ELOM 4&5 Targeting Tool

Technical Report

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Introduction

This briefing document describes procedures used to construct the *ELOM Short Form Targeting Tool* (ELOM TT) which is a five item version of the ELOM that can be administered in about 15 minutes. It may be used by various stakeholders to identify children aged 50-69 months who are in particular need of early learning support. Using the full ELOM Direct Assessment, these children have ELOM Total scores that place them *at risk of not being able to reach the expected standard* on the ELOM First (Snelling et al, 2019; Dawes et al, 2020)[1]. Their scores fall below the 32nd percentile of the standard score distribution depicted in red in Figure 1.

Figure 1: ELOM Standards
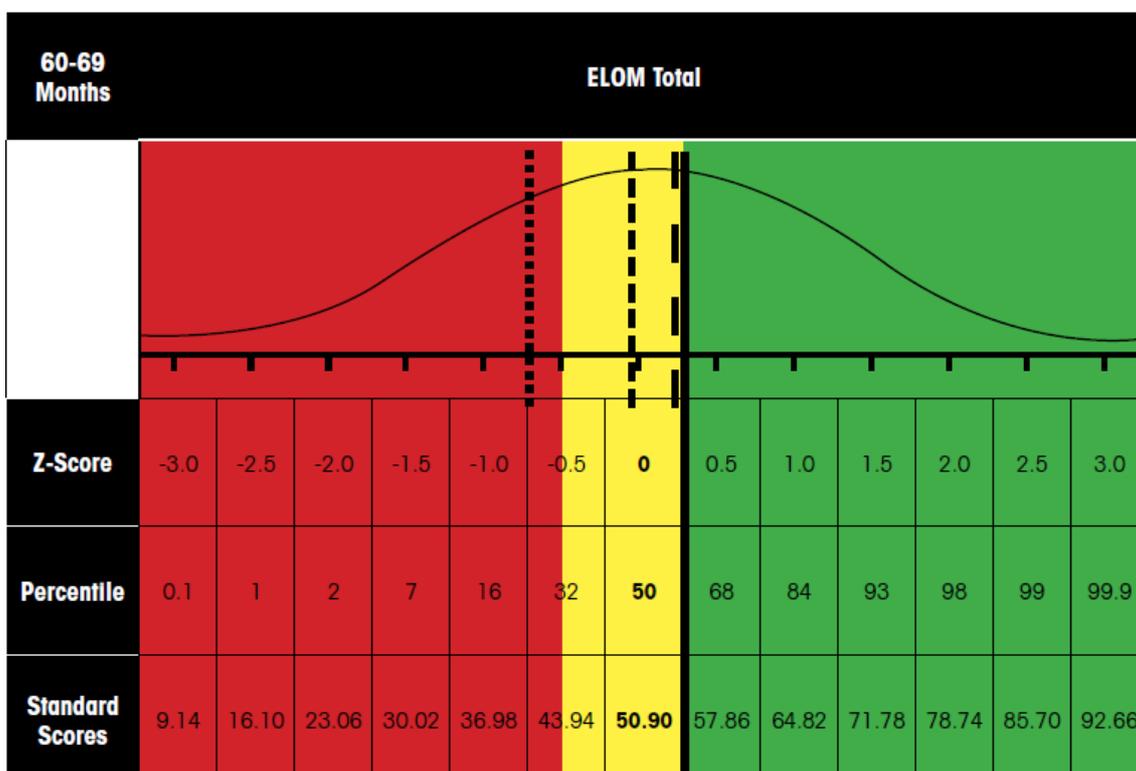
(Source: ELOM Technical Manual 2020).

It is important to note that the ELOM TT is NOT intended to identify children with intellectual or other forms of disability. And the term "at risk" should NOT be understood as implying that the child has or is at risk for a disability. However, some children whose scores fall into this band would likely have a disability. If this is indicated by experience in the early learning programme daily setting or

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[1] Snelling, Dawes 2019; Dawes, Biersteker, Snelling, Girdwood & Tredoux 2020 Technical Manual

raised by a caregiver, the child would need to be assessed on an appropriate disability screening tool (e.g. Meisels et. al., 1993)[2], and if indicated, referred to an expert in developmental assessment.

Method for developing the *ELOM Short Form Targeting Tool*

The 2016 ELOM standardisation database available for public use at Data First was used in analyses undertaken to create the ELOM TT (https://www.datafirst.uct.ac.za/dataportal/index.php/catalog/627).

