

Figures for  
CMAS Technical Report  
2014–2015

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**Figure 1. CMAS Blueprint-Grade 4**

TEST BLUEPRINT CMAS Social Studies Grade 4		SRs	3pt CRs	Total Points	Total Items	Total PE Points	% of Score Points
1	History	7	4	19	11	10-14	25%
	PGC 1			9-10			
	GLE 1	3-4	2	9-10			
	PGC 2			9-10			
	GLE 2	3-4	2	9-10			
2	Geography	14	2	20	16	9-14	27%
	PGC 1			10-11			
	GLE 1	7-8	1	10-11			
	PGC 2			9-10			
	GLE 2	6-7	1	9-10			
3	Economics	11	2	17	13	0-4	23%
	PGC 1			8-9			
	GLE 1	5-9	0-1	8-9			
	PGC 2			8-9			
	GLE 2	3-6	1-2	8-9			
4	Civics	7	4	19	11	0-6	25%
	PGC 1			8-9			
	GLE 1	2-6	1-2	8-9			
	PGC 2			10-11			
	GLE 2	2-5	2-3	10-11			
<b>TOTAL</b>		<b>39</b>	<b>12</b>	<b>75</b>	<b>51</b>	<b>24</b>	<b>100%</b>

**Operational form target ranges:**

**DOK as a total percentage of test points:**

DOK 1=15%-20%

DOK 2= <55%

DOK 3=25%-30%

**Number of TEIs as a percentage of total items:**

Year 1 (2014) 20% of total items

Years 2-5 25% of total items

**Figure 2. CMAS Blueprint-Grade 5**

	TEST BLUEPRINT CMAS Science Grade 5	SRs	2 pt CRs	3 pt CRs	Total CRs	Total CR points	Total Points	Total Items	Total SI/NS Points	Total Sim Points	% of Score Points
1	Physical Science	9	4	1	5	11	20	14	8	5-8	25%
	PGC 2						20				
	GLE 1	9	4	1	5	11	20	14			
2	Life Science	17	5	1	6	13	30	23	10	10-15	38%
	PGC 3						12-15				
	GLE 1	7	2-4	0-1	2-4	5-8	12-15	9-11			
	PGC 1						15-18				
	GLE 2	10	2-4	0-1	2-4	5-8	15-18	12-14			
3	Earth Systems Science	17	5	1	6	13	30	23	12	10-15	38%
	PGC 3						9-12				
	GLE 1	6	0-3	0-1	1-3	3-6	9-12	7-9			
	PGC 2						18-21				
	GLE 2	5	0-3	0-1	1-3	3-6	8-11	7-9			
	GLE 3	6	0-3	0-1	1-3	3-6	9-12	7-9			
<b>TOTAL</b>		<b>43</b>	<b>14</b>	<b>3</b>	<b>17</b>	<b>37</b>	<b>80</b>	<b>60</b>	<b>30</b>	<b>30</b>	<b>100%</b>
4	Scientific Investigations and the Nature of Science (SI/NS)	30 Points for SI/NS will be distributed among the 3 Standards								38%	
<p><b>Operational form target ranges:</b></p> <p><b>DOK as a total percentage of test points:</b></p> <p>DOK 1 20-25%</p> <p>DOK 2 45-50%</p> <p>DOK 3 25-30%</p> <p><b>Number of TEIs as percentage of total items:</b></p> <p>Year 1 (2014) 20% of total items</p> <p>Years 2-5 25% of total items</p>											

**Figure 3. CMAS Blueprint-Grade 7**

TEST BLUEPRINT CMAS Social Studies Grade 7		SRs	3pt CRs	Total Points	Total Items	Total PE Points	% of Score Points
1	History	8	4	20	12	8-14	28%
	PGC 1			8			
	GLE 1	2-5	1-2	8			
	PGC 2			12			
	GLE 2	3-6	2-3	12			
2	Geography	9	3	18	12	8-12	25%
	PGC 1			8-10			
	GLE 1	3-6	1-2	8-10			
	PGC 2			8-10			
	GLE 2	3-6	1-2	8-10			
3	Economics	10	2	16	12	0-4	22%
	PGC 1			8			
	GLE 1	5-8	0-1	8			
	PGC 2			8			
	GLE 2	2-5	1-2	8			
4	Civics	9	3	18	12	0-6	25%
	PGC 2			9			
	GLE 1	6	1	9			
	PGC 1			9			
	GLE 2	3	2	9			
<b>TOTAL</b>		<b>36</b>	<b>12</b>	<b>72</b>	<b>48</b>	<b>24</b>	<b>100%</b>
<p><b>Operational form target ranges:</b></p> <p><b>DOK as a total percentage of test points:</b></p> <p>DOK 1= 15%-20%</p> <p>DOK 2= &lt;50%</p> <p>DOK 3= 30%-35%</p> <p><b>Number of TEIs as a percentage of total items:</b></p> <p>Year 1 (2014) 20% of total items</p> <p>Years 2-5 25% of total items</p>							

**Figure 4. CMAS Blueprint-Grade 8**

TEST BLUEPRINT CMAS Science Grade 8		SRs	2pt CRs	3pt CRs	Total CRs	Total CR points	Total Points	Total Items	Total SI/NS Points	Total Sim Points	% of Score Points
1	Physical Science	16	5	1	6	13	29	22	7	5-7 or 10-14	36%
	PGC 1						7-8				
	GLE 1	2-5	0-2	0-1	1-2	2-5	7-8	4-6			
	PGC 3						7-8				
	GLE 2	2-5	0-2	0-1	1-2	2-5	7-8	4-6			
	PGC 2						7-8				
	GLE 3	2-5	0-2	0-1	1-2	2-5	7-8	4-6			
	PGC 3						7-8				
	GLE 4	2-5	0-2	0-1	1-2	2-5	7-8	4-6			
2	Life Science	13	4	1	5	11	24	18	6	5-7 or 10-14	30%
	PGC 2						11-13				
	GLE 1	5-8	1-3	0-1	2-3	4-7	11-13	8-10			
	PGC 3						11-13				
	GLE 2	5-8	1-3	0-1	2-3	4-7	11-13	8-10			
3	Earth Systems Science	14	5	1	6	13	27	20	7	5-7 or 10-14	34%
	PGC 2						12-14				
	GLE 1	2-5	0-2	0-1	1-2	2-5	6-7	4-6			
	GLE 2	2-5	0-2	0-1	1-2	2-5	6-7	4-6			
	PGC 1						12-15				
	GLE 3	2-5	0-2	0-1	1-2	2-5	6-8	4-6			
	GLE 4	2-5	0-2	0-1	1-2	2-5	6-7	4-6			
<b>TOTAL</b>		<b>43</b>	<b>14</b>	<b>3</b>	<b>17</b>	<b>37</b>	<b>80</b>	<b>60</b>	<b>20</b>	<b>30</b>	<b>100%</b>
4	Scientific Investigations and the Nature of Science (SI/NS)	20 Points for SI/NS will be distributed among the 3 Standards									25%

\* Simulation points are dependent on whether one or two simulations are associated with a particular standard.

**Operational form target ranges:**

**DOK as a total percentage of test points:**

DOK 1 15%-20%

DOK 2 <50%

DOK 3 30%-35%

**Number of TEIs as a percentage of total items**

Year 1 (2014) 15-20% of total items

Years 2-5 25% of total items

**Figure 5. CMAS Blueprint-HS Social Studies**

TEST BLUEPRINT CMAS Social Studies High School		SRs	3pt CRs	ECRs	Total CR Points	Total Points	Total Items	Total PE Points	% of Score Points
1	History	6-9	2-3	1	13-16	22	10-12	8-14	28%
	PGC 1					8-10			
	GLE1	0-3	0-1	1	7-10	8-10			
	PGC 2					12-14			
	GLE2	3-5	0-1	0	0-3	6-8			
	GLE3	2-5	0-1	0	0-3	5-7			
2	Geography	12-15	2-3	0	6-9	21	15-17	8-12	26%
	PGC 1					12-14			
	GLE1	3-5	0-1	0	0-3	5-6			
	GLE2	3-5	1-2	0	3-6	6-9			
	PGC 2					7-9			
	GLE3	3-5	1-2	0	3-6	7-9			
3	Economics	12	2	0	6	18	14	0-4	23%
	PGC 1		1			7-9			
	GLE1	1-4	0-1	0	0-3	4-5			
	GLE2	0-2	0-1	0	0-3	2-4			
	GLE3	Not assessable - Content has not been covered yet in the scope and sequence.							
	PGC 2		1			9-11			
	GLE4	0-3	0-1	0	0-3	3-5			
	GLE5	Not assessable - Content has not been covered yet in the scope and sequence.							
	GLE6	0-3	0-1	0	0-3	3-5			
	GLE7	2-3	0	0	0	2-3			
4	Civics	10	3	0	9	19	13	0-6	24%
	PGC 1					6-7			
	GLE1	3-4	1	0	3	6-7			
	PGC 2					12-13			
	GLE2	3-4	1	0	3	6-7			
	GLE3	3-4	1	0	3	6-7			
<b>Total</b>		<b>43</b>	<b>10</b>	<b>1</b>	<b>37</b>	<b>80</b>	<b>54</b>	<b>24</b>	<b>100%</b>

