

ATB TEST SCORE INTERPRETATION

Minimum ATB Passing Scores

The ATB minimum scores for the WBST shown below have been prescribed by the U.S. Department of Education. These minimum scores apply to all ATB educational training programs.

ATB MINIMUM SCORES FOR THE WBST	
Verbal Skills	Quantitative Skills
200	210

ATB applicants who take the WBST must achieve a verbal score of no less than 200 and a quantitative score of no less than 210 in the *same* test administration to qualify for Title IV Federal financial assistance. If an applicant achieves the minimum ATB passing scores for both the verbal and quantitative sections of the WBST in the same test administration, the word "PASS" will appear in the "Ability-to-Benefit Status" box, on the *WBST Individual ATB Score Report*. If the applicant does not achieve the minimum ATB passing scores for both test sections, or if the applicant was not administered both sections, the words "NO PASS" will appear in this box. Under no circumstances may an applicant qualify for Title IV Federal financial assistance on the basis of verbal and quantitative scores from separate administrations of the WBST. Only test scores appearing on the *WBST Individual ATB Score Report* provided by the Wonderlic Education Solutions Department may be used for ATB qualification. All score reports must be filed in the applicant's permanent record folder.

Individual ATB Score Report Interpretation Guide

The *WBST Individual ATB Score Report* is divided into the four sections described below:

1. *Applicant Information Section* - This section of the report presents all relevant applicant information including the school and program to which the applicant is applying, and the ITA who conducted the administration.
2. *Test Scores Graph* - This section reports an applicant's official WBST verbal and quantitative ATB scores on a scale of 0 to 500. These scores are presented at the base of each column in two different boxes labeled "Official Verbal Score" and "Official Quantitative Score." When either score is the result of a retest or untimed administration, the words "Retest" and/or "Untimed" will appear directly below the corresponding score. The bar graphs display the applicant's test scores in relation to the verbal and quantitative ATB minimum scores.
3. *Ability-to-Benefit Status Box* - This section of the report indicates whether an applicant has passed *both* the verbal and quantitative section of the WBST for ATB purposes. To pass the WBST for ATB purposes, an applicant must achieve a verbal score of no less than 200 and a quantitative score of no less than 210 in the same administration. If an applicant achieves the minimum ATB passing scores for *both* the verbal and quantitative test sections, the word "PASS" will appear in this box. If the applicant does not achieve the minimum ATB passing scores for *both* test sections, or if the applicant was not administered both sections, the words "NO PASS" will appear in this box.
4. *Grade Level Score Chart* - This section of the report provides a grade level equivalency score derived from a comparison of median student test scores from each grade as discussed in the "Grade Level Equivalency" section of this manual. The grade level score provides a more familiar measure of an applicant's overall level of basic skills, but may not be used for ATB purposes.

Grade Level Equivalency

WBST scores can be interpreted in terms of grade level equivalency to provide a more familiar and generalized scale for measuring an applicant's overall level of basic skills. The median or average test scores of students in school are commonly used to establish *grade-equivalent* or *grade level scores* (Peterson, Kolen, & Hoover, 1989). A grade level score indicates the school year in which students typically achieve a given test score. For example, if a student achieves a grade level score of 9.5 on the WBST, he or she has demonstrated a level of basic skills proficiency which is typical of students who are tested in the middle of 9th grade.

The grade level sample includes 14,531 test scores representing 7,688 students from 170 reporting organizations across 41 states. As shown in Table 2, this sample is comprised of an approximately equal proportion of males and females and represents a broad range of cultural backgrounds. Participating students had completed varying levels of education ranging from 6th grade through 4 years of college or postsecondary school at the time they were tested. These students were tested with the WBST as part of career and educational assessments, summer job training programs and standard employment application processes. While this normative group is not a complete national sample, it provides a sound basis for establishing grade level equivalency.

For the purposes of establishing grade level scores, the normative group for each grade includes only those students who are of the appropriate age for that grade level and who have successfully completed the previous grade. For example, the 9th grade normative group is comprised of individuals who are 14 or 15 years of age and who have reported completing eight years of education.

