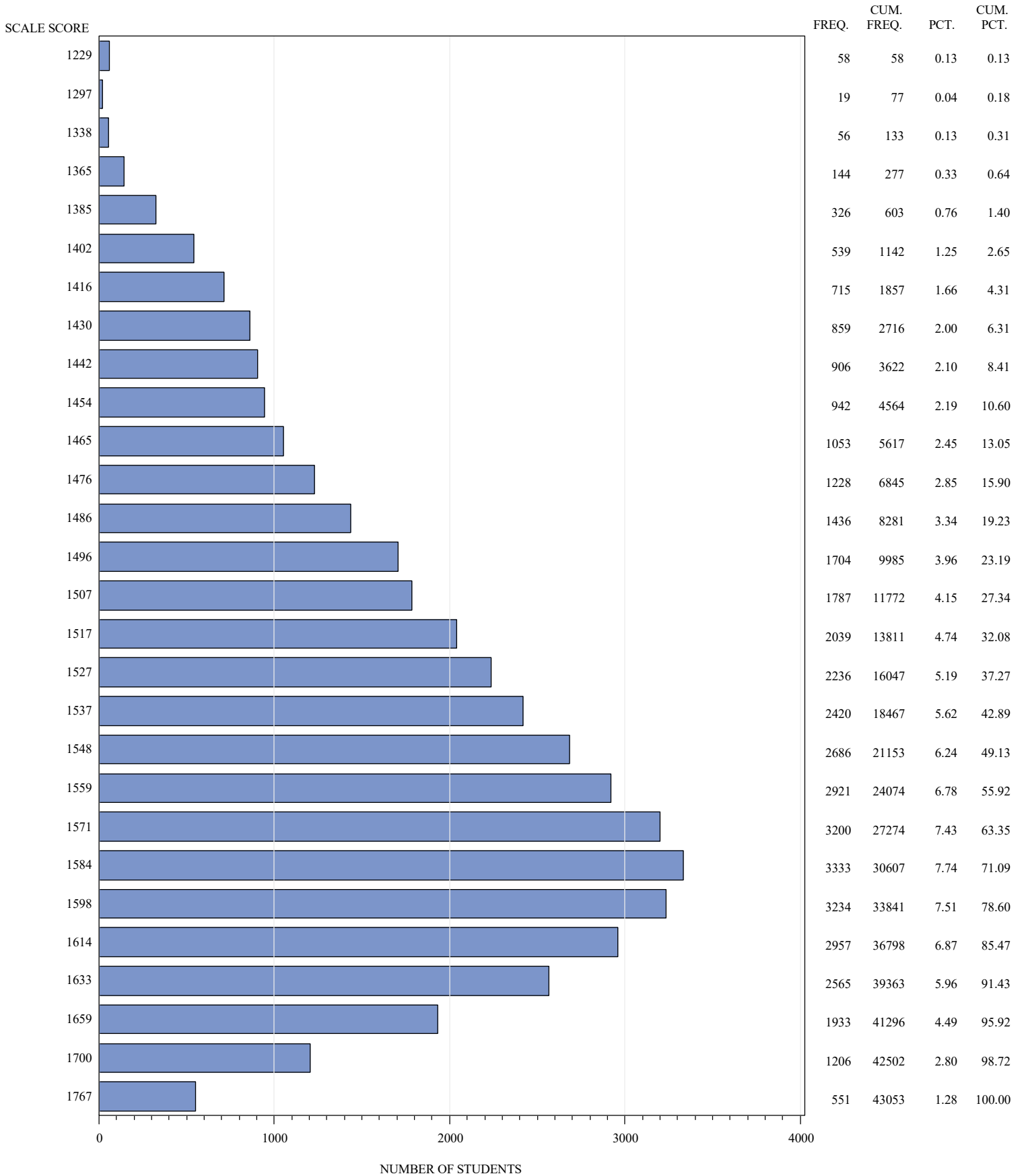
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Frequency Distribution of Scale Scores  
Online Students**



*Notes:*

Students who took the listening holistic rating version of the test are not included in the frequency distribution tables.

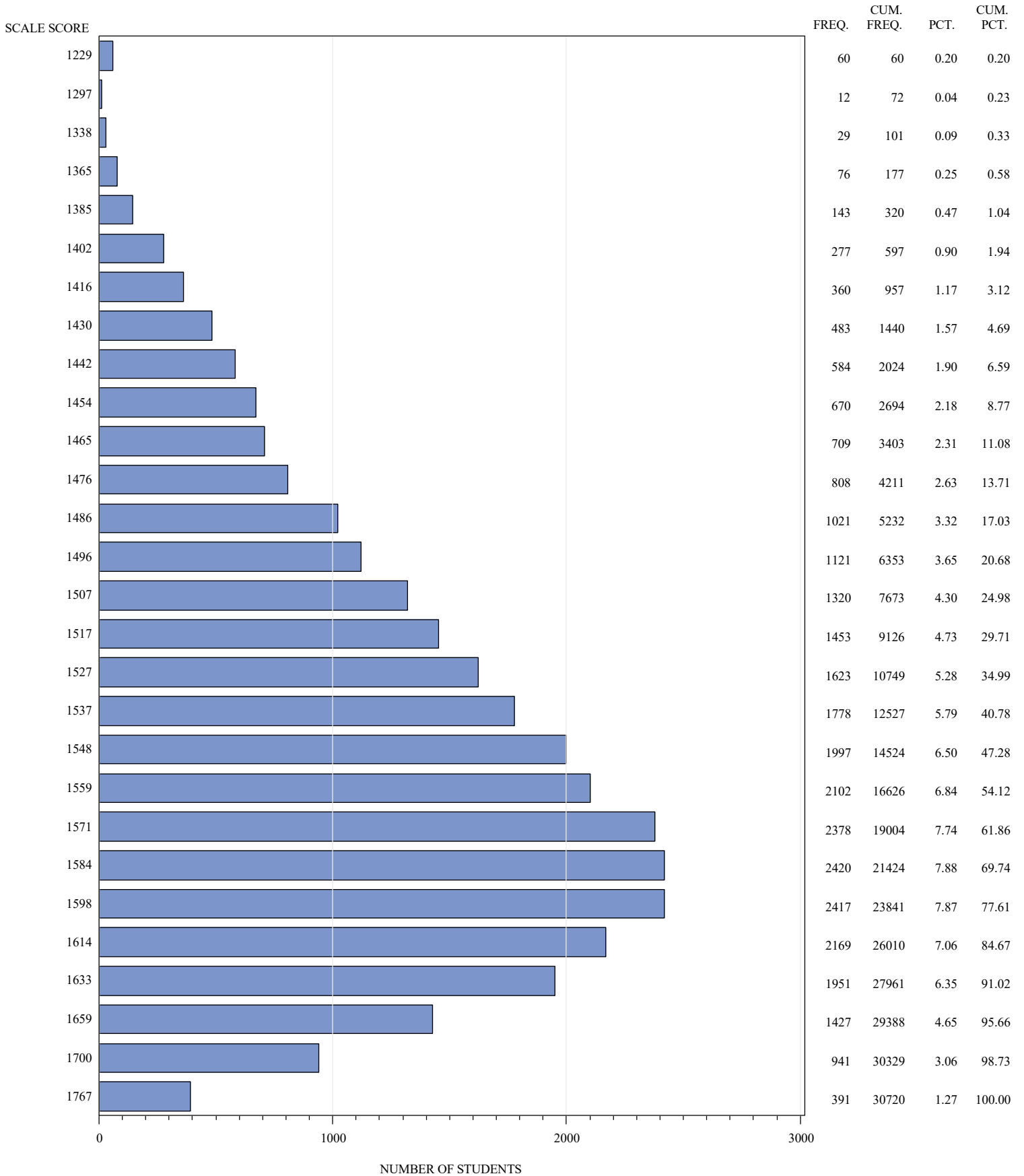
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Online Students**



*Notes:*

Students who took the listening holistic rating version of the test are not included in the frequency distribution tables.