**Operational form target ranges:**

**DOK as a total percentage of test points:**

DOK 1= 10%-15%

DOK 2= <50%

DOK 3= 35%-40%

**Number of TEIs as a percent to total items**

Year 1 (2014) 20% of total items

Years 2-5 25% of total items

**Figure 6. CMAS Blueprint-HS Science**

	TEST BLUEPRINT CMAS Science High School	SRs	2pt CRs	3pt CRs	Total CRs	Total CR points	Total Points	Total Items	Total SI/NS Points	Total Sim Points	% of Score Points
<b>1</b>	<b>Physical Science</b>	<b>13-15</b>	<b>4-5</b>	<b>1</b>	<b>5-6</b>	<b>11-13</b>	<b>26</b>	<b>19-20</b>	<b>6</b>	<b>5-13</b>	<b>33%</b>
	PGC 1						6-7				
	GLE1	1-4	1-2	0-1	1-2	2-5	6-7				
	PGC 2						11-13				
	GLE2	1-4	0-1	0-1	0-1	0-3	3-5				
	GLE3	1-4	0-1	0-1	0-1	0-3	3-5				
	GLE4	1-4	0-1	0-1	0-1	0-3	3-5				
	PGC 3						7-9				
	GLE5	1-4	0-1	0-1	0-1	0-3	3-5				
	GLE6	1-4	0-1	0-1	0-1	0-3	3-5				
<b>2</b>	<b>Life Science</b>	<b>14-16</b>	<b>4-5</b>	<b>1</b>	<b>5-6</b>	<b>11-13</b>	<b>27</b>	<b>20-21</b>	<b>7</b>	<b>5-13</b>	<b>34%</b>
	PGC 2						6-8				
	GLE1	1-4	0-1	0-1	0-1	0-3	3-5				
	GLE2	1-4	0-1	0-1	0-1	0-3	2-4				
	PGC 1						9-11				
	GLE3	1-4	0-1	0-1	0-1	0-3	2-4				
	GLE4	0-3	0-1	0-1	0-1	0-3	2-4				
	GLE5	1-4	0-1	0-1	0-1	0-3	2-4				
	GLE6	0-3	0-1	0-1	0-1	0-3	2-4				
	PGC 3						5-7				
	GLE7	1-4	0-1	0-1	0-1	0-3	3-5				
	GLE8	0-3	0-1	0-1	0-1	0-3	2-4				
	PGC 4						3-5				
	GLE9	1-4	0-1	0-1	0-1	0-3	3-5				
<b>3</b>	<b>Earth Systems Science</b>	<b>14-16</b>	<b>4-5</b>	<b>1</b>	<b>5-6</b>	<b>11-13</b>	<b>27</b>	<b>20-21</b>	<b>7</b>	<b>5-13</b>	<b>34%</b>
	PGC 1						6-8				
	GLE1	1-4	0-1	0-1	0-1	0-3	3-5				
	GLE2	1-4	0-1	0-1	0-1	0-3	2-4				
	PGC 2						13-15				
	GLE3	1-4	0-1	0-1	0-1	0-3	3-5				
	GLE4	1-4	0-1	0-1	0-1	0-3	3-5				
	GLE6	1-4	0-1	0-1	0-1	0-3	3-5				
	GLE7	0-3	0-1	0-1	0-1	0-3	2-4				
	PGC 3						4-6				
	GLE5	1-4	0-1	0-1	0-1	0-3	4-6				
<b>TOTAL</b>		<b>43</b>	<b>14</b>	<b>3</b>	<b>17</b>	<b>37</b>	<b>80</b>	<b>60</b>	<b>20</b>	<b>30</b>	<b>1</b>
<b>4</b>	<b>Scientific Investigations &amp; the Nature of Science (SI/NS)</b>	<b>20 Points for SI/NS will be distributed among the 3 Standards</b>									<b>25%</b>

**Operational form target ranges:**

**DOK as a total percentage of test points:**

- DOK 1 15%-20%
- DOK 2 <50%
- DOK 3 30%-35%

**Number of TEs as a percent to total items**

- Year 1 (2014) 20% of total items
- Years 2-5 25% of total items



**Figure 7. Impact of Standard Setting Recommendations-ES/MS Social Studies**

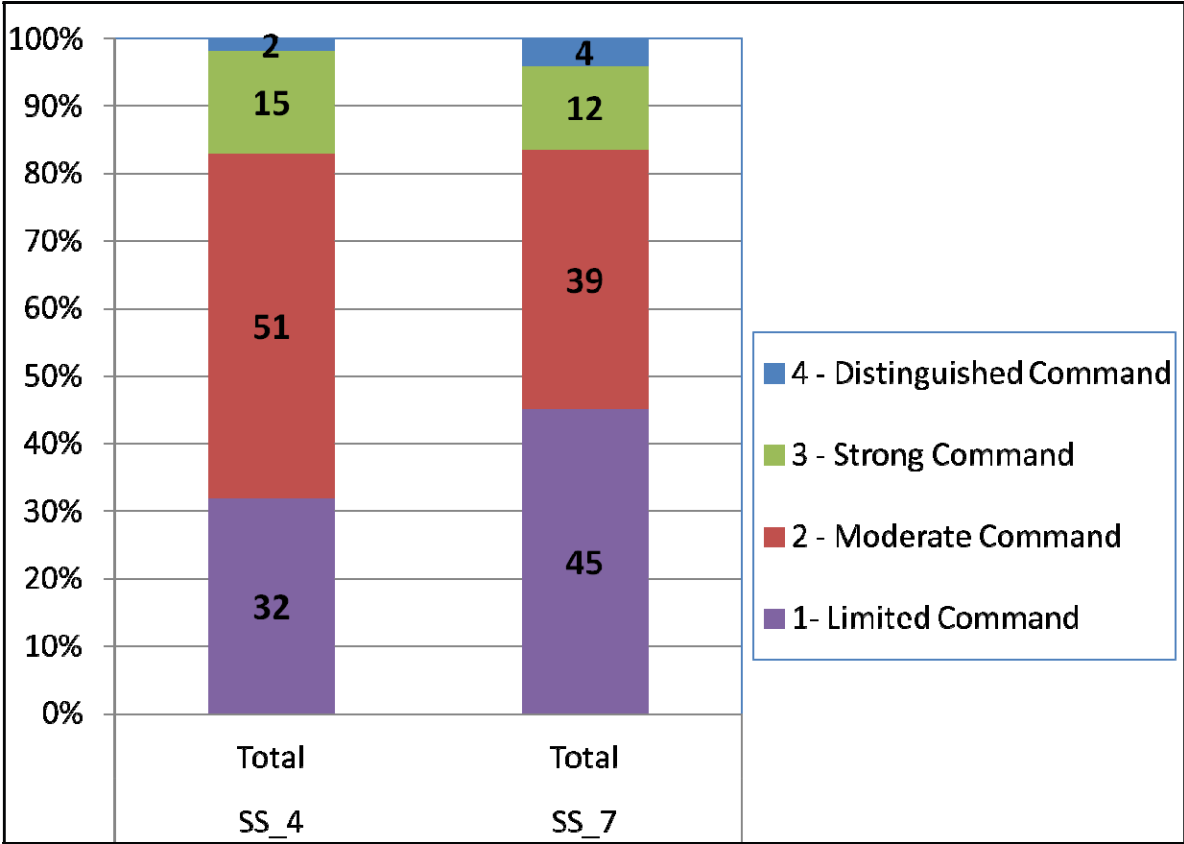
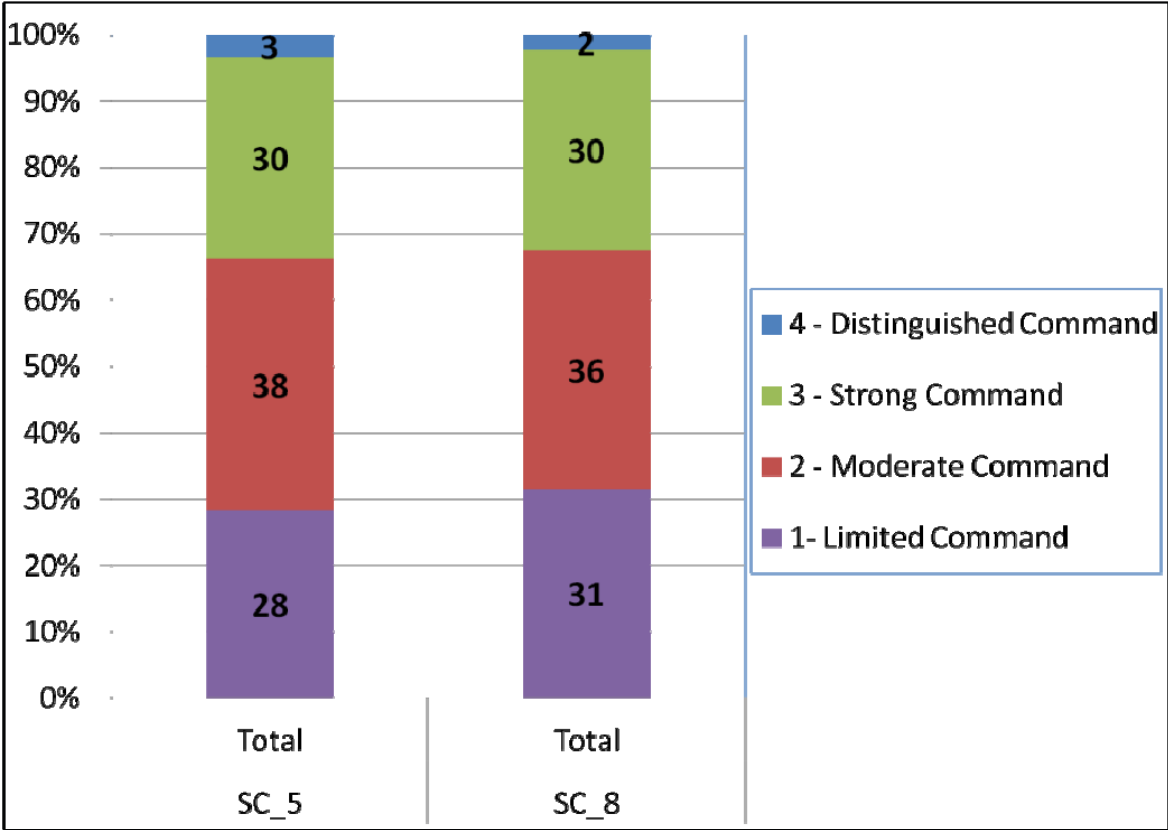
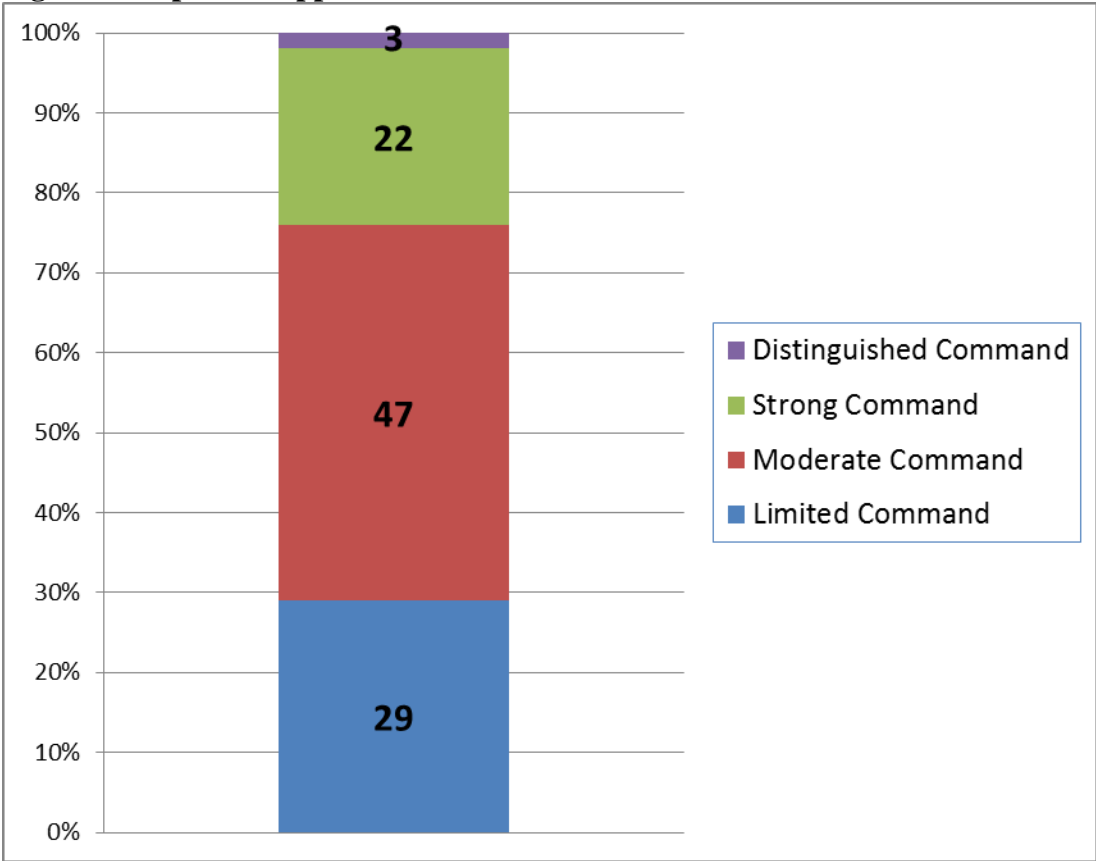