When test scores are normally distributed, group median and average scores will be similar. However, average test scores are more influenced by extreme scoring individuals, whereas median test scores provide a more accurate representation of the skills which have been demonstrated by the majority of a particular group. Therefore, WBST grade level scores are based on a linear regression of the median test scores of students who have completed from six to 16 years of education.

Figures 5 and 6 report verbal and quantitative WBST normative information by grade level. These figures graphically present median and average test scores for each grade. While the WBST does not measure skills generally associated with college level curriculum, these figures demonstrate the successive score gains observed at every level of education from 6th grade through four years of postsecondary school. This provides empirical evidence that students continue to improve their proficiency with the basic skills measured by the WBST throughout both high school and college.

Figure 7 reports WBST skills composite information by grade level. An applicant's skills composite is the simple arithmetic average of his or her verbal and quantitative scores. The grade level score reported on the *WBST Individual ATB Score Report* is based on the skills composite. This grade level score provides the best estimate of an applicant's overall basic skills proficiency in terms of grade level equivalency.

Table 2: Demographic Frequencies of WBST Grade Level Normative Group

RACE	GENDER						ALL	
	MALE		FEMALE		UNKNOWN		N	%
	N	%	N	%	N	%		
White	2,735	68.0	2,324	64.9	28	34.6	5,087	66.2
Black/African American	541	13.4	561	15.7	5	6.2	1,107	14.4
Hispanic	338	8.4	373	10.4	6	7.4	717	9.3
Latino/Mexican	84	2.1	85	2.4	0	0.0	169	2.2
Native American	29	0.7	22	0.6	1	1.2	52	0.7
Indo-Chinese	8	0.2	0	0.0	0	0.0	8	0.1
Japanese, Korean	5	0.1	5	0.1	0	0.0	10	0.1
Southeast Asian	13	0.3	15	0.4	2	2.5	30	0.4
Pacific Islander	6	0.2	5	0.1	0	0.0	11	0.1
Other	56	1.4	52	1.5	1	1.2	109	1.4
Unknown	210	5.2	140	3.9	38	46.9	388	5.1
All	4,025	52.4	3,582	46.6	81	1.1	7,688	100.0

Table 3 presents the WBST verbal, quantitative and composite grade-equivalent score ranges for 6th grade through college. However, WBST test content measures basic skills generally not associated with college level curriculum. Grade-equivalent scores beyond the 12th grade indicate that an applicant’s basic skills proficiency is comparable to that of students in college, but these scores do not necessarily indicate that the applicant is proficient with college level skills. For this reason, grade level scores beyond the 12th grade are not specified on the *WBST Individual ATB Score Report*.

Table 3: WBST Grade Equivalent Scores

YEAR IN SCHOOL		VERBAL	QUANTITATIVE	COMPOSITE
Middle School	6th Grade*	193-210	214-226	207-221
	7th Grade	211-229	227-240	222-237
	8th Grade	230-247	241-253	238-253
High School	9th Grade	248-266	254-266	254-268
	10th Grade	267-284	267-280	269-284
	11th Grade	285-302	281-293	285-300
	12th Grade	303-321	294-313	301-315
College/ Postsecondary School	1st Year	322-339	314-320	316-331
	2nd Year	340-358	321-333	332-347
	3rd Year	359-376	334-346	348-362
	4th Year	377-395	347-360	363-378

* Extrapolated from linear regression - 6th Grade test data is not yet available.

TECHNICAL INFORMATION

ATB Minimum Score Determination

The ATB minimum scores for both the verbal and quantitative sections of the WBST have been prescribed by the U.S. Department of Education in accordance with the following regulations:

"...to demonstrate that a test taker has the ability to benefit from the education and training offered, the Secretary specifies that the passing score on each approved test is one standard deviation below the mean for students with high school diplomas who have taken the test within three years before the date on which the test is submitted to the Secretary for approval." (U.S. DOE, Dec. 1, 1995, Fed. Reg., §668.147)

In addition, the normative sample should be made up of:

"...a contemporary population representative of persons who are beyond the usual age of compulsory school attendance in the United States." (U.S. DOE, Dec. 1, 1995, Fed. Reg., §668.144)

In accordance with these regulations, Wonderlic has selected an ATB normative sample which includes students who have a high school diploma, who have completed exactly 12 years of education, and who are 16 to 29 years of age, for the Secretary's use in prescribing the appropriate minimum scores. The appropriate age group selected for this sample has been identified based on the vast majority of a contemporary student population representing 350,896 test administrations in the Wonderlic historical ATB database for the Scholastic Level Exam (SLE). The ATB normative sample includes 4,790 test scores representing 3,706 students from 210 reporting organizations across 42 states. As shown in Table 4, this sample is comprised of an approximately equal proportion of males and females and represents a broad range of cultural backgrounds.