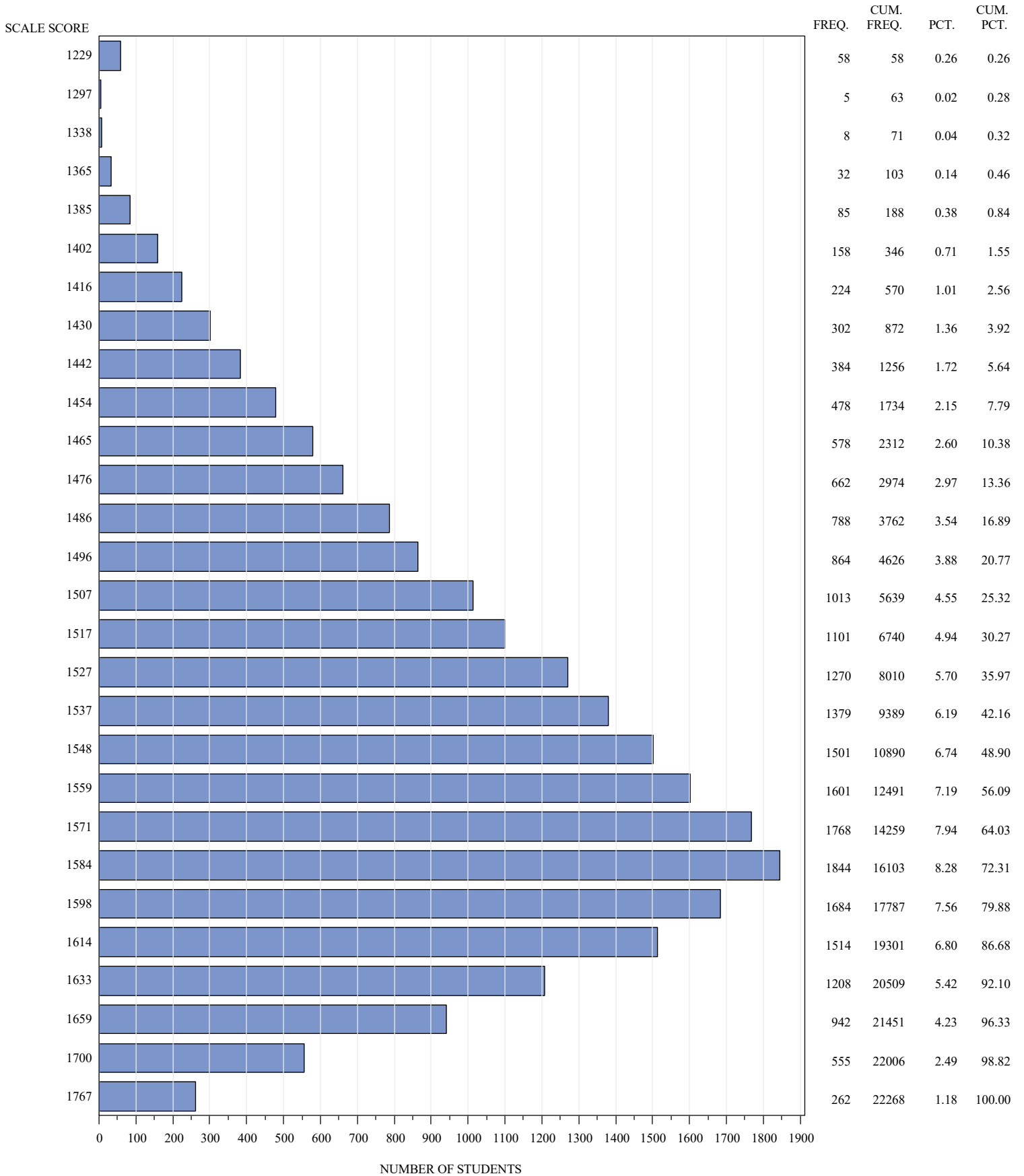
**Figure D.5.21 2021 TELPAS Grade 11 Listening  
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*Notes:*

Students who took the listening holistic rating version of the test are not included in the frequency distribution tables.

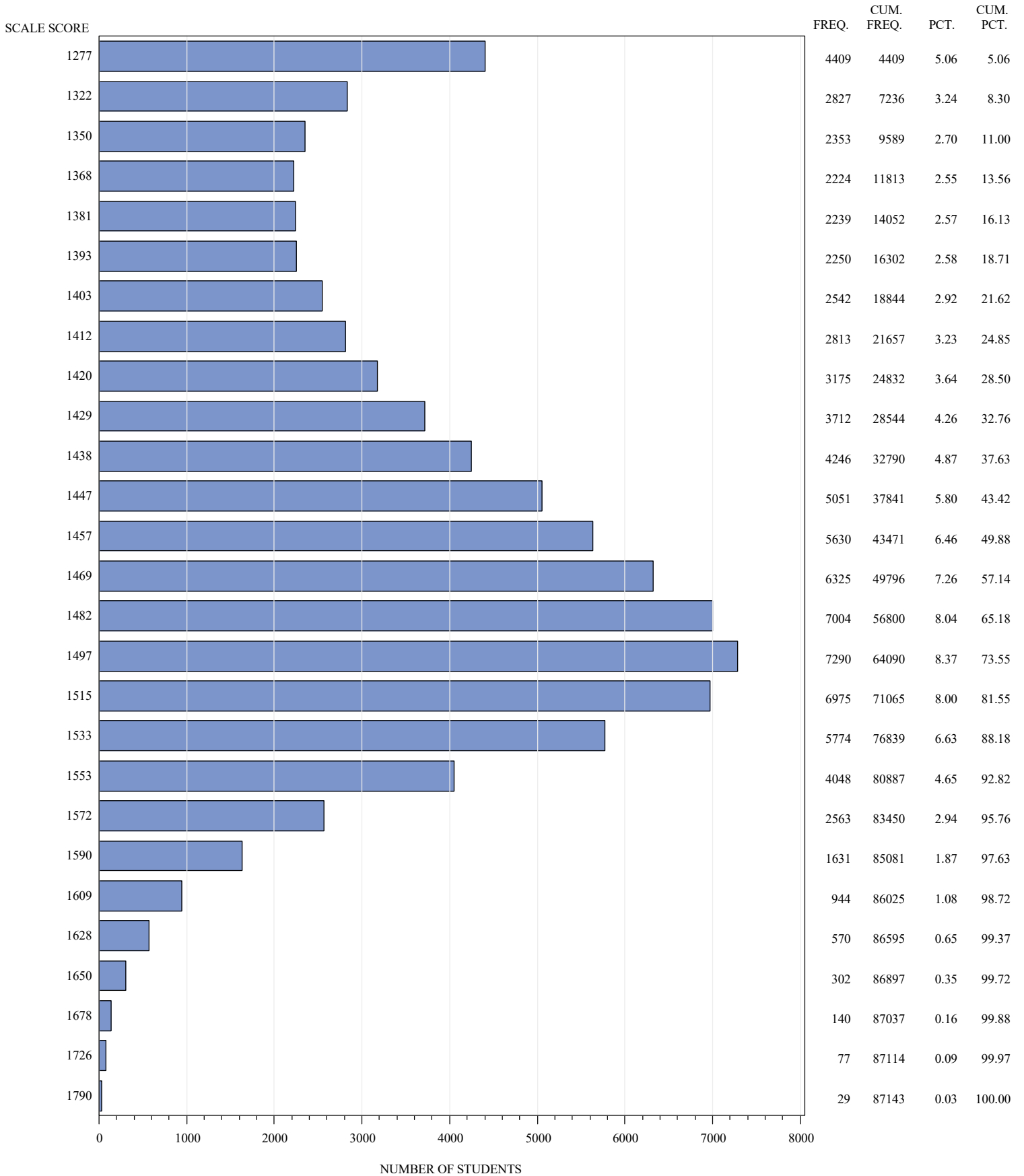
**Figure D.5.22 2021 TELPAS Grade 12 Listening  
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*Notes:*

