unit 2

Universal Nonverbal Intelligence Test

Second Edition

Bruce A. Bracken • *R. Steve McCallum*

Online Scoring and
Report System
User's Guide

Online Scoring and Report System User's Guide

Introduction to the UNIT2 Online Scoring and Report System

The *Universal Nonverbal Intelligence Test–Second Edition* (UNIT2; Bracken & McCallum, 2016) assesses general intelligence (*g*) and three foundational cognitive abilities (i.e., memory, fluid reasoning, and quantitative reasoning) in all individuals aged 5 through 21 years. The UNIT2 is a revision of the *Universal Nonverbal Intelligence Test* (UNIT; Bracken & McCallum, 1998); it yields four scales that were designed to measure these four basic psychological processes.

The UNIT2 subtests can be combined to form four batteries: an Abbreviated Battery (2 subtests), a Standard Battery With Memory (4 subtests), a Standard Battery Without Memory (4 subtests), and a Full Scale Battery (6 subtests). Each subtest yields a scaled score with a mean of 10 and a standard deviation of 3. The subtest scaled scores within each battery are combined to yield an index score with a mean of 100 and a standard deviation of 15.

The test is described completely in the UNIT2 Examiner's Manual. You should read that manual carefully before using this software. The information provided in this User's Guide describes the purposes of the *UNIT2 Online Scoring and Report System* and goes through the steps involved in using this software.

Purposes of the UNIT2 Online Scoring and Report System

The *UNIT2 Online Scoring and Report System* was designed as a quick, efficient tool for (a) converting UNIT2 subtest item scores or total raw scores into scaled scores; (b) generating composite index scores, percentile ranks, and upper and lower confidence intervals; (c) comparing UNIT2 performances to identify significant intraindividual differences; and (d) obtaining a narrative report or a completed first three pages of the UNIT2 Record Form and graphs of results.

Converting Subtest Raw Scores Into Scaled Scores

The *UNIT2 Online Scoring and Report System* converts either individual item scores or subtest raw scores to standard scores having a mean of 10 and a standard deviation of 3. The software will automatically apply the appropriate start and discontinue rules and calculate the subtest raw score. The software will search for a correct entry item or three consecutive checkpoint items awarded credit and will assign a score of 1 to all items below these items. Similarly, the software will search for the three consecutive items that were awarded zero credit and will automatically assign a score of 0 to any administered items above these items.

Generating Composite Index Scores

The subtest scaled scores are automatically combined to generate the composite index scores for the four UNIT2 batteries. All of the composite scores have a mean of 100 and a standard deviation of 15.

Composite and Subtest Comparisons

The student's performance on the subtests and composites can be compared to determine if a difference is statistically significant and if a significant difference is a strength or weakness. The software automatically compares individual scores against each other and the mean and indicates the difference value, level of significance, strength or weakness, and percentage of the normative sample that had a difference that large. For more detailed information, you are encouraged to read the Steps for Interpreting UNIT2 Results on page 75 of the UNIT2 Examiner's Manual.

Using the UNIT2 Online Scoring and Report System

This section will discuss how to use the *UNIT2 Online Scoring and Report System*. This information includes a discussion of (a) initial setup procedures, including how to enter examiners; (b) how to enter examinee identifying information; (c) how to enter item or total scores; (d) how to view scores and score comparisons; and (e) how to generate and print reports.

Initial Setup

The first time you navigate to the *UNIT2 Online Scoring and Report System*, you will be required to accept the UNIT2 End User License Agreement (see Figure 1). Do this by clicking the link below the license window. You will then be taken to the UNIT2 log-in screen (see Figure 2).
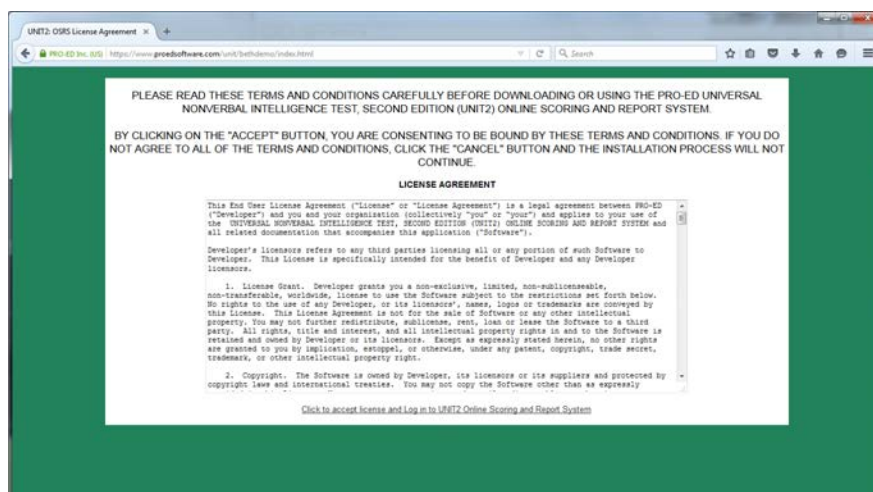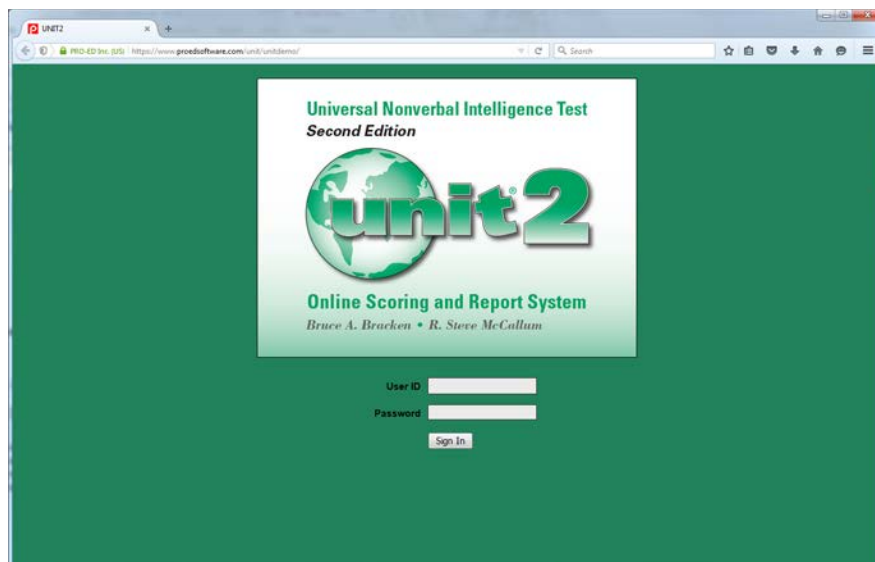