Figure 8. Impact of Standard Setting Recommendations-ES/MS Science



**Figure 9. Impact of Approved Cut Scores-HS Science**



**Figure 10. Impact of Standard Setting Recommendations-HS Social Studies**

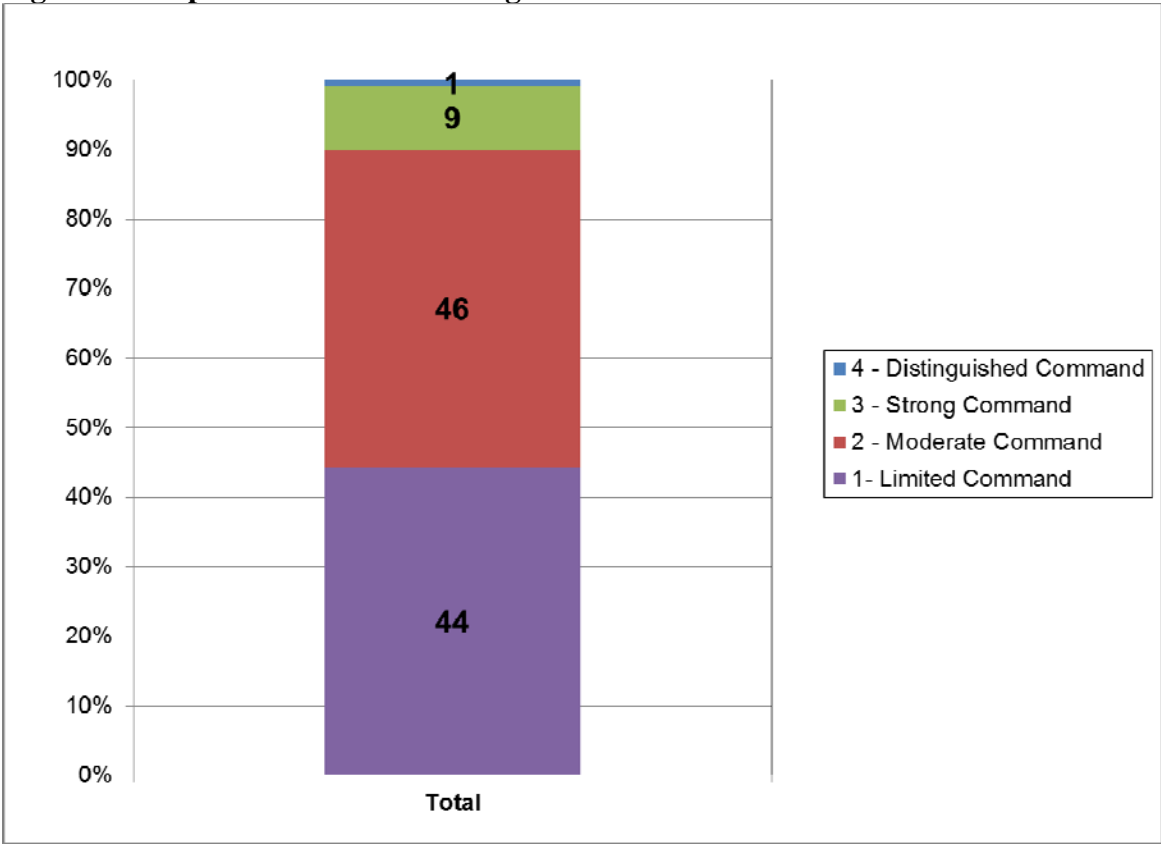


Figure 11. Sample 2PL Item Characteristic Curve

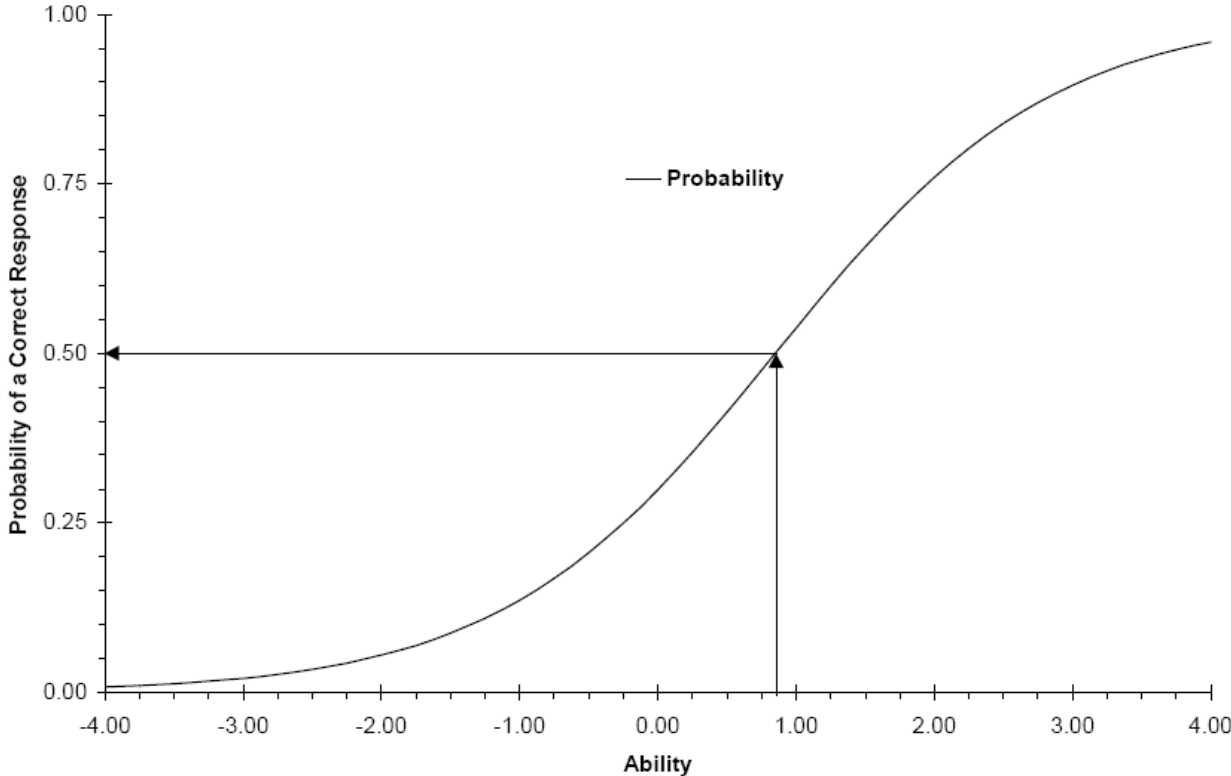


Figure 12. Sample 2PL Item Response Curves

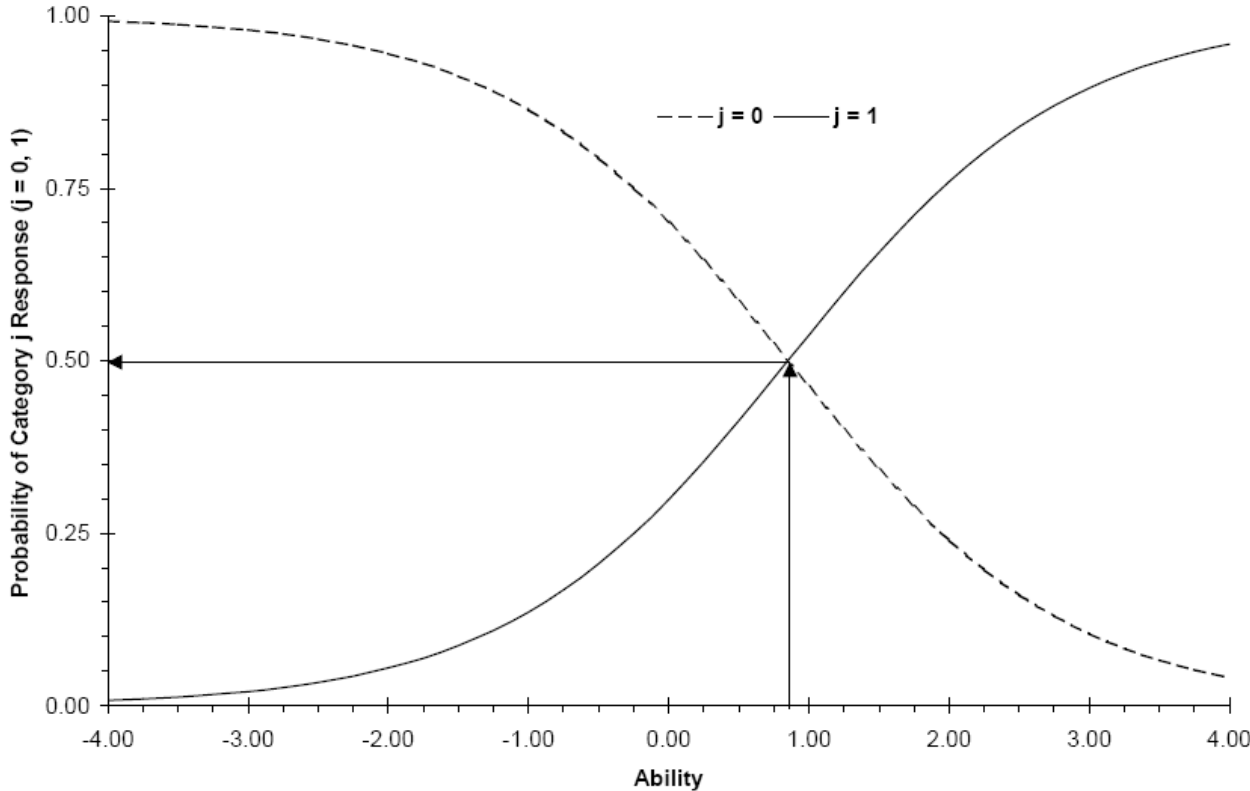
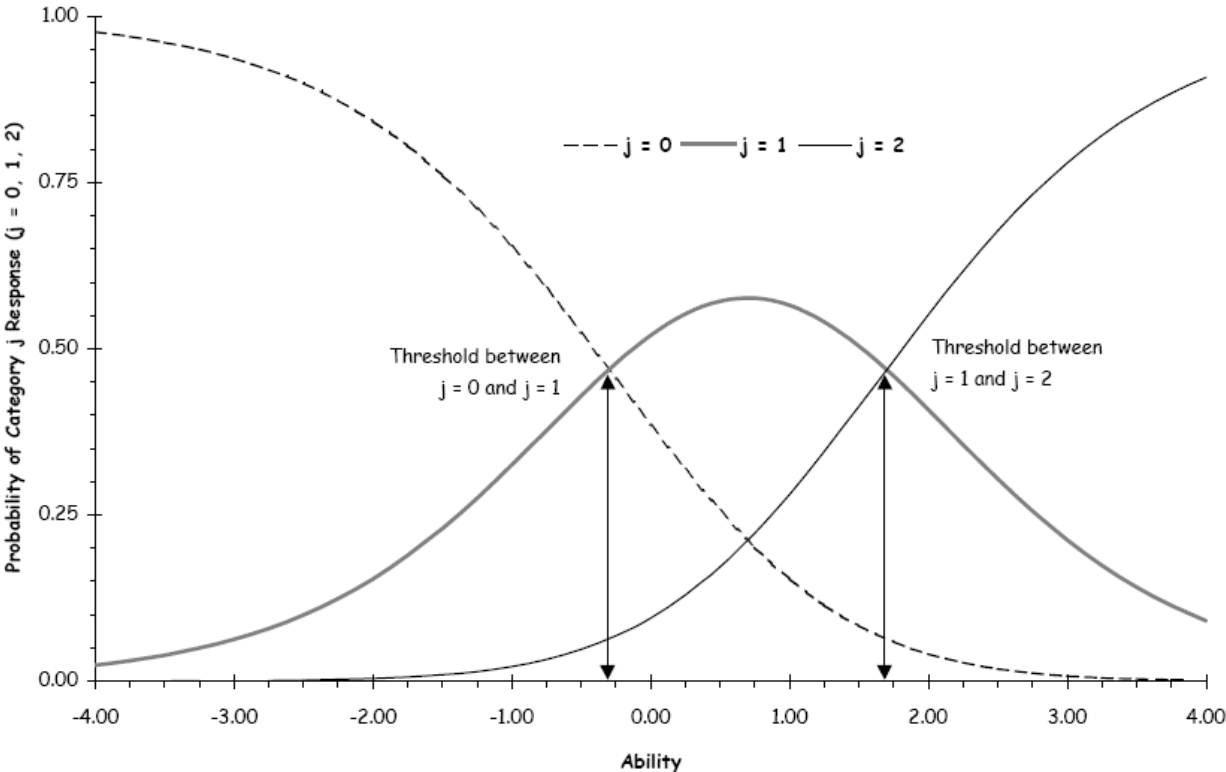


Figure 13. Item Response Curves for a 2-point Item



**Figure 14. Sample TRIAN Report**

<b>Item</b>	<b>Form</b>	<b>Key</b>	<b>Corr.</b>	<b>*</b>	<b>PV&lt;15</b>	<b>A%</b>	<b>*</b>	<b>B%</b>	<b>*</b>	<b>C%</b>	<b>*</b>	<b>D%</b>	<b>*</b>	<b>Omit%</b>	<b>Ncount</b>
20	A2	A	0.12	*		16		43	*	31		11		0	1809
26	A2	A	0.28			34		13		49	*	4		0	1809
29	B3	C	0.26			5		4		41		50	*	0	1794