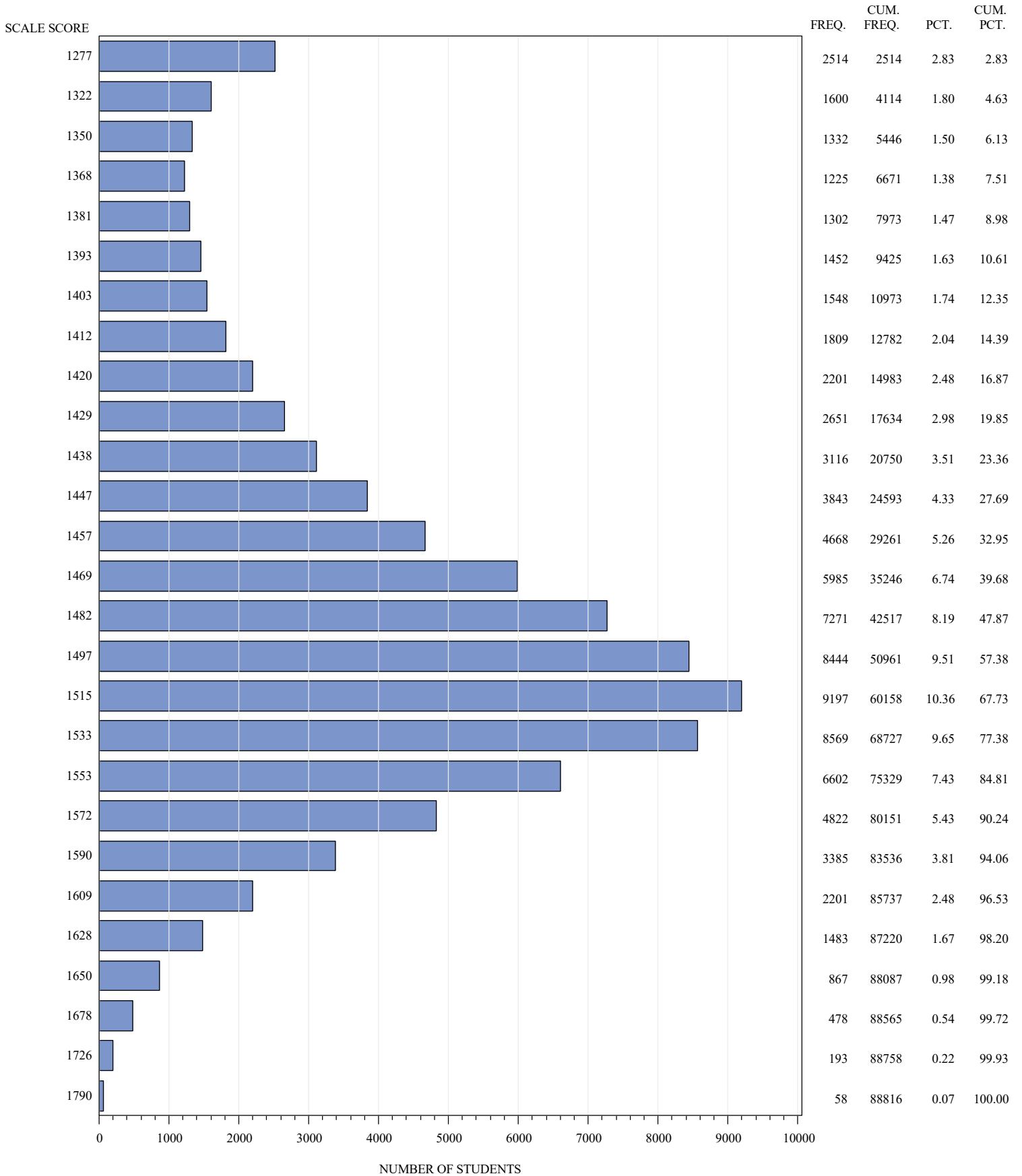
Students who took the listening holistic rating version of the test are not included in the frequency distribution tables.

**Figure D.5.23 2021 TELPAS Grade 2 Speaking  
Frequency Distribution of Scale Scores  
Online Students**



*Notes:*  
Students who took the speaking holistic rating version of the test are not included in the frequency distribution tables.