The objective was to construct one Targeting Tool with one item drawn from each ELOM Domain that would be applicable to all children 50-69 months. ELOM items most strongly associated with being *at risk of not being able to reach the expected standard* were used to construct the ELOM TT. Items and their ability to reliably detect children in the *At Risk* band on the ELOM were identified through the following steps.

Step 1: Selecting items for the ELOM Short Form Targeting Tool

The dataset was split into the two age groups (50-59 months N = 258; 60-69 months N =1073). In order to select items from each ELOM Domain, partial correlations (controlling for the child's age) were computed for each Domain and their respective items for each age group. The purpose of analysing each group separately was to establish whether there were differences in the strength of item correlations with the Domain Total in the age groups. Separate targeting tools would be necessary should major differences between the age groups be evident. Tables A1a-A1e in **Appendix 1** provide the correlations.

Criteria for item selection

Items that had the highest significant correlations with their respective Doman Total scores and that were common to both age groups were selected. Where the highest item Domain Total correlations differed between age groups judgments were made. This was only the case in the *Gross Motor Development* (GMD) and *Emergent Numeracy and Mathematics* (ELL) Domains.

In the *GMD* Domain, in the younger age group, item 3 (*catching the bean bag in the preferred hand*) had the highest significant correlation with the GMD Domain Total (.768), while the correlation between Item 4 (*catching the bean bag in the non-preferred hand*) and the Domain Total was .752. There is no meaningful difference in these values. in the older age group, item 4 had the highest significant correlation with the Domain Total (.797), while the correlation between Item 3 and the Domain Total was .784. Again, there is no meaningful difference in these values.

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[2] Meisels, S. J., Henderson, L. W., Liaw, F. R., Browning, K., & Ten Have, T. (1993). New evidence for the effectiveness of the Early Screening Inventory. *Early Childhood Research Quarterly*, *8*(3), 327-346.

- **Item 4** (catching the bean bag in the non-preferred hand), was selected as given the minimal differences in correlations, this is the more challenging item of the two.
- **Note**: We recommend that all bean bag items are administered so that the child has practice with the task, but only item 4 is scored.

In the *Emergent Numeracy and Mathematics* Domain, the items that correlate highest with the Domain Total varied slightly between age groups. In the 50-59 month group. Item 10 (*addition and subtraction*) correlates highest with the Domain Total score (.773), while in the 60-69 month group it is item 9 - *counting in classes* that has the highest correlation with the Domain Total (.748). For the younger group the Domain Total score correlation with item 9 is .700.

- **Item 9** was selected as counting in classes is a fundamental numeracy skill and is less challenging than item 10 for younger children.

Table 1 displays the items chosen for the testing the ability of the Targeting Tool to accurately identify children at Risk for not reaching the ELOM Standard. Items selected are highlighted in Tables 1a-1e in **Appendix 1.**

Table 1: ELOM Short Form Targeting Tool Items

ELOM SHORT FORM TARGETING ITEMS	Age Group 50-59 months	Age Group 60-69 months
	Correlation with Domain Total score*	Correlation with Domain Total score*
Domain: Gross Motor Development **Item 4:** Catch bean bag with non-preferred hand	.752	.797
Domain: Fine Motor Development and Visual Motor Integration **Item 6:** Copy triangle	.700	.825
Domain: Emergent Numeracy and Mathematics **Item 9:** Counting in classes	.700	.748
Domain: cognition and Executive Functioning **Item 15:** Pencil tapping	.729	.786
Domain: Emergent Literacy and Language **Item 19:** Expressive language: self-awareness	.693	.699

*All correlations are significant (p<.001).

Step 2: Testing the sensitivity and specificity of the proposed Targeting Tool items in distinguishing children in the ELOM At Risk band for those that are not.

ELOM Total scores in the 2016 database were used to create two categories for each of the two age groups:

1. **At Risk**: those children whose scores placed them in the *At-Risk* band of the distribution, and

2. **Not-At-Risk:** those who scored above the 32nd percentile of the distribution (scoring in the *Falling Behind* or *Achieving the Standard* ELOM score bands).

Criteria for determining the sensitivity and specificity of the Tool

These were informed by methods used in developmental screening instruments (e.g. Distefano and Kamphaus 2007)[3].