Figure 1

Figure 2

A temporary user name and password are provided to you when you purchase the software. Enter your temporary user name, and then select Sign In. You will then be taken to the UNIT2 Examinee Selection screen (see Figure 3).
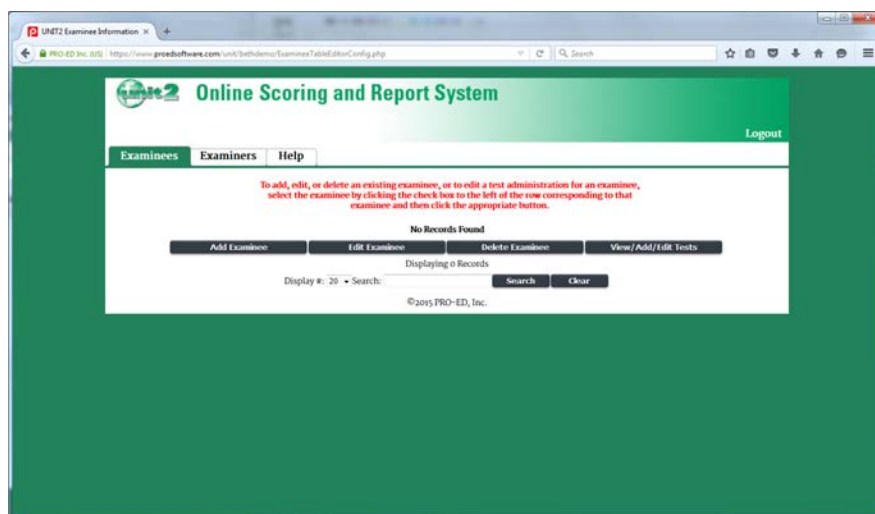

Figure 3

The Examinee Selection screen allows you several navigation choices. You can add or edit an examinee's information, add or edit an examiner's information, view the User's Guide or End User License Agreement, or log out. You can choose an action from any one of the menus that appear across the top of the screen.

Before using the UNIT2 software, update your examiner information by clicking on the Examiners menu. This will take you to the Examiner Information screen (see Figure 4). To edit the Temp User profile, click on the check box adjacent to the row for Temp User and then click the Edit Examiner button. The Temp User information will now be editable (see Figure 5). When you have updated the administrator/primary examiner information, click the Update button to save your information or the Cancel button to cancel your changes. **NOTE**: For security reasons, you should always replace the temporary user name and password that were set up for initial log in with a permanent user name and secure password. Once you enter and save a user name and password, the password will appear encrypted when returning to edit the examiner. To change the password, simply replace the encrypted text with the password of your choosing and click the Update icon. If you forget your password, any individual with administrator access to this licensed version of the software can log in and change the password for you.
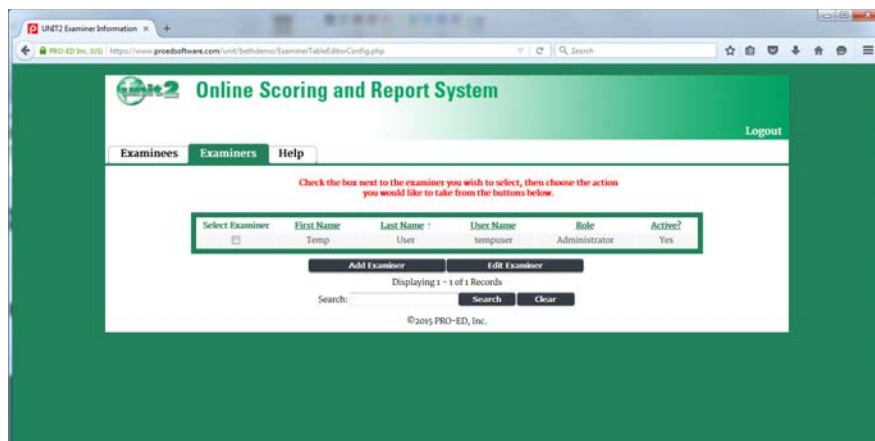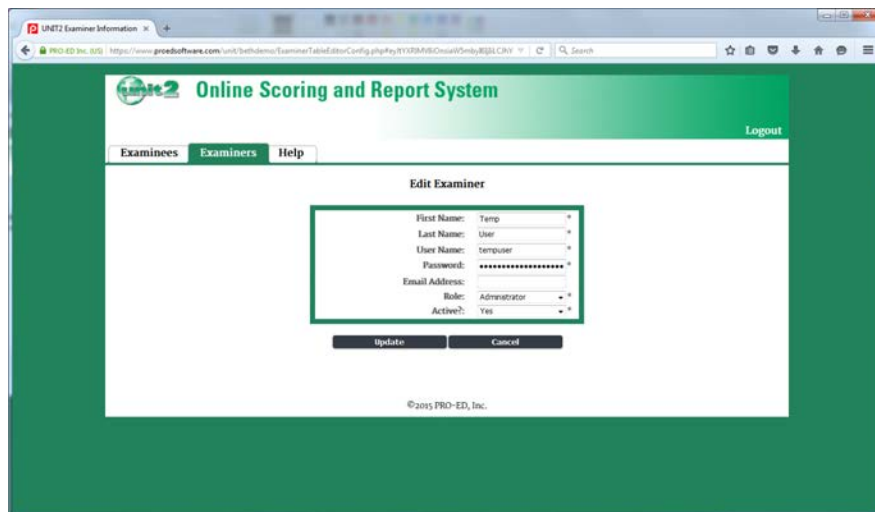
Figure 4