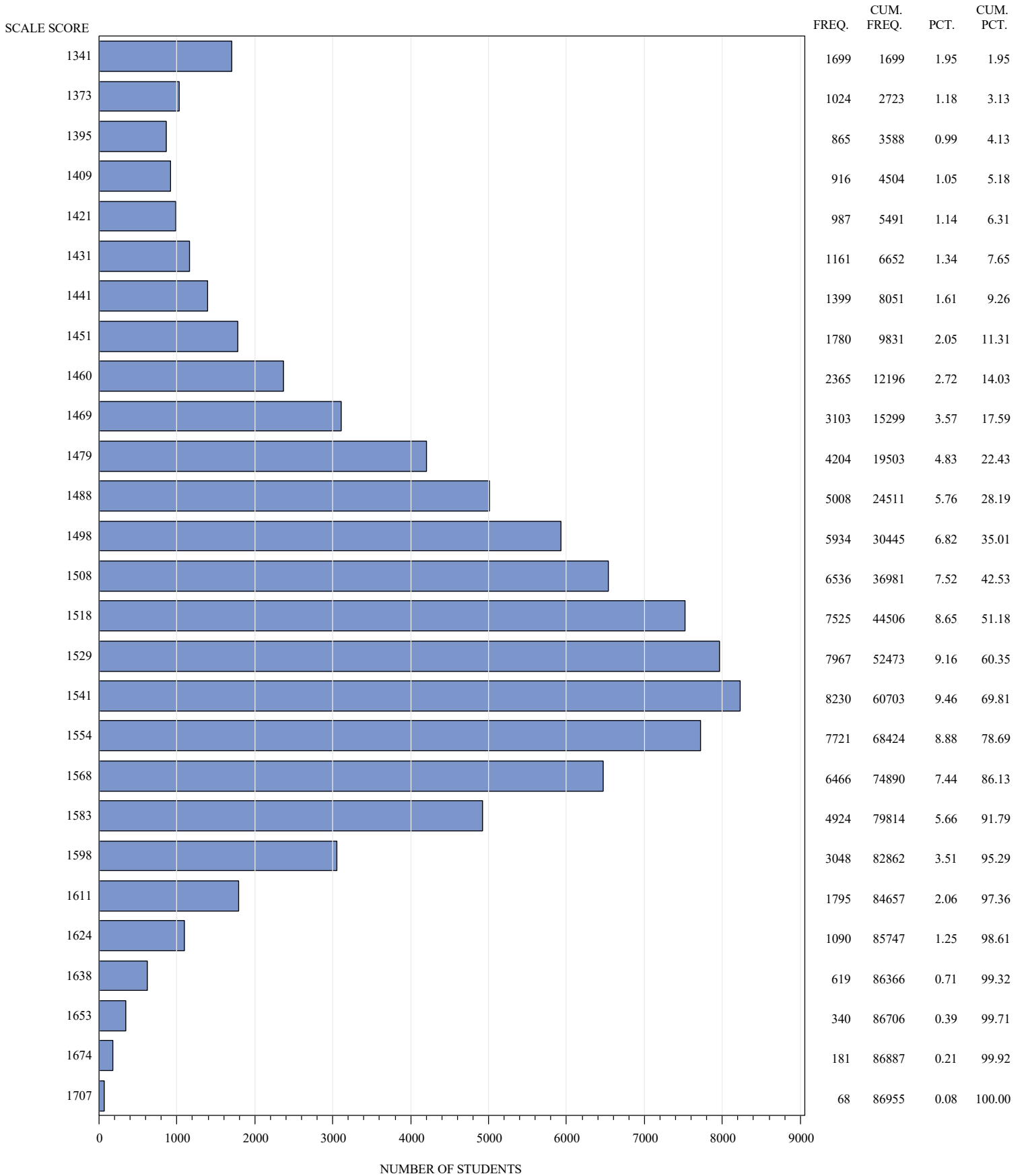
**Figure D.5.24 2021 TELPAS Grade 3 Speaking  
Frequency Distribution of Scale Scores  
Online Students**



*Notes:*  
Students who took the speaking holistic rating version of the test are not included in the frequency distribution tables.

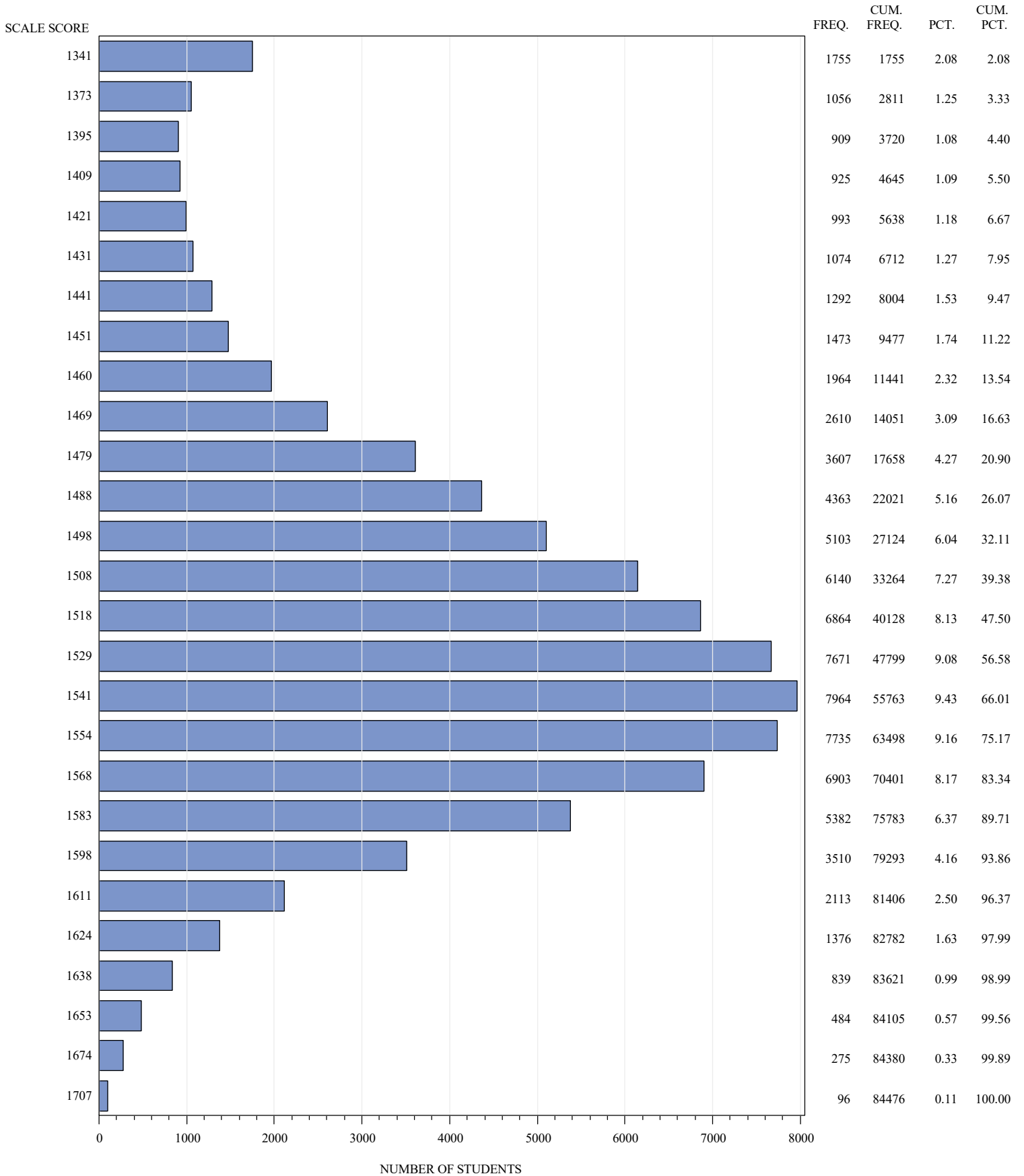


**Figure D.5.25 2021 TELPAS Grade 4 Speaking  
Frequency Distribution of Scale Scores  
Online Students**



*Notes:*  
Students who took the speaking holistic rating version of the test are not included in the frequency distribution tables.