**Figure 15. Sample Adjudication Spreadsheet**

Form	ItemID	Response	Score	COUNT	PERCENT	Correct Response?
A1	123456789	d_clouds b_bay1fd_cold b_bay2fd_snow b_bay3fd_rain b_bay4	0	27	0.7	N
A1	123456789	d_clouds b_bay1fd_cold b_bay2fd_snow b_bay4fd_rain b_bay3	0	19	0.5	N
A1	123456789	d_clouds b_bay1fd_cold b_bay3fd_snow b_bay2fd_rain b_bay4	0	9	0.2	N
A1	123456789	d_clouds b_bay1fd_cold b_bay3fd_snow b_bay4fd_rain b_bay2	0	10	0.3	N
A1	123456789	d_clouds b_bay1fd_cold b_bay4fd_snow b_bay2fd_rain b_bay3	0	20	0.5	N
A1	123456789	d_clouds b_bay1fd_cold b_bay4fd_snow b_bay3fd_rain b_bay2	0	30	0.8	N
A1	123456789	d_clouds b_bay2fd_cold b_bay1fd_snow b_bay3fd_rain b_bay4	0	29	0.7	N
A1	123456789	d_clouds b_bay2fd_cold b_bay1fd_snow b_bay4fd_rain b_bay3	0	11	0.3	N
A1	123456789	d_clouds b_bay2fd_cold b_bay3fd_snow b_bay1fd_rain b_bay4	0	448	11.5	N
A1	123456789	d_clouds b_bay2fd_cold b_bay3fd_snow b_bay4fd_rain b_bay1	0	11	0.3	N
A1	123456789	d_clouds b_bay2fd_cold b_bay4fd_snow b_bay1fd_rain b_bay3	0	619	15.9	N
A1	123456789	d_clouds b_bay2fd_cold b_bay4fd_snow b_bay3fd_rain b_bay1	0	46	1.2	N
A1	123456789	d_clouds b_bay3fd_cold b_bay1fd_snow b_bay2fd_rain b_bay4	0	8	0.2	N
A1	123456789	d_clouds b_bay3fd_cold b_bay1fd_snow b_bay4fd_rain b_bay2	0	11	0.3	N
A1	123456789	d_clouds b_bay3fd_cold b_bay2fd_snow b_bay1fd_rain b_bay4	0	579	14.9	N
A1	123456789	d_clouds b_bay3fd_cold b_bay2fd_snow b_bay4fd_rain b_bay1	0	25	0.6	N
A1	123456789	d_clouds b_bay3fd_cold b_bay4fd_snow b_bay1fd_rain b_bay2	0	183	4.7	N
A1	123456789	d_clouds b_bay3fd_cold b_bay4fd_snow b_bay2fd_rain b_bay1	0	29	0.7	N
A1	123456789	d_clouds b_bay4fd_cold b_bay1fd_snow b_bay2fd_rain b_bay3	0	7	0.2	N
A1	123456789	d_clouds b_bay4fd_cold b_bay1fd_snow b_bay3fd_rain b_bay2	0	12	0.3	N
A1	123456789	d_clouds b_bay4fd_cold b_bay2fd_snow b_bay3fd_rain b_bay1	0	33	0.8	N
A1	123456789	d_clouds b_bay4fd_cold b_bay3fd_snow b_bay1fd_rain b_bay2	0	129	3.3	N
A1	123456789	d_clouds b_bay4fd_cold b_bay3fd_snow b_bay2fd_rain b_bay1	0	7	0.2	N
A1	123456789	d_clouds b_bay4fd_snow b_bay1fd_rain b_bay3	0	1	0.0	N
A1	123456789	Omitted	0	4	0.1	N
A1	123456789	d_clouds b_bay4fd_cold b_bay2fd_snow b_bay1fd_rain b_bay3	1	1586	40.7	Y