As described in the "Test Development" section of this manual, all forms of the same test section, either verbal or quantitative, have been developed on a common metric using item response theory. Therefore, scores achieved on different verbal or quantitative test forms are directly comparable. Tables 5 and 6 present score distributions for the ATB normative sample. As shown in the tables, distributions for the individual forms of the same section demonstrate no statistically significant differences in mean and standard deviation. Based on the combined score distributions in Tables 5 and 6, the Secretary has prescribed a minimum verbal score of 200 and a minimum quantitative score of 210 for ATB determination. These scores represent one standard deviation below the average score - or approximately the 16th percentile - of all students in the Wonderlic ATB normative sample.

Table 4: Demographic Frequencies of WBST ATB Normative Group - High School Graduates, 16-29 Years of Age

RACE	GENDER						ALL	
	MALE		FEMALE		UNKNOWN		N	%
	N	%	N	%	N	%		
White	1,128	58.1	897	51.8	8	24.2	2,033	66.2
Black/African American	345	17.8	393	22.7	3	9.1	741	14.4
Hispanic	239	12.3	252	14.5	2	6.1	493	9.3
Latino/Mexican	99	5.1	89	5.1	1	3.0	189	2.2
Native American	5	0.3	26	1.5	0	0.0	31	0.7
Indo-Chinese	2	0.1	0	0.0	0	0.0	2	0.1
Japanese, Korean	5	0.3	3	0.2	0	0.0	8	0.1
Southeast Asian	23	1.2	8	0.5	2	6.1	33	0.4
Pacific Islander	5	0.3	0	0.0	0	0.0	5	0.1
Other	33	1.7	22	1.3	0	0.0	55	1.4
Unknown	56	2.9	43	2.5	17	51.5	116	5.1
All	1,940	52.4	1,733	46.8	33	0.9	3,706	100.0

Table 5: Distribution of WBST Verbal Scores, ATB Normative Group - High School Graduates, 16-29 Years of Age