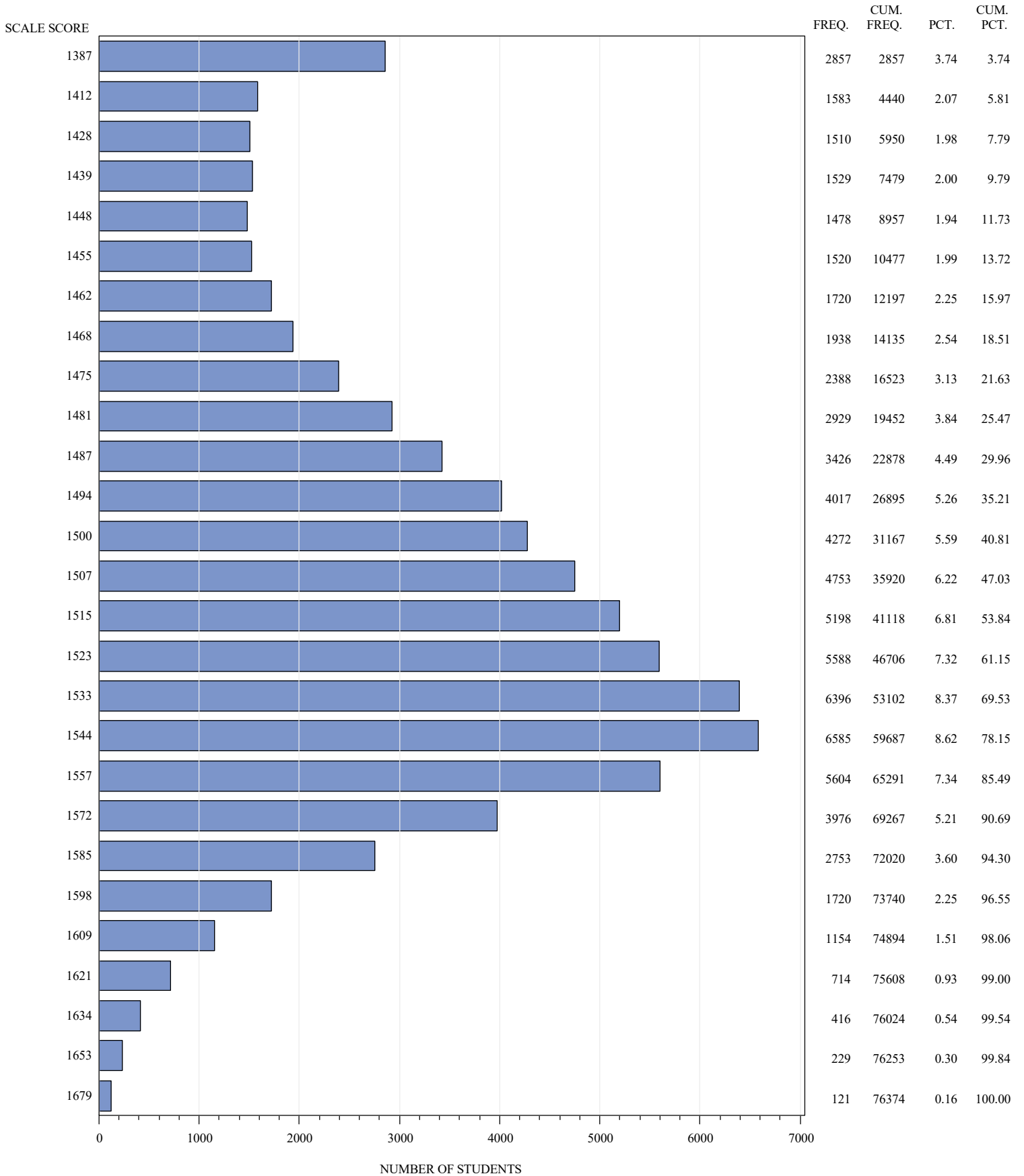
**Figure D.5.26 2021 TELPAS Grade 5 Speaking  
Frequency Distribution of Scale Scores  
Online Students**



*Notes:*

Students who took the speaking holistic rating version of the test are not included in the frequency distribution tables.

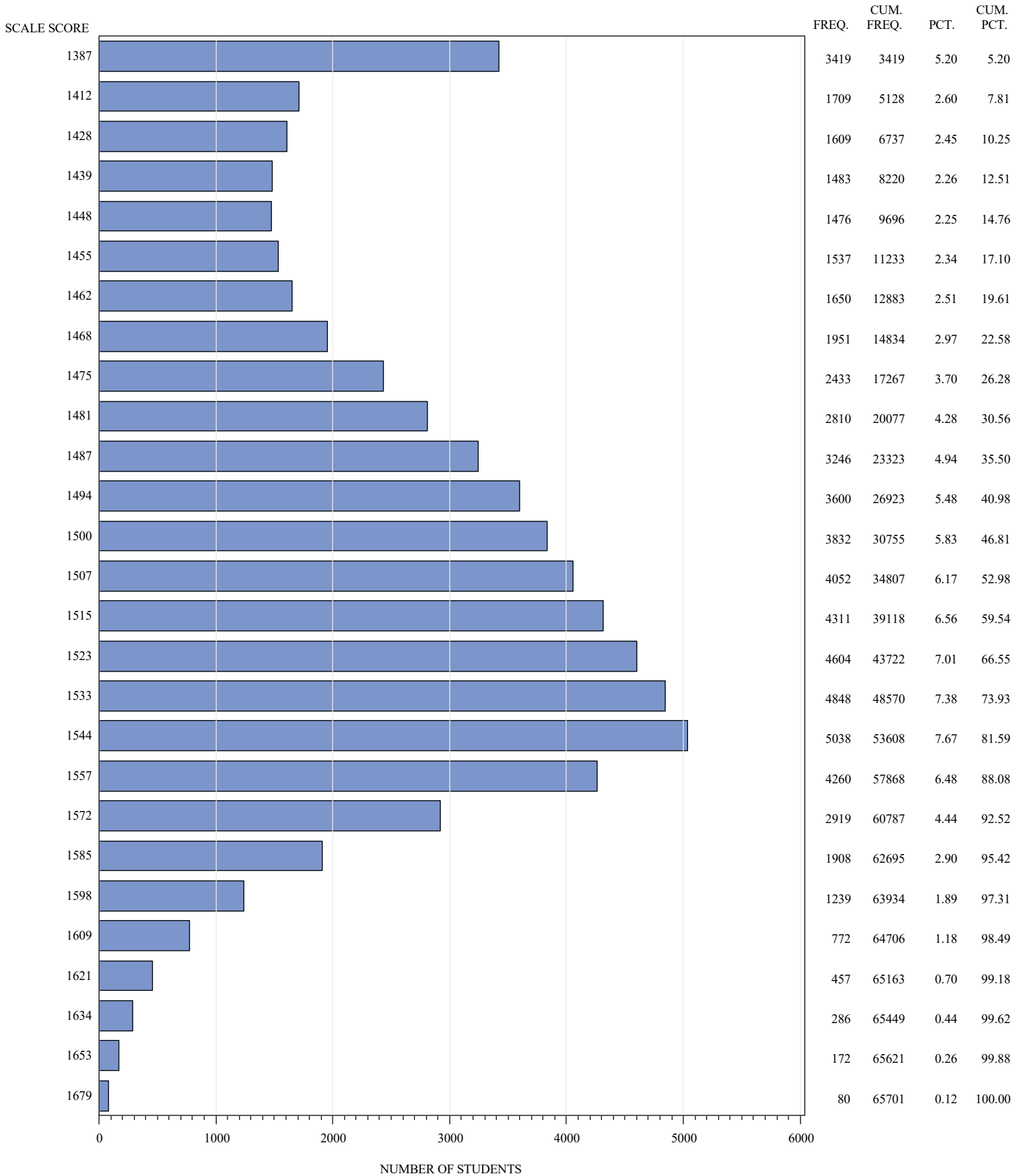
**Figure D.5.27 2021 TELPAS Grade 6 Speaking  
Frequency Distribution of Scale Scores  
Online Students**