Figure 16. HS Social Studies Scale Score Distribution

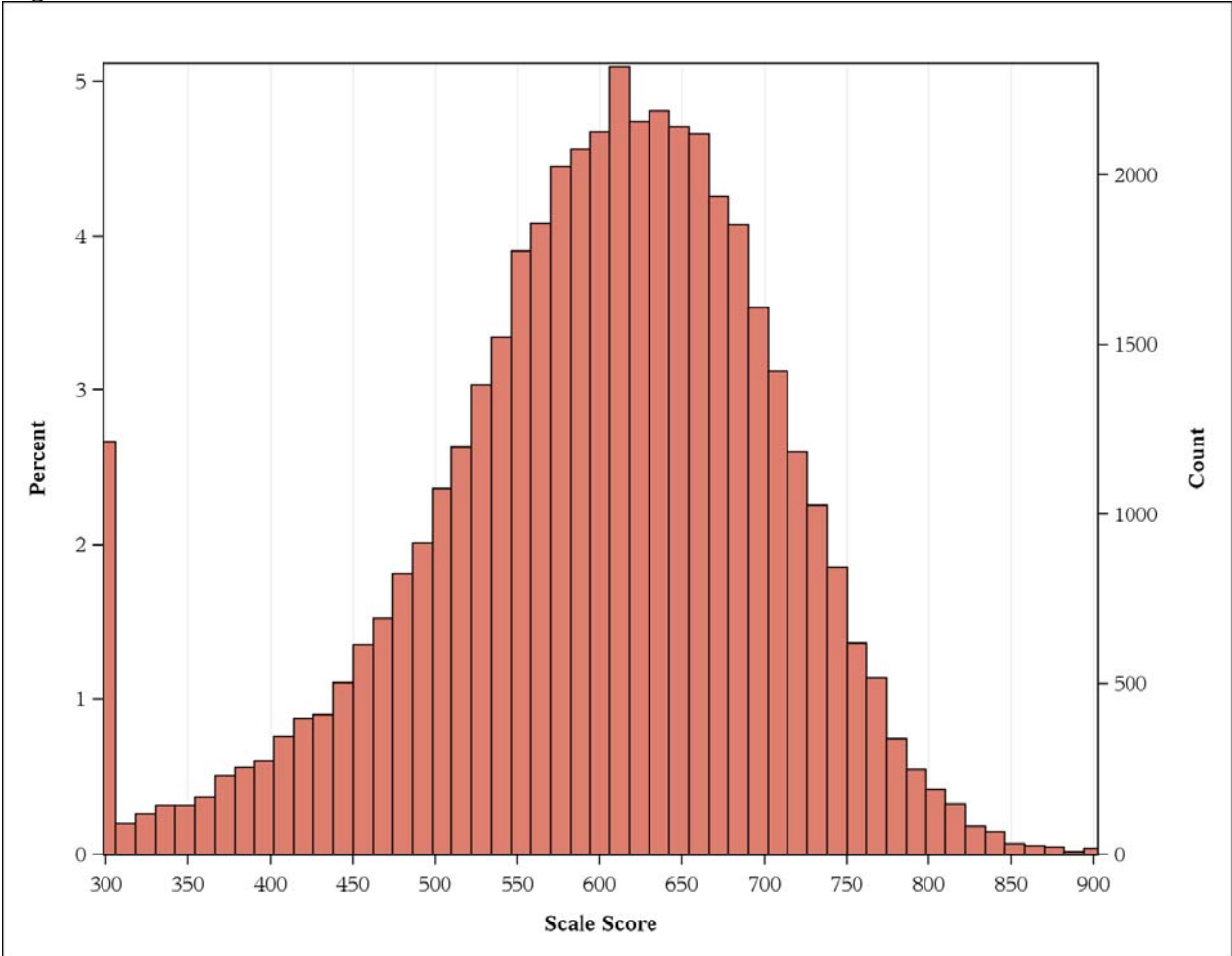


Figure 17. HS Science Scale Score Distribution

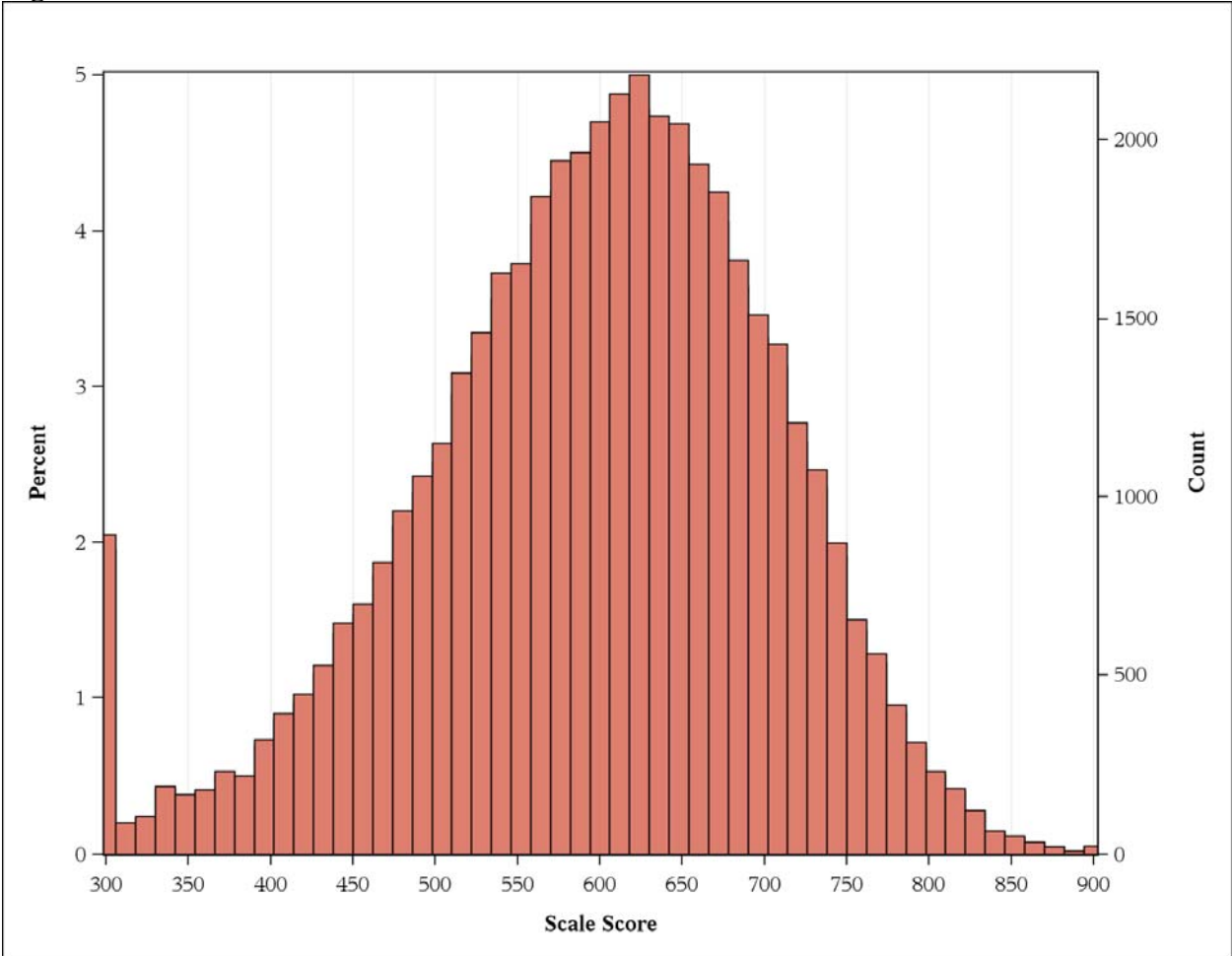


Figure 18. HS Social Studies Scree Plot