Test Score	FORM VS-1			FORMVS-2			COMBINED		
	N	%	Cum.%	N	%	Cum.%	N	%	Cum.%
0	25	1.3	1.3	22	1.5	1.5	47	1.4	1.4
10	3	0.2	1.4	1	0.1	1.5	4	0.1	1.5
20	2	0.1	1.5	2	0.1	1.7	4	0.1	1.6
30	3	0.2	1.7	4	0.3	2.0	7	0.2	1.8
40	2	0.1	1.8	2	0.1	2.1	4	0.1	1.9
50	5	0.3	2.0	5	0.3	2.4	10	0.3	2.2
60	8	0.4	2.4	5	0.3	2.8	13	0.4	2.6
70	6	0.3	2.8	2	0.1	2.9	8	0.2	2.8
80	13	0.7	3.4	4	0.3	3.2	17	0.5	3.3
90	12	0.6	4.0	8	0.5	3.7	20	0.6	3.9
100	13	0.7	4.7	3	0.2	3.9	16	0.5	4.4
110	15	0.8	5.5	9	0.6	4.5	24	0.7	5.0
120	15	0.8	6.2	17	1.1	5.7	32	0.9	6.0
130	13	0.7	6.9	15	1.0	6.7	28	0.8	6.8
140	22	1.1	8.0	13	0.9	7.5	35	1.0	7.8
150	25	1.3	9.3	15	1.0	8.5	40	1.2	9.0
160	24	1.2	10.5	19	1.3	9.8	43	1.2	10.2
170	32	1.6	12.1	19	1.3	11.1	51	1.5	11.7
180	29	1.5	13.6	31	2.1	13.2	60	1.7	13.4
190	29	1.5	15.1	35	2.4	15.5	64	1.9	15.3
200	48	2.4	17.5	21	1.4	17.0	69	2.0	17.3
210	28	1.4	19.0	32	2.2	19.1	60	1.7	19.0
220	30	1.5	20.5	37	2.5	21.6	67	1.9	21.0
230	41	2.1	22.6	30	2.0	23.6	71	2.1	23.0
240	45	2.3	24.9	39	2.6	26.2	84	2.4	25.5
250	45	2.3	27.2	37	2.5	28.7	82	2.4	27.9
260	55	2.8	30.0	36	2.4	31.2	91	2.6	30.5
270	56	2.9	32.8	45	3.0	34.2	101	2.9	33.4
280	60	3.1	35.9	52	3.5	37.7	112	3.2	36.7
290	66	3.4	39.3	59	4.0	41.7	125	3.6	40.3
300	86	4.4	43.7	62	4.2	45.8	148	4.3	44.6
310	67	3.4	47.1	57	3.8	49.7	124	3.6	48.2
320	90	4.6	51.7	47	3.2	52.8	137	4.0	52.2
330	75	3.8	55.5	47	3.2	56.0	122	3.5	55.7
340	78	4.0	59.5	47	3.2	59.2	125	3.6	59.3
350	84	4.3	63.7	50	3.4	62.5	134	3.9	63.2
360	61	3.1	66.9	47	3.2	65.7	108	3.1	66.3
370	69	3.5	70.4	52	3.5	69.2	121	3.5	69.9
380	53	2.7	73.1	42	2.8	72.0	95	2.8	72.6
390	59	3.0	76.1	47	3.2	75.2	106	3.1	75.7
400	52	2.7	78.7	41	2.8	77.9	93	2.7	78.4
410	49	2.5	81.2	37	2.5	80.4	86	2.5	80.9
420	68	3.5	84.7	36	2.4	82.8	104	3.0	83.9
430	48	2.4	87.1	32	2.2	85.0	80	2.3	86.2
440	47	2.4	89.5	32	2.2	87.1	79	2.3	88.5
450	35	1.8	91.3	36	2.4	89.6	71	2.1	90.6
460	28	1.4	92.8	18	1.2	90.8	46	1.3	91.9
470	24	1.2	94.0	16	1.1	91.9	40	1.2	93.1
480	8	0.4	94.4	21	1.4	93.3	29	0.8	93.9
490	22	1.1	95.5	12	0.8	94.1	34	1.0	94.9
500	88	4.5	100.0	88	5.9	100.0	176	5.1	100.0

ATB Minimum Score = 200

Medians in black bars	Total	1961	Total	1486	Total	3447
Quartiles in white bars	Average	310**	Average	310**	Average	310**
	St. Dev.	110*	St. Dev.	113*	St. Dev.	111*
	Median	320	Median	315	Median	320
	Interquartile Range	250-390	Interquartile Range	240-390	Interquartile Range	240-390

* Variance of VS-1 and VS-2 show no significant difference (H_0 : variance are equal, $F=1.04$, $DF=(1485, 1960)$, $Prob > F=.3832$)
 ** Means of VS-1 and VS-2 show no significant difference (H_0 : means are equal, $T=-.2302$, $DF=(1485, 1960)$, $Prob > ITI=.8179$)

Table 6: Distribution of WBST Quantitative Scores, ATB Normative Group - High School Graduates, 16-29 Years of Age