*Notes:*

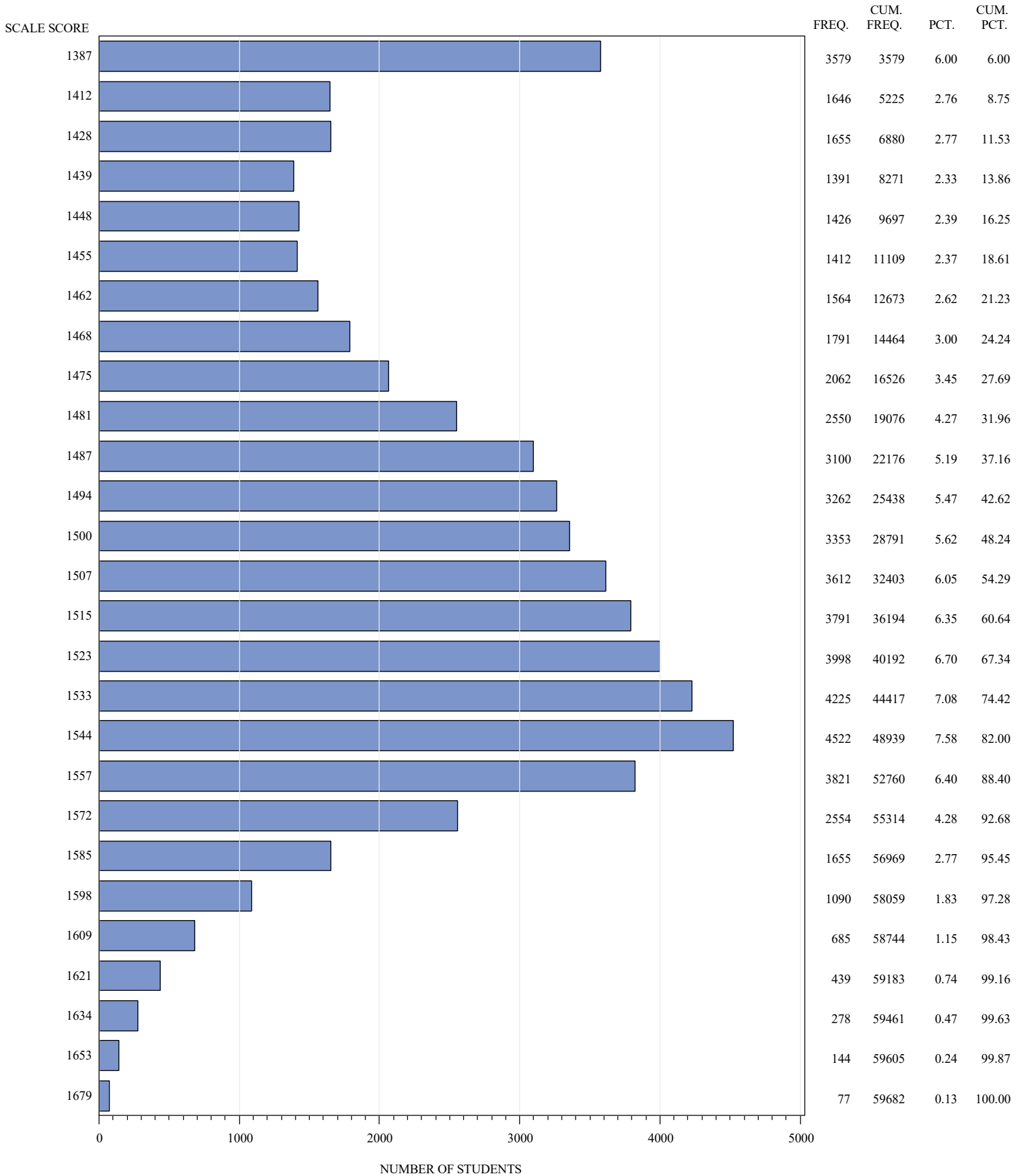
Students who took the speaking holistic rating version of the test are not included in the frequency distribution tables.

**Figure D.5.28 2021 TELPAS Grade 7 Speaking  
Frequency Distribution of Scale Scores  
Online Students**



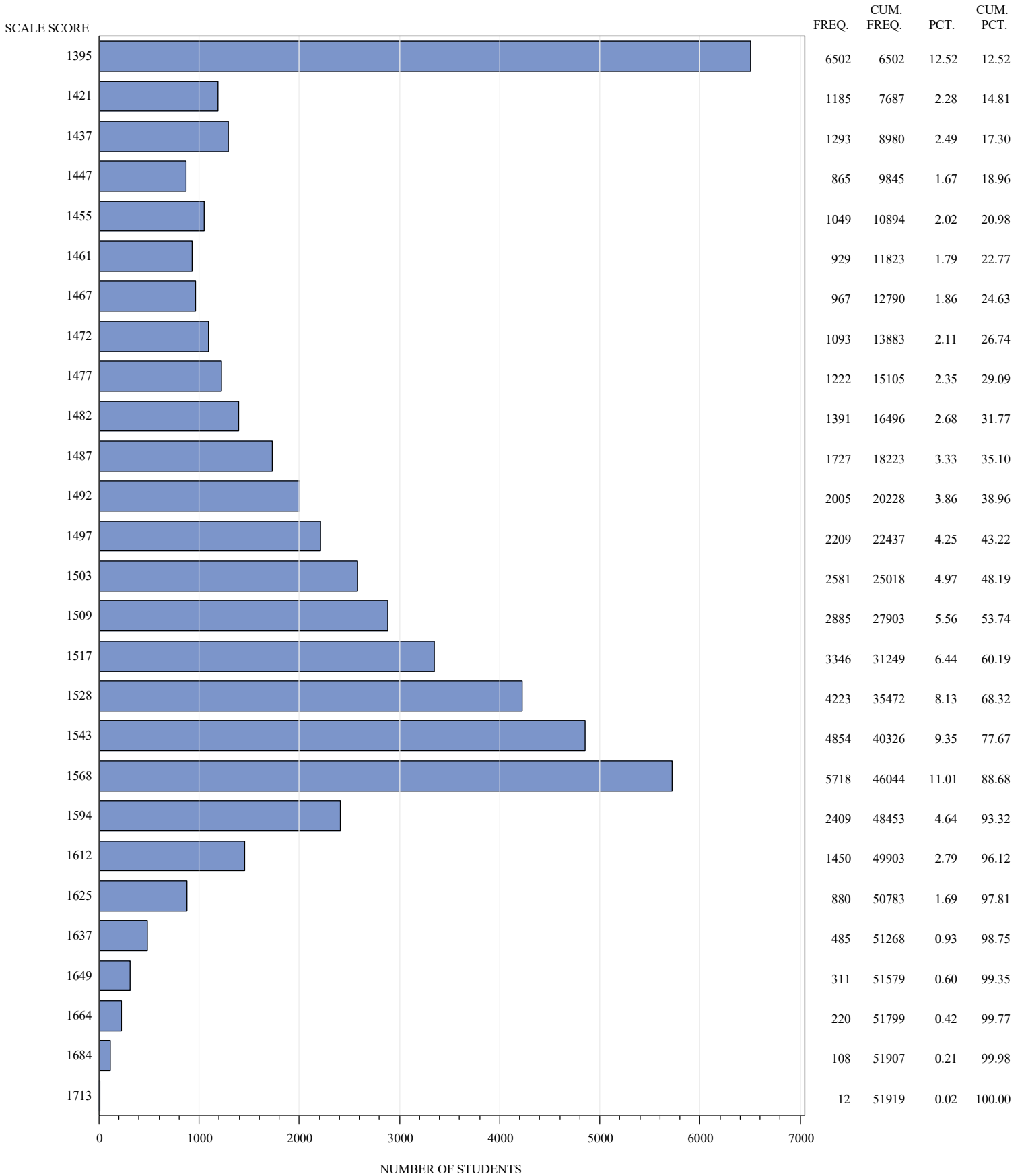
*Notes:*  
Students who took the speaking holistic rating version of the test are not included in the frequency distribution tables.