Figure 5

Your next step will be to designate examiners and the level of access each examiner may have. Level of access is set by assigning a role to an examiner. Two role types—administrator and examiner—are available in the system. An administrator has the ability to add examinees and test administrations, add examiners or make examiners inactive, and change the password for any examiner in the system. An examiner can add examinees and test administrations, and can change his or her own password. You should set up at least one examiner to be an administrator, but you can have more than one administrator. By default, the Temp User account is granted administrator rights.

Your base software includes a license for up to five users (you may purchase additional user licenses at www.proedinc.com or from your preferred UNIT2 distributor). Each user should have a unique user name and password and unique user information. You can have as many administrators or examiners as you have licensed users, but you should always have at least one administrator. To add additional administrators/examiners, simply complete the blank fields at the top of the columns and click on the Add Examiner button to save your changes. If you need to remove an examiner later, simply select the examiner by clicking the check box adjacent to his or her name, click Edit Examiner, set the examiner's account to inactive by using the pull-down menu under the column titled "Active?," and click the Update button. Inactive user information will appear in red text.

Adding, Editing, and Viewing Examinees

In the *UNIT2 Online Scoring and Report System*, you need enter an examinee only one time. Once an examinee is in the system, additional UNIT2 results can be entered by selecting the examinee from the existing examinee list, then clicking the View/Add/Edit Tests button.

To enter a new examinee, click the Add Examinee button, enter the requested information, and click the Add button. This will take you to a new test administration for this examinee (see Figure 6).

Figure 6

Before you enter any test scores, the date of testing must be entered. To do this, simply click on the calendar icon and select the month, year, and day of testing. The software will automatically save the test date and calculate chronological age once you select a day of testing. If you need to edit the test date, simply click the calendar icon and repeat these steps.

Existing examinees can be sorted for easy searching on the Examinee Information Screen by clicking on the underlined header above any column. For example, by default the existing examinee list is sorted by last name. However, if you wish to sort the list by first name, simply click on the header link titled "First Name," and the program will sort the data by the examinees' first names in ascending (i.e., alphabetical) order. If you wish to sort in descending order (i.e., from Z to A), simply click the "First Name" header link a second time, and the list will be updated. The sorted field will display an arrow to the right of the field name. Existing examinees can be searched for by using the search field at the bottom of the list. If you wish to edit examinee information, select that existing examinee by clicking on the check box adjacent to the examinee's name; then click the Edit Examinee button.

Entering Performance Data

The *UNIT2 Online Scoring and Report System* allows you to enter either individual item scores or total raw scores. You can enter scores for a single subtest or as many subtests as desired. The software will calculate subtest scaled scores and composite scores where possible.

Subtest Total Scores. To enter subtest total scores, simply complete the blank Raw Score fields for the subtests that were administered. You can advance between fields by clicking the Tab button or the Enter button. The scaled scores and composite scores will automatically be calculated as you progress through data entry (see Figure 7). If you do not administer the Full Scale Battery of six subtests, simply leave blank the fields for the four subtests that were not given. Composite battery scores will be prorated if no data are entered for only one subtest and the Scores are Prorated check box is selected. Prorated scores appear in red.

Figure 7

Subtest Item Scores. To enter subtest item data, simply click on the subtest name in the Subtest Performance section or click the View/Enter menu and select the appropriate subtest (Figure 8). When you advance to the next subtest, the *UNIT2 Online Scoring and Report System* will automatically determine whether the start rule and discontinue rule have been met, fill in the appropriate missing data, and calculate a total raw score for each subtest. You will receive an error message if the start and discontinue rules are not met.

Figure 8

To advance to the next subtest, click the next page number at the top of the screen. These page numbers represent the actual page numbers found on the UNIT2 Examiner Record Form.