Test Score	FORM VS-1			FORMVS-2			COMBINED		
	N	%	Cum.%	N	%	Cum.%	N	%	Cum.%
0	2	0.2	0.2	1	0.2	0.2	3	0.2	0.2
10	.	.	0.2	.	.	0.2	.	.	0.2
20	.	.	0.2	.	.	0.2	.	.	0.2
30	1	0.1	0.4	.	.	0.2	1	0.1	0.3
40	1	0.1	0.5	.	.	0.2	1	0.1	0.4
50	.	.	0.5	.	.	0.2	.	.	0.4
60	2	0.2	0.7	1	0.2	0.4	3	0.2	0.6
70	2	0.2	1.0	.	.	0.4	2	0.1	0.7
80	3	0.4	1.4	1	0.2	0.6	4	0.3	1.0
90	.	.	1.4	.	.	0.6	.	3	1.0
100	3	0.4	1.7	1	0.2	0.8	4	0.3	1.3
110	2	0.2	2.0	1	0.2	0.9	3	0.2	1.6
120	6	0.7	2.7	1	0.2	1.1	7	0.5	2.1
130	10	1.2	3.9	6	1.1	2.3	16	1.2	3.3
140	8	1.0	4.9	6	1.1	3.4	14	1.0	4.3
150	4	0.5	5.4	4	0.8	4.1	8	0.6	4.9
160	12	1.5	6.9	7	1.3	5.5	19	1.4	6.3
170	14	1.7	8.6	3	0.6	6.0	17	1.3	7.6
180	15	1.8	10.5	10	1.9	7.9	25	1.9	9.5
190	9	1.1	11.6	15	2.8	10.7	24	1.8	11.2
200	18	2.2	13.8	19	3.6	14.3	37	2.8	14.0
210	17	2.1	15.9	15	2.8	17.1	32	2.4	16.4
220	20	2.5	18.4	19	3.6	20.7	39	2.9	19.3
230	20	2.5	20.8	17	3.2	23.9	37	2.8	22.0
240	22	2.7	23.6	21	3.9	27.8	43	3.2	25.2
250	35	4.3	27.9	18	3.4	31.2	53	3.9	29.2
260	28	3.5	31.3	37	7.0	38.2	65	4.8	34.0
270	33	4.1	35.4	35	6.6	44.7	68	5.1	39.1
280	48	5.9	41.3	33	6.2	50.9	81	6.0	45.1
290	57	7.0	48.3	35	6.6	57.5	92	6.9	52.0
300	60	7.4	55.7	29	5.5	63.0	89		58.6
310	60	7.4	63.1	23	4.3	67.3	83	6.2	64.8
320	43	5.3	68.4	17	3.2	70.5	60	4.5	69.2
330	47	5.8	74.2	18	3.4	73.9	65	4.8	74.1
340	32	3.9	78.2	20	3.8	77.6	52	3.9	78.0
350	36	4.4	82.6	13	2.4	80.1	49	3.6	81.6
360	32	3.9	86.6	11	2.1	82.1	43	3.2	84.8
370	20	2.5	89.0	17	3.2	85.3	37	2.8	87.6
380	15	1.8	90.9	10	1.9	87.2	25	1.9	89.4
390	15	1.8	92.7	11	2.1	89.3	26	1.9	91.4
400	4	0.5	93.2	8	1.5	90.8	12	0.9	92.3
410	13	1.6	94.8	10	1.9	92.7	23	1.7	94.0
420	10	1.2	96.1	10	1.9	94.5	201	1.5	95.5
430	6	0.7	96.8	9	1.7	96.2	5	1.1	96.6
440	10	1.2	98.0	5	0.9	97.2	15	1.1	97.7
450	5	0.6	98.6	5	0.9	98.1	10	0.7	98.4
460	5	0.6	99.3	3	0.6	98.7	8	0.6	99.0
470	1	0.1	99.4	4	0.8	99.4	5	0.4	99.4
480	2	0.2	99.6	.	.	99.4	2	0.1	99.6
490	.	.	99.6	.	.	99.4	.	.	99.6
500	3	0.4	100.0	3	0.6	100.0	6	0.4	100.0

ATB Minimum Score = 210

Medians in black bars	Total	811	Total	532	Total	1343
Quartiles in white bars	Average	288**	Average	286**	Average	287**
	St. Dev.	78*	St. Dev.	79*	St. Dev.	78*
	Median	300	Median	280	Median	290
	Interquartile Range	250-340	Interquartile Range	240-340	Interquartile Range	240-340

* Variance of QS-1 and QS-2 show no significant difference (H_0 : variance are equal, $F=1.02$, $DF=(531, 810)$, $Prob > F=.7922$)

** Means of QS-1 and QS-2 show no significant difference (H_0 : means are equal, $T=.3961$, $DF=(531, 810)$, $Prob > |TI|= .6921$)