**Figure D.5.29 2021 TELPAS Grade 8 Speaking  
Frequency Distribution of Scale Scores  
Online Students**



*Notes:*  
Students who took the speaking holistic rating version of the test are not included in the frequency distribution tables.

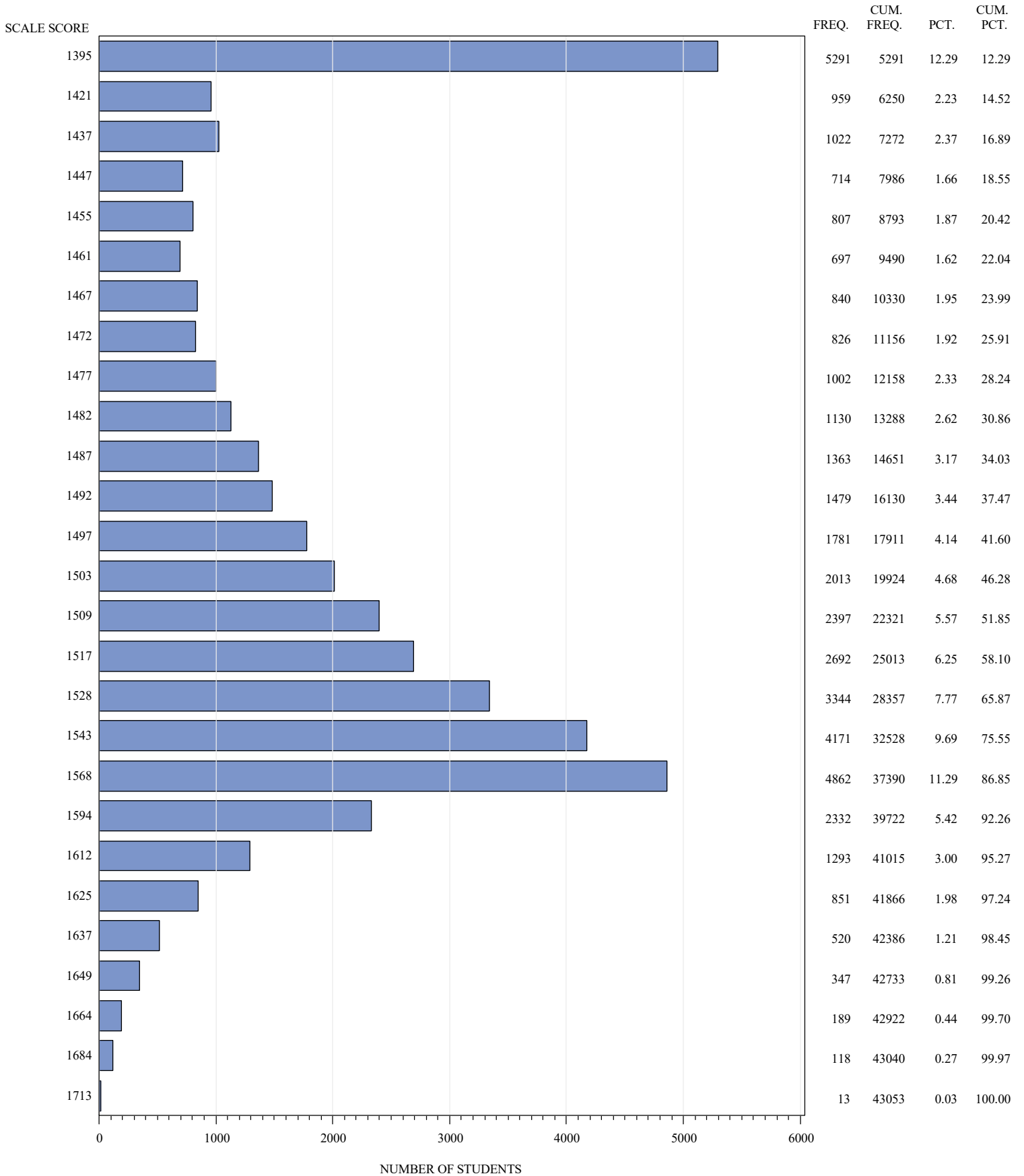
**Figure D.5.30 2021 TELPAS Grade 9 Speaking  
Frequency Distribution of Scale Scores  
Online Students**