Viewing Scores and Subtest/Composite Comparisons

Once all item-level or subtest total score data have been entered, all available composites will be automatically calculated. To review the subtest and composite standard scores, percentile ranks, and confidence intervals, navigate to the Total Score screen by clicking the View/Enter menu and selecting Total Scores. Figure 9 illustrates a completed score example for Sally. To review the composite and subtest interpretive comparisons, click on the View/Enter menu and select Interpretive Comparisons (see Figure 10).

Figure 9

Figure 10

Generating Reports

The *UNIT2 Online Scoring and Report System* can generate a document that contains completed pages 1 through 3 of the UNIT2 Examiner Record Form and a multipage interpretive report of all scales available. To generate a report for printing or editing, click on the Print menu and select the type of document you want to generate (the UNIT2 Standard Score Report or Detailed Score Report) and what format you prefer for the report (MS Word or pdf). The following pages (see Figures 11 and 12) illustrate both reports for Sally.

Universal Nonverbal Intelligence Test–Second Edition

Examiner Record Form

Bruce A. Bracken R. Steve McCallum

Section 1. Identifying Information

Student's Name: Sally Sample
Sex: F   Grade: 4th
School: Universal Elementary
Examiner: Temp User

	Year	Month	Day
Date Tested	2015	12	04
Date of Birth	2005	12	04
Age	10	0	0

Section 2. Subtest Performance

Subtest	Raw Score	Scaled Score	Memory	Reasoning	Quantitative	Abbreviated Battery	Standard Battery w/ Memory	Standard Battery w/o Memory	Full Scale Battery
Symbolic Memory (SyM)	15	9	9				9		9
Nonsymbolic Quantity (NsQ)	15	8			8	8		8	8
Analogic Reasoning (AR)	20	8		8		8	8	8	8
Spatial Memory (SpM)	20	10	10				10		10
Numerical Series (NS)	25	12			12			12	12
Cube Design (CD)	20	8		8			8	8	8
Sum of Scaled Scores			19	16	20	16	35	36	55

Section 3. Composite Performance

Composite	Sum of Scaled Scores	Index Score	Percentile Rank	90% Conf. Interval Lower	90% Conf. Interval Upper	Descriptive Classification
Memory	19	97	42	91	104	Average
Reasoning	16	88	21	84	93	Below Average
Quantitative	20	100	50	96	104	Average
Abbreviated Battery	16	88	21	84	93	Below Average
Standard Battery w/ Memory	35	91	27	87	96	Average
Standard Battery w/o Memory	36	93	32	90	97	Average
Full Scale Battery	55	94	34	91	98	Average

Section 4. Descriptive Classifications

Scaled Score	1–3	4–5	6–7	8–12	13–14	15–16	17–20
Descriptive Terms	Very Delayed	Delayed	Below Average	Average	Above Average	Superior	Very Superior
Index Score	<70	70–79	80–89	90–109	110–119	120–129	>=130

Figure 11

figure continues

Section 5. Subtest and Composite Profiles

	Subtest Profile						Composite Profile						
	SyM	NsQ	AR	SpM	NS	CD	Memory	Reasoning	Quantitative	Standard Battery w/ Memory	Standard Battery w/o Memory	Full Scale Battery	

Subtest and Composite Profiles chart. Subtest scores plotted: SyM 9, NsQ 8, AR 8, SpM 10, NS 12, CD 8. Composite scores plotted: Memory ~9.5, Reasoning ~7.5, Quantitative 10, Standard Battery w/ Memory ~8, Standard Battery w/o Memory ~8.5, Full Scale Battery ~8.7. Right-side scale: 160, 145 (Very Superior), 130 (Superior), 115 (Above Average), 100 (Average), 85 (Below Average), 70 (Delayed), 55 (Very Delayed), 40.

Section 6. Interpretation of Construct-Specific Composite Performance

Composite	Index score
Memory	97
Reasoning	88
Quantitative	100

	Index score difference	Statistically different?	Normative frequency of the difference	Pattern of score discrepancies
Memory - Reasoning	9	Yes	54.5	MI > RI
Memory - Quantitative	-3	No	89.2	NS
Reasoning - Quantitative	-12	Yes	36.3	RI < QI
	Significance level .10			NS = nonsignificant

Page 2

Figure 11 *(continued)* *figure continues*

Section 7. Interpretation of Subtest Performance

Pairwise Subtest Comparisons

	Scaled score difference	Statistically different?	Normative frequency of the difference
Symbolic Memory - Spatial Memory	-1	No	88.0
Analogic Reasoning - Cube Design	0	No	100.0
Nonsymbolic Quantity - Numerical Series	-4	Yes	21.3
		Significance level .10	

Ipsative Subtest Comparisons Within the Standard and Extended Batteries

	Scaled score	Mean scaled score	Scaled score minus mean	Statistically different?	Normative frequency of the difference
Symbolic Memory	9		-0.2	No	97.5
Nonsymbolic Quantity	8		-1.2	No	56.8
Analogic Reasoning	8		-1.2	No	56.3
Spatial Memory	10	9.2	0.8	No	72.7
Numerical Series	12		2.8	Yes	13.4
Cube Design	8		-1.2	No	58.8
			Significance level .10		