- **Sensitivity** in this case is the probability that the Targeting Tool (using the selected ELOM items), will correctly identify children whose Total ELOM scores (using all ELOM items) fall within the At Risk band. If the Tool has high sensitivity it will not miss many children who should be in the At Risk band (false negatives).

- **Specificity** refers to the probability that those we have been classified as Not-At-Risk (Falling Behind or Achieving the Standard), will be correctly identified as scoring in these bands on the full ELOM, and therefore not At Risk.

For both sensitivity and specificity, values of 80% or greater meet the standard for a valid screening measure (Meisels 1989)[4]. It was therefore decided to set the ELOM Total cut off score at the 80th percentile for testing the sensitivity and specificity of the Targeting Tool. To be a valid measure, eighty per cent of children in the *At Risk* group should achieve less than this score.

Logistic regression with Receiver Operating Characteristic (ROC) analyses are used in testing the accuracy of screening instruments such as the ELOM TT in identifying the population of interest (Mandrekar, 2010; Meisels, Henderson, Liaw, Browning & Ten Have, 1993)[5]. An ROC produces an area under the curve (AUC) which indicates the overall accuracy of the instrument over a range of cut-off points. Scores range from 0-1.0 with a score of 0.5 indicating that the instrument is accurate only 50% of the time, while a score of 1.0 indicates 100% accuracy - distinguishing between those (in this case) classified as 'At Risk' and those who are not.

ROC curves provide a graphic illustration of the connection between the **sensitivity** (ability to detect a condition) and **specificity** (ability to exclude those without the condition) of a test for every possible cut-off value of a test (the test score). The curve plots two parameters: the True Positive Rate and the False Positive Rate:

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[3] Distefano, C. & Kamphaus, R.W. (2007). Development and validation of a behavioral screener for preschool aged children. *Journal of Behavioral and Emotional Disorders,15*(2), 93-102

[4] Meisels, S. J. (1989). Can developmental screening tests identify children who are developmentally at risk?. *Pediatrics*, *83*(4), 578-585.

[5] Mandrekar, J. N. (2010). Receiver operating characteristic curve in diagnostic test assessment. *Journal of Thoracic Oncology*, *5*(9), 1315-1316. Meisels, S. J., Henderson, L. W., Liaw, F. R., Browning, K., & Ten Have, T. (1993). New evidence for the effectiveness of the Early Screening Inventory. *Early Childhood Research Quarterly*, *8*(3), 327-346

- **Sensitivity** is plotted on the y-axis (the true positive (TP) rate): = TP/(TP+FN); where TP is True Positive, and FN is False Negative.
- **Specificity** is plotted on the x-axis (1 – specificity), the false positive rate): 1- {FP/(FP+TN)}; where FP is False Positive, and TN is True Negative.

A test with 100% sensitivity and specificity (very highly unlikely) would be a straight line hugging the Y axis. On the x axis (Specificity – 1), and for a good test, the value should be as close to zero as possible (as is the case in the ELOM TT). Figure 2 presents the ROC curve for children aged 50-59 months, and Figure 3, that for children aged 60-69 months.

Figure 2: ROC Curve for the ELOM Short Form Targeting Tool Children 50-59 months

Diagonal segments are produced by ties.
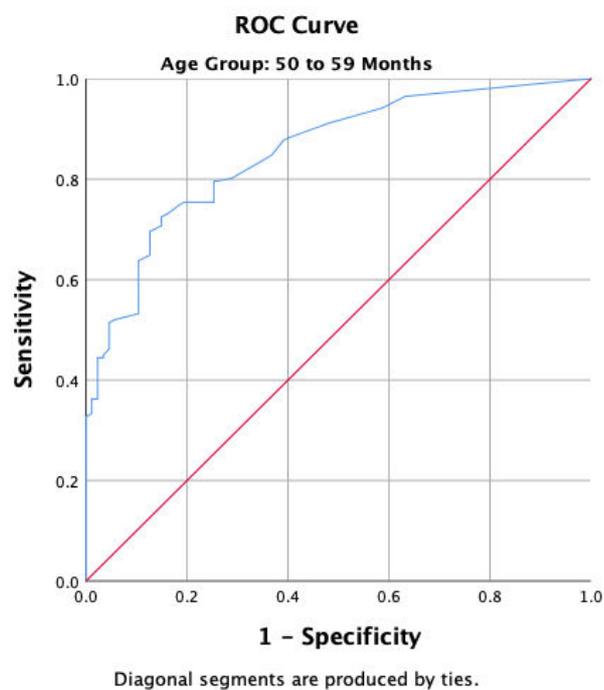
For the 50-59 age group (N=258), the AUROC = .854 (SE = .023; p<.001; CI 95% lower Limit = .808 and Upper Limit = .900). This indicates that for this age group the Tool is 85% accurate in identifying children who would be in the *At Risk* group if they were assessed on the full ELOM Direct Assessment.