*Notes:*

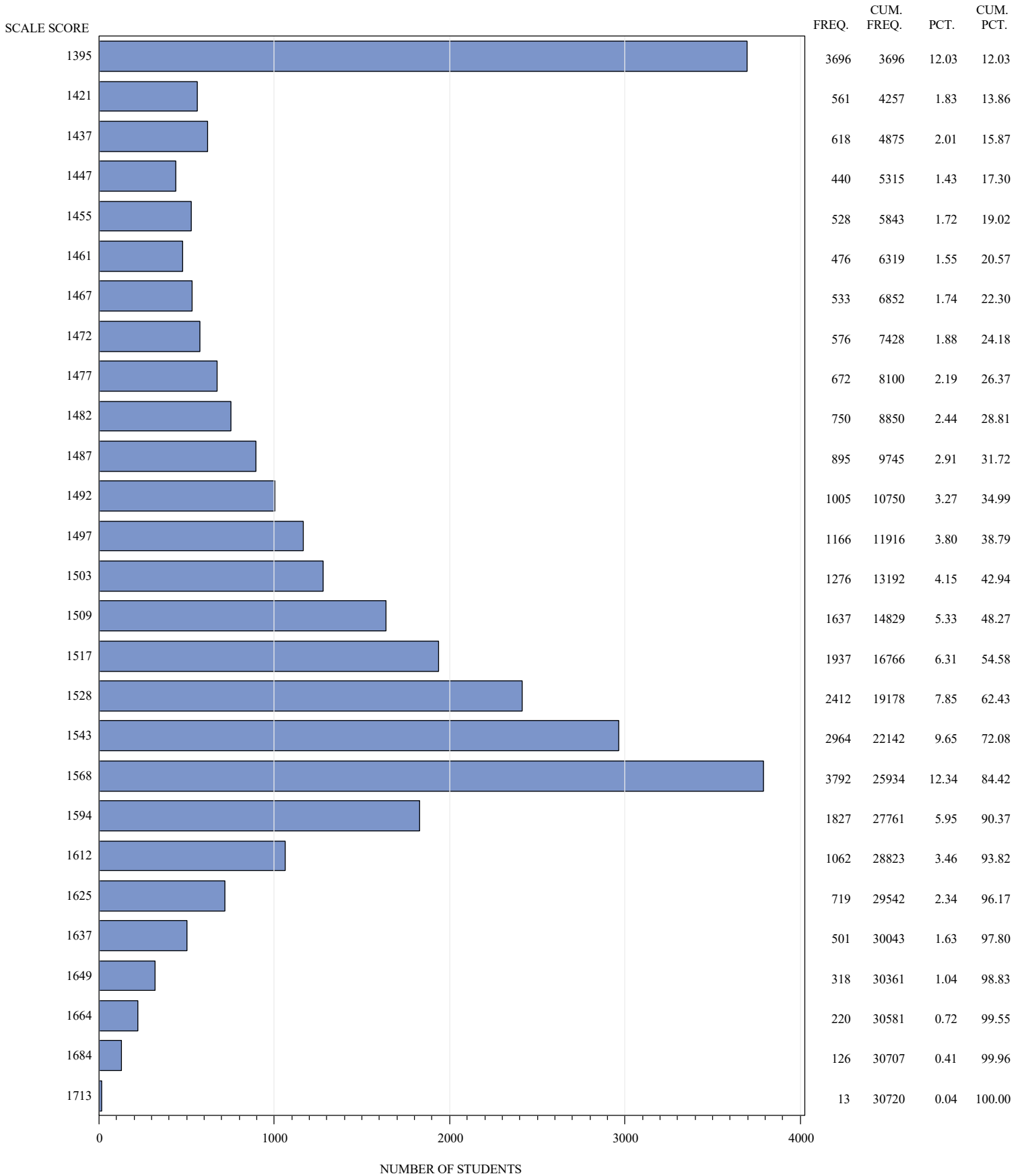
Students who took the speaking holistic rating version of the test are not included in the frequency distribution tables.

**Figure D.5.31 2021 TELPAS Grade 10 Speaking  
Frequency Distribution of Scale Scores  
Online Students**



*Notes:*  
Students who took the speaking holistic rating version of the test are not included in the frequency distribution tables.

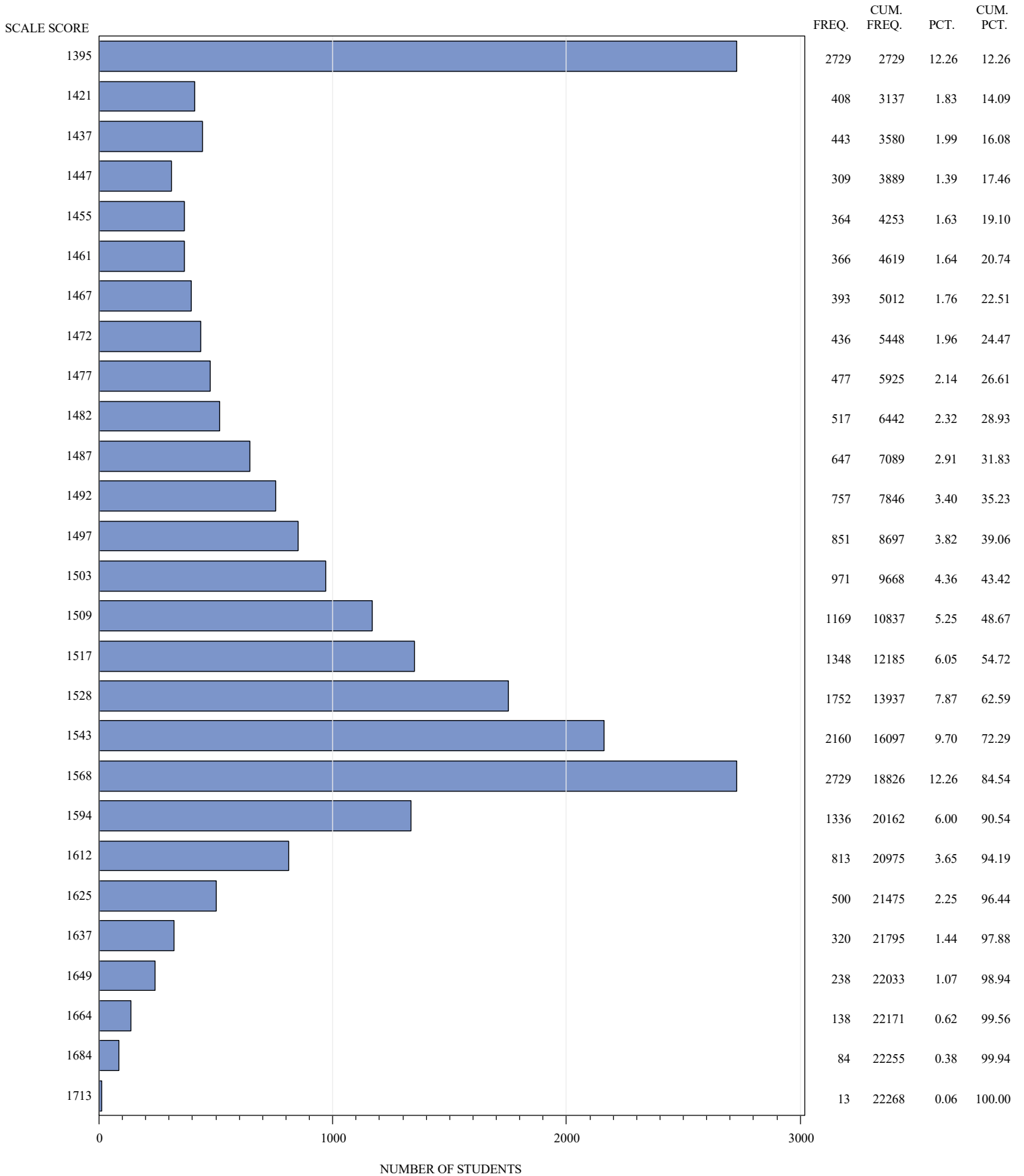
**Figure D.5.32 2021 TELPAS Grade 11 Speaking  
Frequency Distribution of Scale Scores  
Online Students**



*Notes:*  
Students who took the speaking holistic rating version of the test are not included in the frequency distribution tables.



**Figure D.5.33 2021 TELPAS Grade 12 Speaking  
Frequency Distribution of Scale Scores  
Online Students**



*Notes:*  
Students who took the speaking holistic rating version of the test are not included in the frequency distribution tables.