Page 3

Figure 11 *(continued)*

Online Scoring and Report System: Interpretive Report

Bruce A. Bracken and R. Steve McCallum

Name: Sally Sample
Age: 10
Gender: Female
Date of Birth: 12-04-2005
Grade: 4th
School: Universal Elementary

*This computerized report is intended for use by qualified individuals. Additional information can be found in the UNIT2 Examiner's Manual.*

Figure 12   *figure continues*

UNIT2 Global Intelligence Battery Performance

The *Universal Nonverbal Intelligence Test–Second Edition* is composed of six subtests (Symbolic Memory, Nonsymbolic Quantity, Analogic Reasoning, Spatial Memory, Numerical Series, and Cube Design), which are combined to form four possible global intelligence composites (the Abbreviated Battery, Standard Battery With Memory, Standard Battery Without Memory, and the Full Scale Battery). This section will review Sally's scores on the global intelligence composites.
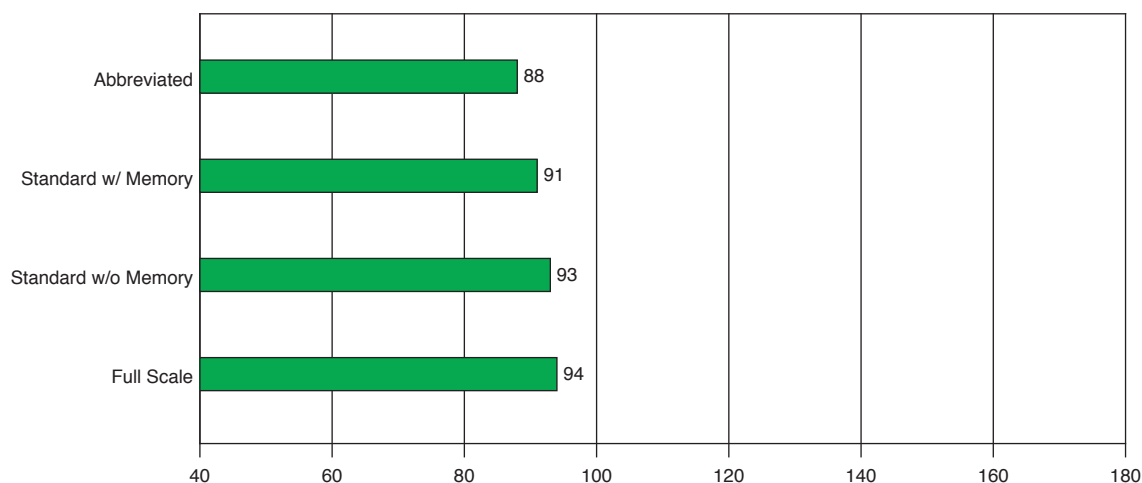
Abbreviated Battery (ABIQ)

The UNIT2 ABIQ is composed of the Nonsymbolic Quantity and Analogic Reasoning subtests, which together may be used as a screener of intellectual functioning. Sally earned an ABIQ of 88, which corresponds to a Below Average descriptive classification, and she is ranked at the 21st percentile. This means that her ABIQ performance is equal to or greater than 21% of the students her age in the standardization group. There is a 90% probability that Sally's true ABIQ exists within the range of scores between 84 and 93.

Standard Battery With Memory (SBIQ-M)

The UNIT2 SBIQ-M consists of the following four subtests: Symbolic Memory, Cube Design, Spatial Memory, and Analogic Reasoning. Sally earned a SBIQ-M of 91, which corresponds to an Average descriptive classification, and she is ranked at the 27th percentile. This means that her SBIQ-M performance is equal to or greater than 27% of the students her age in the standardization group. There is a 90% probability that Sally's true SBIQ-M exists within the range of scores between 87 and 96.

Standard Battery Without Memory (SBIQ)

The UNIT2 SBIQ consists of the following four subtests: Cube Design, Analogic Reasoning, Numerical Series, and Nonsymbolic Quantity. Sally earned a SBIQ of 93, which corresponds to an Average descriptive classification, and she is ranked at the 32nd percentile. This means that her SBIQ performance is equal to or greater than 32% of the students her age in the standardization group. There is a 90% probability that Sally's true SBIQ exists within the range of scores between 90 and 97.

Figure 12 *(continued)*   *figure continues*

Full Scale Battery (FSIQ)

The UNIT2 FSIQ is composed of all six subtests and is the most comprehensive, reliable, and valid composite available for the UNIT2. The FSIQ, therefore, is the best overall measure of general intelligence. Sally earned an FBIQ of 94, which corresponds to an Average descriptive classification, and she is ranked at the 34th percentile. This means that her FBIQ performance is equal to or greater than 34% of the students her age in the standardization group. There is a 90% probability that Sally's true FBIQ exists within the range of scores between 91 and 98.