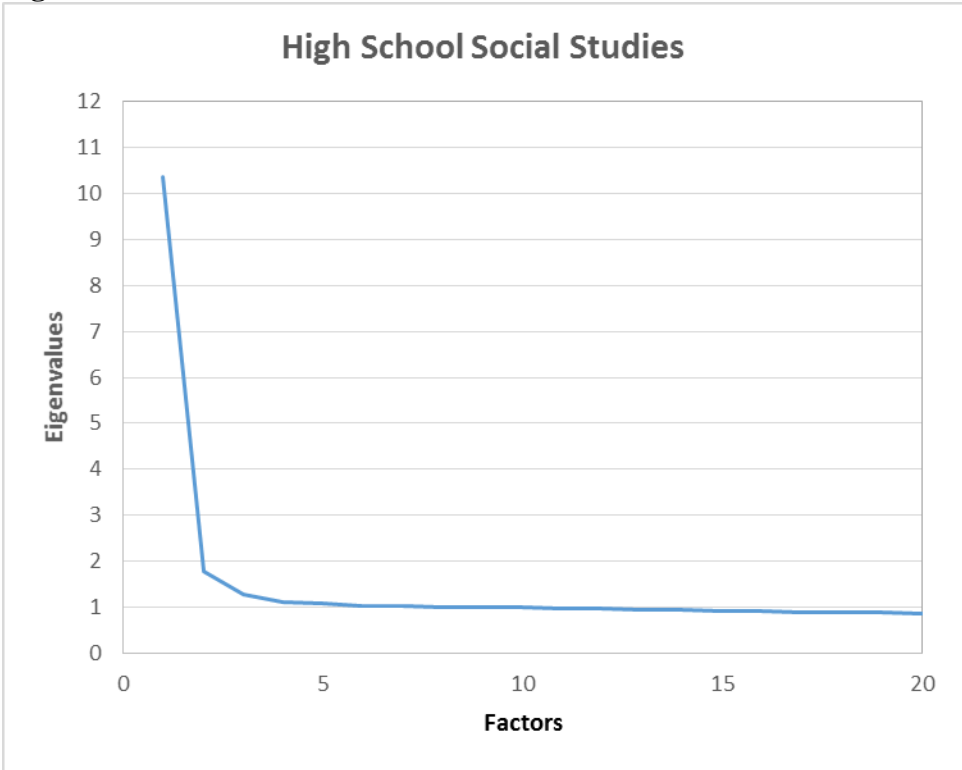


Figure 19. HS Science Scree Plot

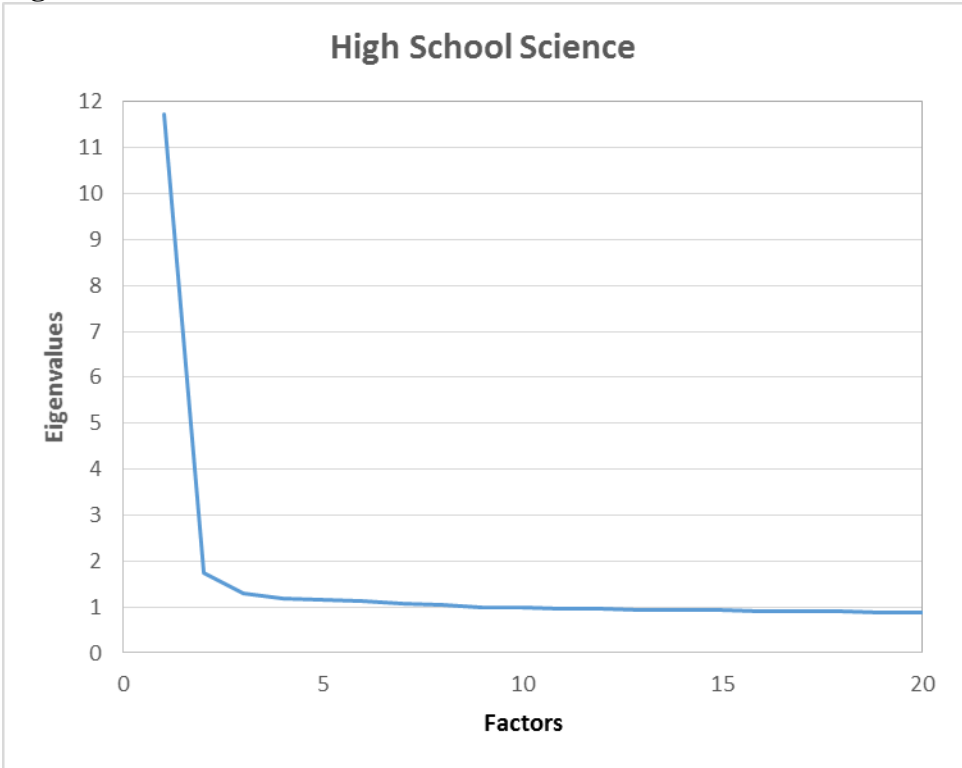


Figure 20. Grade 4 Scale Score Distribution

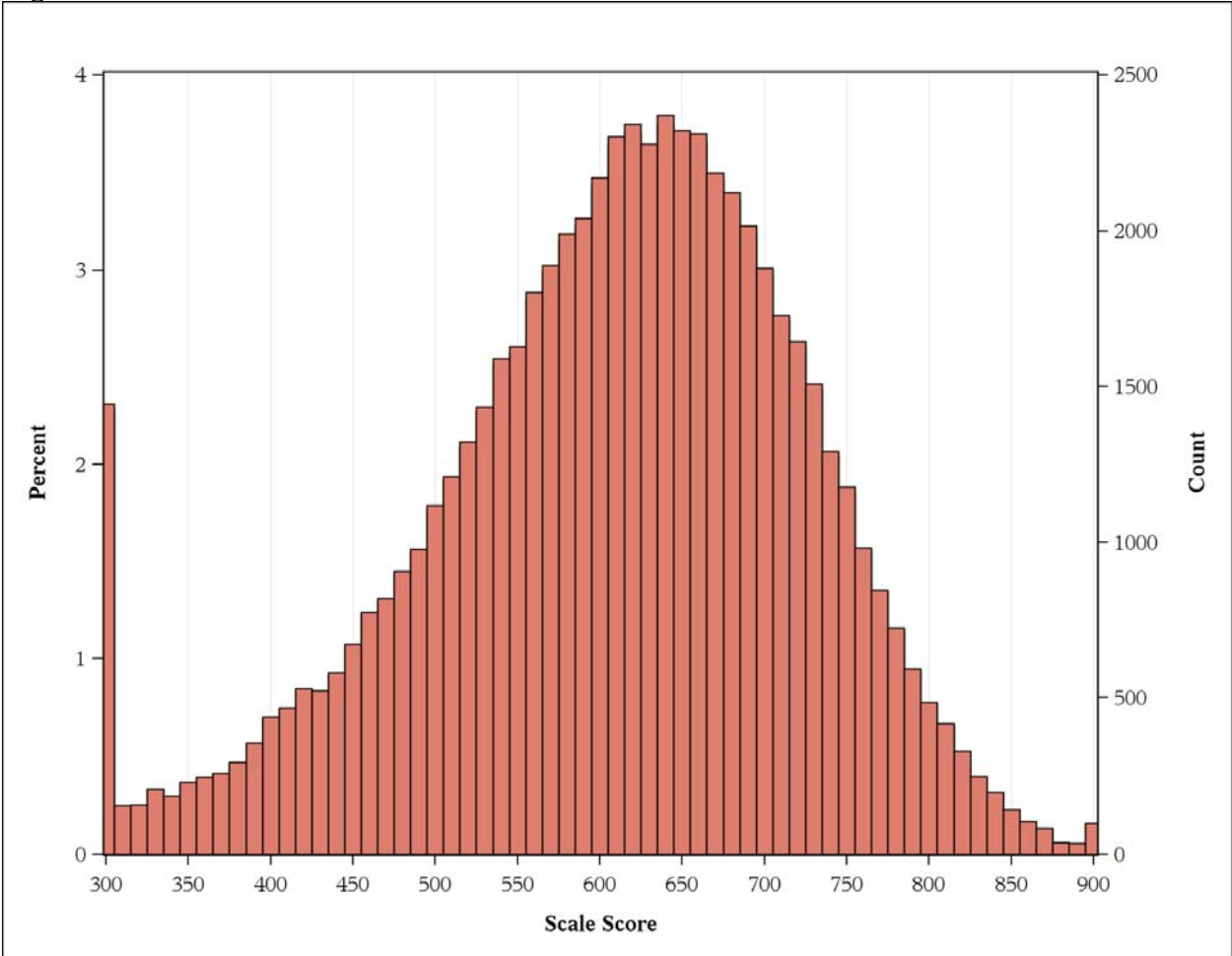


Figure 21. Grade 5 Scale Score Distribution