Figure 3: ROC Curve for the ELOM Short Form Targeting Tool Children 60-69 months

ROC Curve

Age Group: 60 to 69 Months

(Sensitivity on the y-axis, 1 – Specificity on the x-axis)

Diagonal segments are produced by ties.
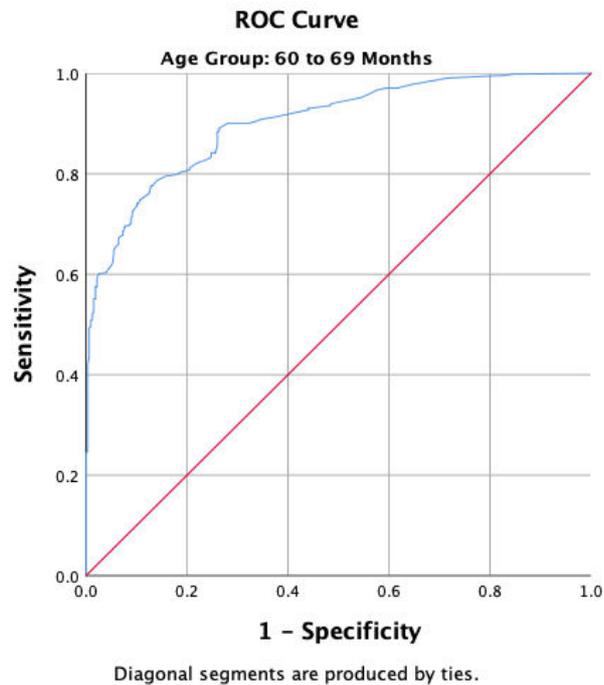
For the 60-69 age group (N=1073), the AUROC = .902 (SE = .009; p<.001; CI 95% lower Limit = . .884 and Upper Limit = .920). This indicates that for this age group the Tool is 90% accurate in identifying children who would be in the *At Risk* group if they were assessed on the full ELOM Direct Assessment. The accuracy of the Targeting Tool is acceptable for both age groups but 5% better for the 60-69 month group. The much larger sample available for this analysis probably accounts for the difference.

Step 3: Choosing cut-off scores

The cut-off score on the ELOM TT Total Score is that underline which children in each age group should be considered for targeting.

Sensitivity and specificity scores are used to decide on an appropriate cut-off. It is desirable to have a high True Positive Rate (Sensitivity) while ensuring as low as possible a False Positive Rate (Specificity). As we require the ELOM TT to accurately detect children in the at risk group so they can be targeted for inclusion in programmes, a high True Positive rate (sensitivity) is desirable. This is more important than specificity (the False Positive rate) because including a small proportion of children who are not so at risk in the intervention is better than excluding those who are at risk (which would be the case with poor sensitivity).

The coordinates of each ROC curve provide True Positive and False Positive rates for all possible scores on the ELOM TT. Cut-off values in each age group are provided in the **Coordinates of the Curve** tables for each age group provided in tables A2.1. and A2.2. in **Appendix 2.**

Following the literature, it was decided to set the ROC sensitivity value **at 0.804** (80% True positive score) for both age groups to determine their cut-off scores. Chosen cut-off values are highlighted on bold red font in each of the tables in Appendix 2**.** These are included in Table 2 below which presents the chosen cut-off scores on the ELOM TT <u>below which</u> children in each age group should be considered for targeting. They are likely to be in particular need of support for early learning.

Table 2: ELOM Short Form Targeting Tool Cut-Off Scores for each age group

Age Group	CUT-OFF score	True Positive Rate	False POSITIVE Rate
50-59 Months	<3.70.	80%	29%
60-69 Months	< 7.12.	80%	19%

Conclusion

It is evident that the ELOM TT is able to identify children who would fall in the *At Risk band* if they were tested on the full ELOM*.* Having set the sensitivity of the tool at 80% for both age groups, makes it less specific in targeting children in the younger group in which a greater proportion of children is likely to be misclassified as *At Risk*. However, their scores will be close to the At Risk cut-off and would no doubt benefit from support. Where there is a concern about possible intellectual or other disability, the child should be referred for assessment by an appropriate specialist.