UNIT2 Construct-Specific Composite Performance

The UNIT2 FSIQ comprises the three separate construct-specific composites: Memory, Reasoning, and Quantitative. The following sections review Sally's scores on these construct-specific composites.
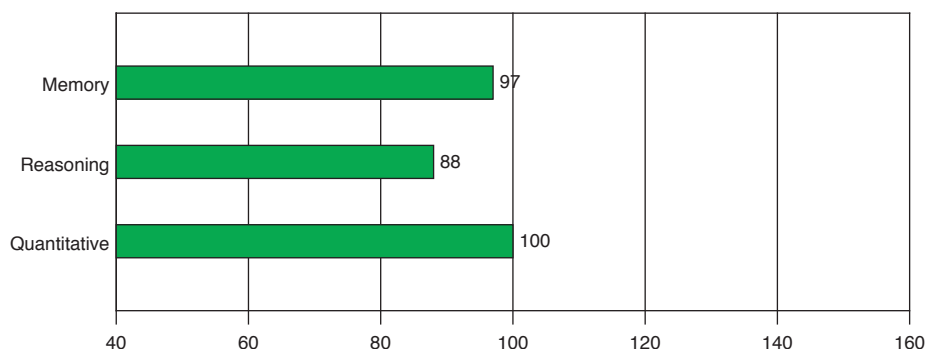
Memory

The Memory composite comprises the Symbolic Memory and Spatial Memory subtests. Sally earned a Memory index score of 97, which corresponds to an Average descriptive classification, and she is ranked at the 42nd percentile. This means that her performance is equal to or greater than 42% of the students her age in the standardization group. There is a 90% probability that Sally's true Memory score is within the range of scores between 91 and 104. Further, her Memory score is significantly different from her Reasoning index score and is considered a strength relative to her Reasoning index scores.

Sally's Memory index score indicates that she performed about average on tasks that required strategies for recall of multiple salient features simultaneously, including content, color, orientation, number, location, and sequence. She experienced no particular difficulty with the tasks requiring discrimination, labeling, organization, and categorization, such as the tasks found on the subtests that constitute the Memory composite.

There was not a significant difference between the two subtest scores on this scale.

Figure 12 *(continued)*   *figure continues*

Reasoning

The Reasoning composite comprises the Analogic Reasoning and Cube Design subtests. Sally earned a Reasoning index score of 88. This score, which corresponds to a Below Average descriptive classification, ranks at the 21st percentile. This means that her performance is equal to or greater than 21% of the students her age in the standardization group. There is a 90% probability that Sally's true Reasoning score is within the range of 84 and 93. Further, her Reasoning score is significantly different from her Memory and Quantitative scores and is considered a weakness in relation to her Memory and Quantitative scores.

Sally's Reasoning index score indicates that she performed particularly poorly on tests that required pattern processing, awareness of visual-spatial juxtapositions, and understanding of geometric relationships. There was not a significant difference between the two subtest scores on this scale.

Quantitative

The Quantitative composite is composed of the Nonsymbolic Quantity and the Numerical Series subtests. Sally earned a Quantitative index score of 100. This score, which corresponds to an Average descriptive classification, ranks at the 50th percentile. This means that her performance is equal to or greater than 50% of the students her age in the standardization group. There is a 90% probability that Sally's true Quantitative score is within the range of 96 and 104. Further, her Quantitative index score is significantly different from her Reasoning index score and is considered a strength in relation to her Reasoning index scores.

Sally's Quantitative index score indicates that she performed about average on tests that required numerical reasoning and relationships and number sense. There was a significant difference between the two subtest scores on this scale. The Numerical Series score of 12 was significantly higher than the Nonsymbolic Quantity score of 8. The Numerical Series subtest score was found to be a significant strength.

UNIT2 Construct-Specific Composite Comparisons

There was significant variation among the separate construct-specific composites of the UNIT2. This indicates that Sally's Memory, Reasoning, and Quantitative skills do vary widely and that the FSIQ is not a good description of her overall performance on the UNIT2.

Composite	Index score		Index score difference	Statistically different?	Normative frequency of the difference	Pattern of score discrepancies
Memory	97	Memory - Reasoning	9	Yes	54.5	MI > RI
Reasoning	88	Memory - Quantitative	-3	No	89.2	NS
Quantitative	100	Reasoning - Quantitative	-12	Yes	36.3	RI < QI
			Significance level .10			

Sally's UNIT2 results indicate that her short-term and working memory skills are better developed than her nonverbal reasoning. This means that Sally's ability to comprehend and reproduce visual stimuli is better developed than her ability to analyze, synthesize, or reorganize visual stimuli. Her attention to

Figure 12 *(continued)*   *figure continues*

relevant details is better developed than her concentrated problem-solving abilities.

Individuals with this scale pattern may learn best through exposure to concrete, factual information, with memory aids, as opposed to through discovery learning activities. For example, reading instruction might include considerable sight-word repetition as opposed to a more whole-language approach; instruction in higher order knowledge acquisition (e.g., comprehension, synthesis, evaluation) should be based on well-learned rules, principles, rubrics, algorithms, and laws (e.g., science principles, grammar rules); learning may be aided through the use of mnemonics (e.g., "a pint's a pound the world round"); generalizations of previously learned material to new problems or contexts might be facilitated by reminding students of basic concepts that guide problem solving (e.g., the area of complex geometric designs can be computed by reducing the design to a combination of familiar shapes, such as squares, rectangles, and triangles).

Sally's UNIT2 results indicate that her quantitative reasoning is better developed than her nonverbal reasoning. Her ability to process and manipulate knowledge of relationships that have been systematically taught is stronger than her ability to discover and use information incidentally. Her ability to use numerical facts and processes to provide solutions to problems is greater than her ability to apply general facts and processes during problem-solving activities.