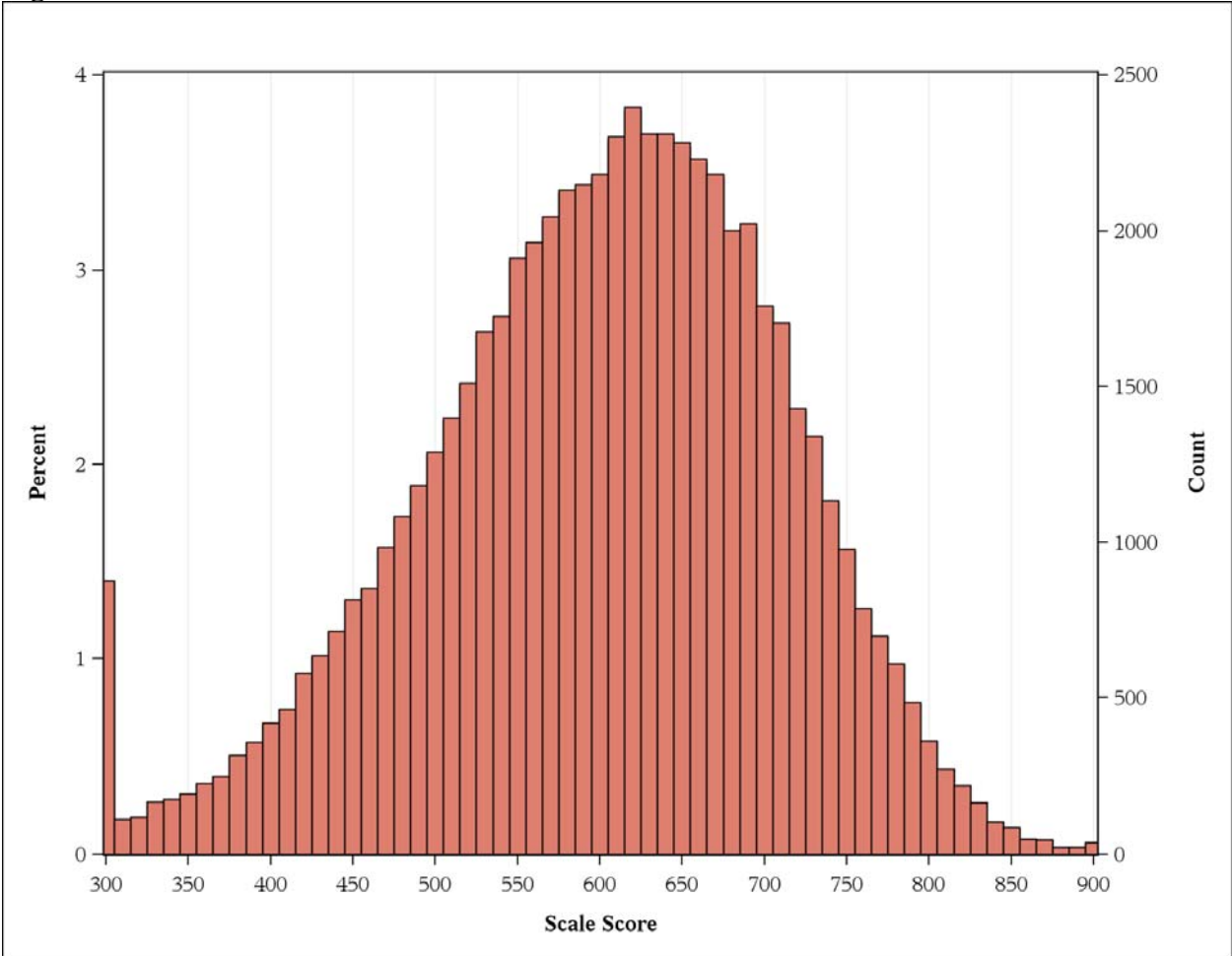


Figure 22. Grade 7 Scale Score Distribution

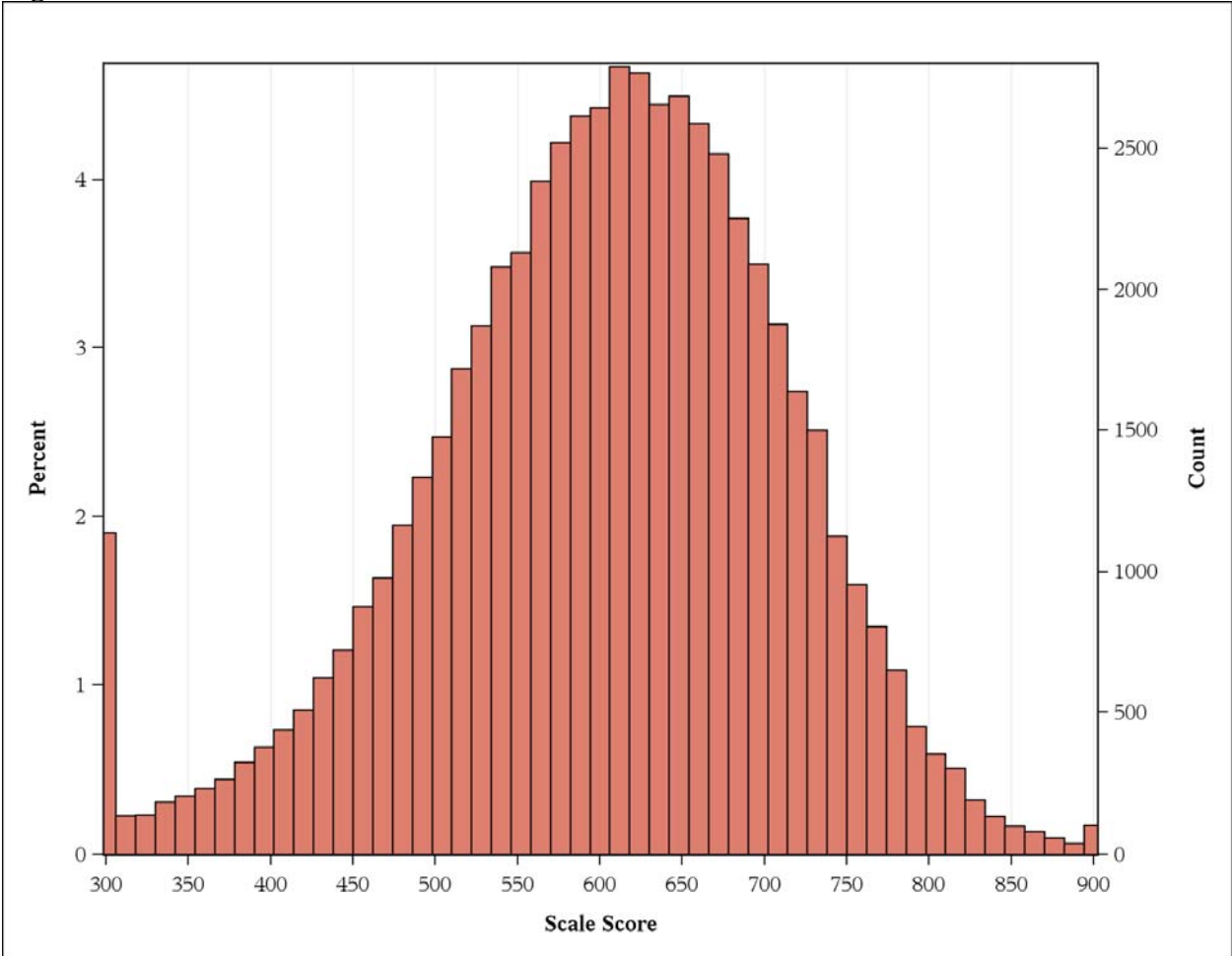




Figure 23. Grade 8 Scale Score Distribution

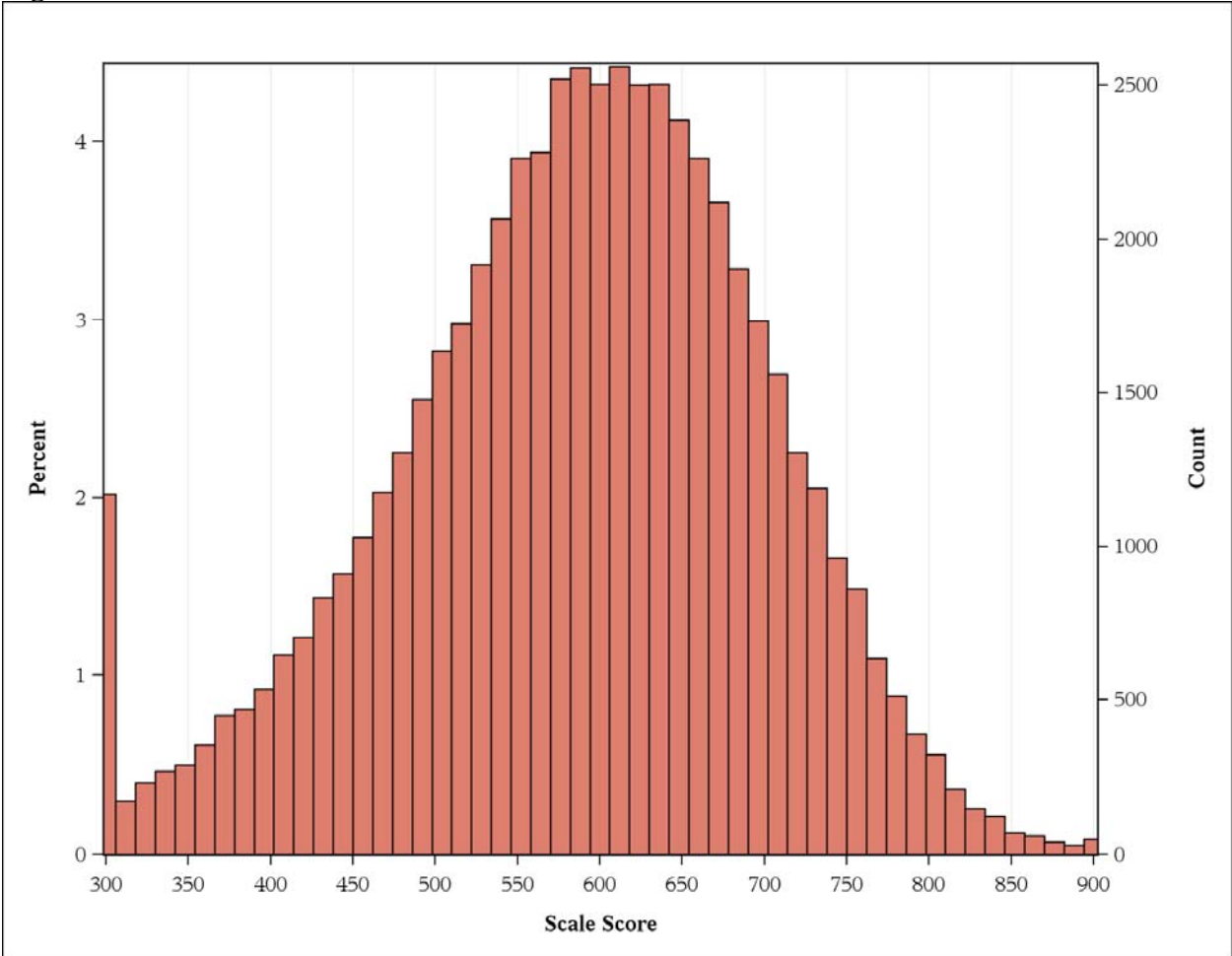