Individuals with this scale pattern may learn best through the application of number/object rules, classifications, rubrics, and factual quantitative information applied to the solution of problems, as opposed to activities requiring mental manipulation of non-numerical relationships. For example, quantitative reasoning might be used to solve problems in many content areas (e.g., science, social studies, history), as opposed to applying a more verbal, logical explanation of causal/solution relationships; instruction in higher order knowledge acquisition (e.g., comprehension, synthesis, evaluation) should be based on well-learned quantitative rules, principles, rubrics, algorithms, and laws (e.g., more than 80% of the wealth is held by less than 20% of the population); learning may be aided through the use of numerical reasoning (e.g., geometric progression of the world's population and corresponding decline of resources); generalizations of previous quantitative outcomes to new problems or contexts might be facilitated by reminding students of historical relationships and outcomes (e.g., exponential growth rate of bacteria; wealth follows resources; increasing rate of acceleration of a falling object).

UNIT2 Subtest Performance

This section will present Sally's UNIT2 subtest performance and describe the primary and secondary abilities each subtest shares with other subtests, as well as discuss the correlates of each subtest.

Figure 12 *(continued)*   *figure continues*
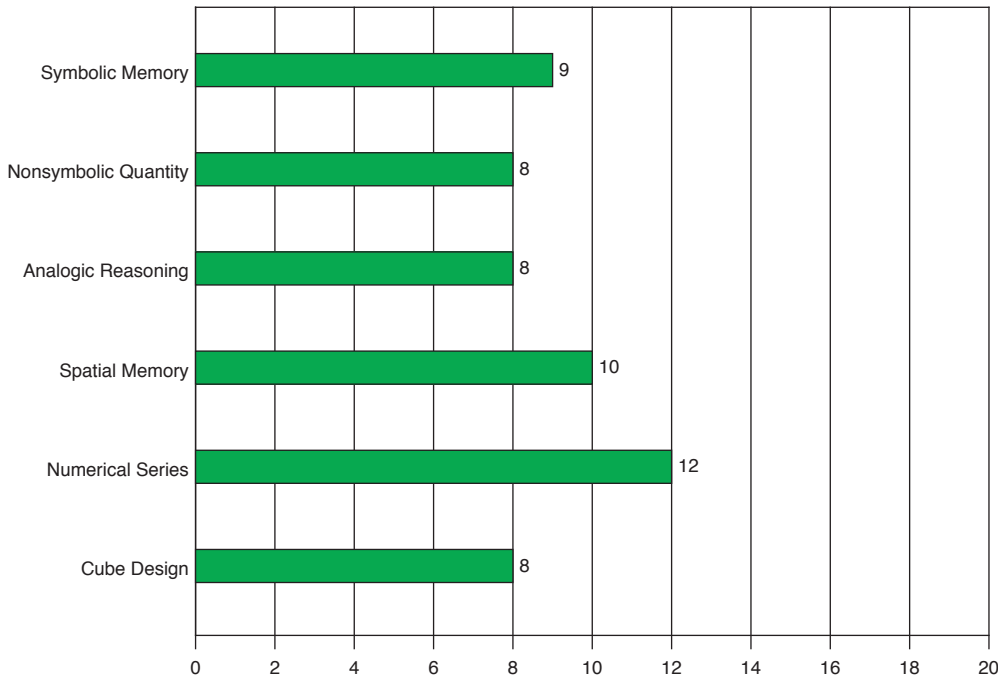
Symbolic Memory

Primary Abilities Shared With Other Subtests
- Attention to Detail
- Concentration
- Perception of Meaningful Stimuli
- Sequential Processing
- Symbolic Mediation
- Verbal Mediation
- Visual Short-Term Memory

Secondary Abilities Shared With Other Subtests
- Conception Formation
- Perceptual Organization
- Visual-Motor Integration

Correlates of Symbolic Memory Performance

As a measure of short-term sequential and symbolic memory, an examinee's performance on the Symbolic Memory subtest may predict such behaviors as the examinee's ability to attend to and distinguish important from irrelevant information; organize, recall, and follow multistep directions; sequence verbal information meaningfully (e.g., story telling, reading, decoding); understand and

Figure 12 *(continued)* *figure continues*

compute multistep mathematics story problems; ignore extraneous, competing information during problem solving; and concentrate on the interrelationships between salient variables. The UNIT2 Memory composite includes the Symbolic Memory and Spatial Memory subtests.

Nonsymbolic Quantity

Primary Abilities Shared With Other Subtests
- Abstract Thinking
- Analysis
- Attention to Detail
- Concentration
- Nonsymbolic Mediation
- Nonverbal Reasoning
- Perception of Abstract Stimuli
- Perceptual Organization

Secondary Abilities Shared With Other Subtests
- Conception Formation
- Reasoning

Correlates of Nonsymbolic Quantity Performance

Performance on the Nonsymbolic Quantity subtest may predict such future behaviors as the examinee's ability to understand and solve abstract problems using symbols; determine the interrelationships between and among numbers; understand the relations represented by numbers; value classifications of symbolic systems; generalize learned principles to solve new problems (e.g., applying numerical rubrics learned in one context to a new but similar context); and use rules in a systematic fashion. The UNIT2 Quantitative composite includes the Numerical Series and Nonsymbolic Quantity subtests.

Analogic Reasoning

Primary Abilities Shared With Other Subtests
- Abstract Thinking
- Analysis
- Concept Formation
- Evaluation
- Perception of Meaningful Stimuli
- Reasoning
- Symbolic Mediation
- Synthesis
- Verbal Mediation

Secondary Abilities Shared With Other Subtests
- Attention to Detail
- Perception of Abstract Stimuli
- Perceptual Organization
- Sequential Processing
- Simultaneous Processing
- Spatial Orientation

Correlates of Analogic Reasoning Performance

Page 7

Figure 12 *(continued)* *figure continues*

Performance on the Analogic Reasoning subtest may predict such future behaviors as the examinee's ability to understand and solve conceptual problems; determine the interrelationships between objects and actions (e.g., understand cause-and-effect relationships); produce rational arguments, based on sequential logic; generalize learned principles to solve new problems (e.g., applying centrifugal force to cause sediments to settle in a vial); and acquire and use rules in a systematic fashion. The UNIT2 Reasoning composite includes Cube Design and Analogic Reasoning subtests.

Spatial Memory

Primary Abilities Shared With Other Subtests
- Attention to Detail
- Concentration
- Nonsymbolic Mediation
- Perception of Abstract Stimuli
- Perceptual Organization
- Simultaneous Processing
- Spatial Orientation
- Visual Short-Term Memory

Secondary Abilities Shared With Other Subtests
- Visual-Motor Integration

Correlates of Spatial Memory Performance

Performance on the Spatial Memory subtest may predict such future behaviors as the examinee's ability to view the totality and central nature of problems; attend to, process, and recall visual details (e.g., editing, photography, chess); remember the crux of information, rather than the sequence in which the information was presented; concentrate on a problem until the problem is well understood; disassemble and reassemble objects (e.g., motors, computers) by memory; and sensitivity and awareness to minor changes in the environment (e.g., noting the addition or subtraction of important elements). The UNIT2 Memory composite includes the Symbolic Memory and Spatial Memory subtests.

Numerical Series

Primary Abilities Shared With Other Subtests
- Analysis
- Concentration
- Nonverbal Reasoning
- Perception of Meaningful Stimuli
- Symbolic Mediation
- Visual-Motor Integration

Secondary Abilities Shared With Other Subtests
- Abstract Thinking
- Attention to Detail
- Perceptual Organization
- Reasoning
- Sequential Processing

Correlates of Numerical Series Performance

Performance on the Numerical Series subtest may predict such future behaviors as the examinee's ability to understand and solve math problems; determine the interrelationships between and among

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Figure 12 *(continued)* *figure continues*

numbers; understand the relations represented by numbers; value classifications of numerical systems; generalize learned principles to solve new problems (e.g., applying numerical rubrics learned in one context to a new but similar context); and use rules in a systematic fashion. The UNIT2 Quantity composite includes the Numerical Series and Nonsymbolic Quantity subtests.

Cube Design

Primary Abilities Shared With Other Subtests
- Abstract Thinking
- Analysis
- Attention to Detail
- Evaluation
- Holistic Processing
- Nonsymbolic Mediation
- Nonverbal Reasoning
- Perception of Abstract Stimuli
- Perceptual Organization
- Reasoning
- Reproduction of a Model
- Simultaneous Processing
- Spatial Orientation
- Synthesis
- Three-Dimensional Representation
- Visual-Motor Integration

Secondary Abilities Shared With Other Subtests
- Working Under Time Constraints

Correlates of Cube Design Performance

Performance on the Cube Design subtest may predict the examinee's mechanical or graphic (e.g., artistic, drafting, geometry) competence; ability to divide aspects of problems into discrete parts for examination and recombination to provide a viable solution; tenacity in complex future problem-solving situations; reaction to activities that have deadlines or specific time limits; flexibility in evaluating and modifying solution strategies; and ability to orient in and around his or her environment (e.g., reading maps, following spatial directions). The UNIT2 Reasoning composite includes Cube Design and Analogic Reasoning subtests.

UNIT2 Subtest Comparisons

There was significant variation among the separate subtests of the UNIT2. This indicates that Sally's intellectual skills do vary widely and that the FSIQ is not a good description of her overall performance on the UNIT2.

Figure 12 *(continued)*   *figure continues*

Pairwise Subtest Comparisons

	Scaled score difference	Statistically different?	Normative frequency of the difference
Symbolic Memory - Spatial Memory	-1	No	88.0
Analogic Reasoning - Cube Design	0	No	100.0
Nonsymbolic Quantity - Numerical Series	-4	Yes	21.3
		Significance level .10	

Ipsative Subtest Comparisons Within the Standard and Extended Batteries

	Scaled score	Mean scaled score	Scaled score minus mean	Statistically different?	Normative frequency of the difference
Symbolic Memory	9		-0.2	No	97.5
Nonsymbolic Quantity	8		-1.2	No	56.8
Analogic Reasoning	8		-1.2	No	56.3
Spatial Memory	10	9.2	0.8	No	72.7
Numerical Series	12		2.8	Yes	13.4
Cube Design	8		-1.2	No	58.8
			Significance level .10		

Figure 12 *(continued)*

References

Bracken, B., & McCallum, R. S. (1998). *Universal nonverbal intelligence test*. Austin, TX: PRO-ED.

Bracken, B., & McCallum, R. S. (2016). *Universal nonverbal intelligence test–second edition*. Austin, TX: PRO-ED.