Figure 24. Grade 4 Scree Plot

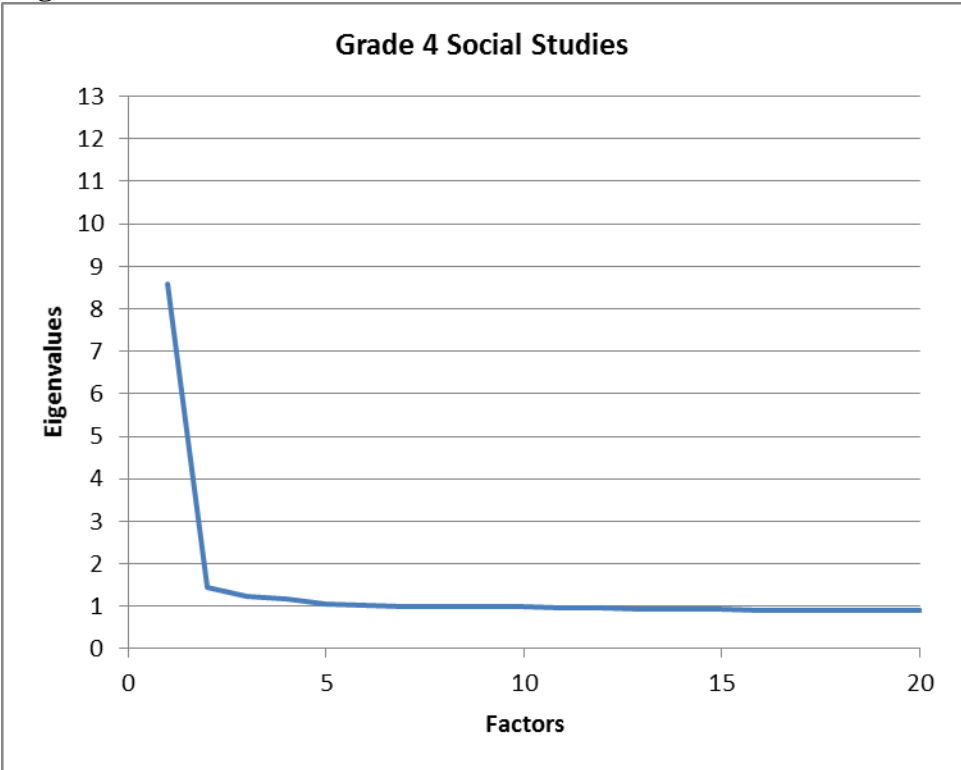


Figure 25. Grade 5 Scree Plot

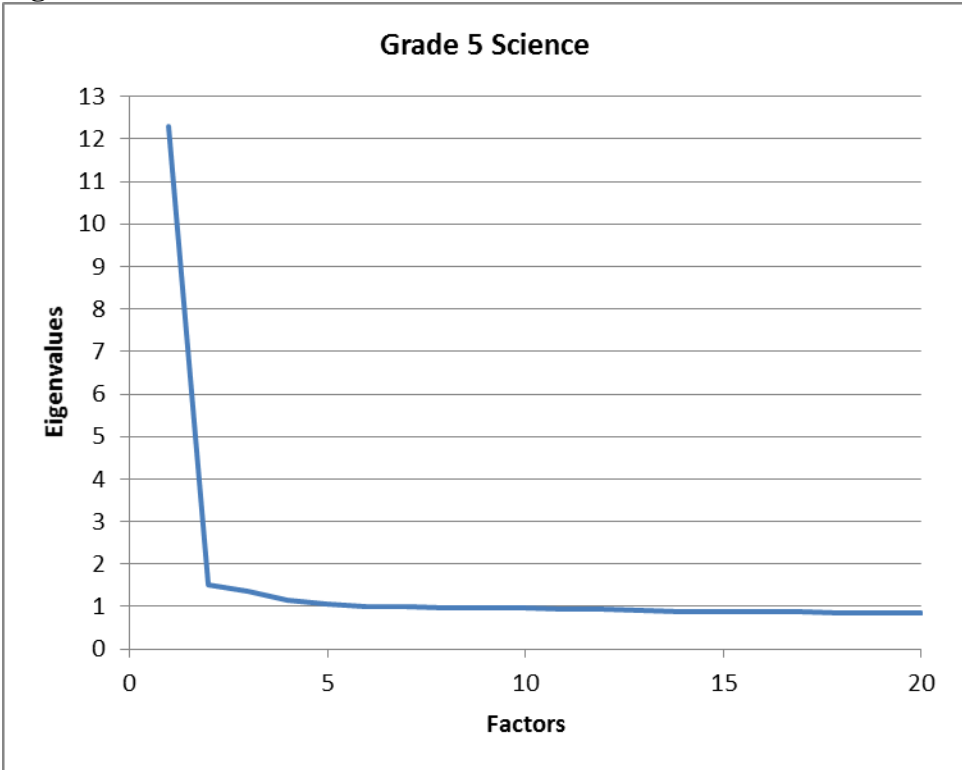


Figure 26. Grade 7 Scree Plot

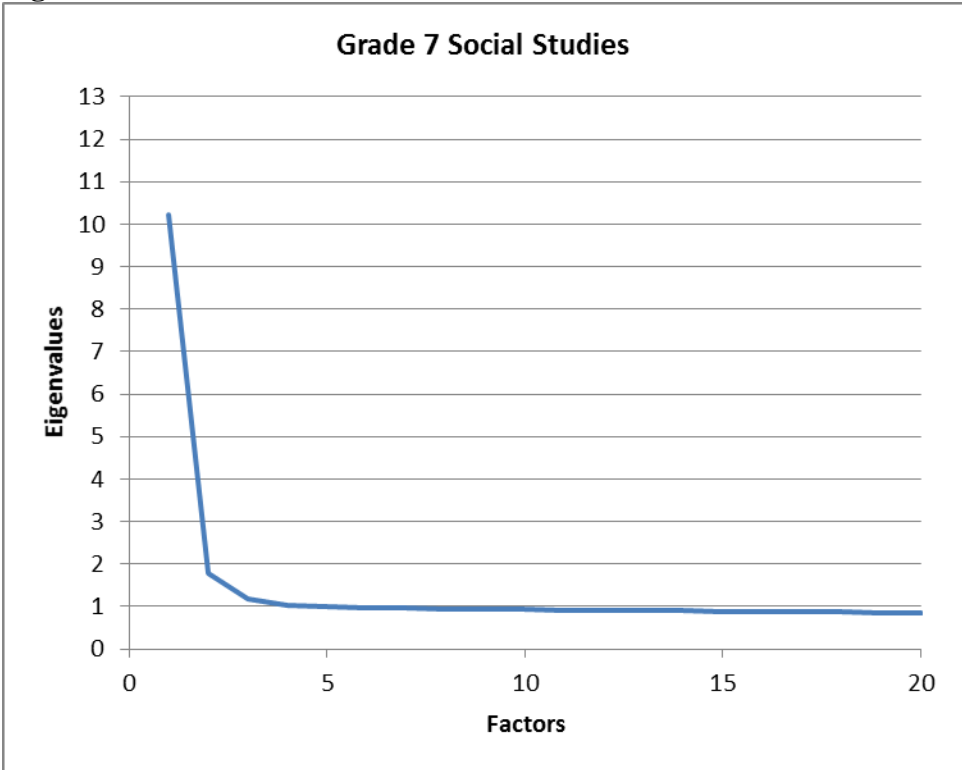


Figure 27. Grade 8 Scree Plot