ELOM SHORT FORM TARGETING TOOL ITEMS
Domain: Gross Motor Development ELOM Item 2: Catch bean bag with both hands (practice only) ELOM Item 3: Catch been bag with preferred hand (practice only) ***ELOM Item 4:** Catch bean bag with non-preferred hand*
Domain: Fine Motor Development and Visual Motor Integration ***ELOM Item 6:** Copy triangle*
Domain: Emergent Numeracy and Mathematics ***ELOM Item 9:** Counting in classes*
Domain: cognition and Executive Functioning ***ELOM Item 15:** Pencil tapping*
Domain: Emergent Literacy and Language ***ELOM Item 19:** Expressive language: self-awareness*

We recommend two next steps:

  a) develop a brief document introducing the purpose of the ELOM Short Form Targeting Tool and a set of instructions for administering the ELOM Tool.
  b) code is available for a tablet scoring version of the Short Form Targeting Tool for consideration by Innovation Edge.

In Tables A1a-A1e, the selected item is **bold** and **red** font.

Table A1a: Partial correlations between ELOM items and Gross Motor Development (GMD) Total

Age Group 50 to 59 Months Control Variable: Age In Months			ITEM 1 Standing on one leg	ITEM 2 Bean Bag both hands	ITEM 3 Bean Bag Preferred Hand	Item 4 Bean Bag non- preferred Hand	GMD Total
ITEM 1 Standing on one leg	Correlation		1,000	,194	,187	,159	,459
	Significance (2-tailed)			,002	,003	,011	,000
	df		0	255	255	255	255
	Bootstrap[a]	Bias	0,000	,000	,001	,002	,001
		Std. Error	0,000	,061	,052	,054	,045
		BCa 95% Confidence Interval Lower		,062	,079	,043	,358
		Upper		,315	,295	,266	,551
ITEM 2 Bean Bag both hands	Correlation		,194	1,000	,368	,161	,591
	Significance (2-tailed)		,002		,000	,010	,000
	df		255	0	255	255	255
	Bootstrap[a]	Bias	,000	0,000	,002	,002	,001
		Std. Error	,061	0,000	,057	,059	,039
		BCa 95% Confidence Interval Lower	,062		,247	,051	,507
		Upper	,315		,484	,287	,667
ITEM 3 Bean Bag Preferred Hand	Correlation		,187	,368	1,000	,365	,768
	Significance (2-tailed)		,003	,000		,000	,000
	df		255	255	0	255	255
	Bootstrap[a]	Bias	,001	,002	0,000	,002	,000
		Std. Error	,052	,057	0,000	,064	,029
		BCa 95% Confidence Lower	,079	,247		,231	,705
		Upper	,295	,484		,490	,822

			ITEM 1 Standing on one leg	ITEM 2 Bean Bag both hands	ITEM 3 Bean Bag Preferred Hand	ITEM 4 Bean Bag non-preferred Hand	GMD Total
		Interval					
ITEM 4 Bean Bag non-preferred Hand	Correlation		,159	,161	,365	1,000	,752
	Significance (2-tailed)		,011	,010	,000		,000
	df		255	255	255	0	255
	Bootstrap[a]	Bias	,002	,002	,002	0,000	,001
		Std. Error	,054	,059	,064	0,000	,027
		BCa 95% Confidence Interval Lower	,043	,051	,231		,695
		Upper	,266	,287	,490		,801
GMD Total	Correlation		,459	,591	,768	,752	1,000
	Significance (2-tailed)		,000	,000	,000	,000	
	df		255	255	255	255	0
	Bootstrap[a]	Bias	,001	,001	,000	,001	0,000
		Std. Error	,045	,039	,029	,027	0,000
		BCa 95% Confidence Interval Lower	,358	,507	,705	,695	
		Upper	,551	,667	,822	,801	
Age Group 60 to 69 Months Control Variable: Age In Months			**ITEM 1 Standing on one leg**	**ITEM 2 Bean Bag both hands**	**ITEM 3 Bean Bag Preferred Hand**	**ITEM 4 Bean Bag non-preferred Hand**	**GMD Total**
ITEM 1 Standing on one leg	Correlation		1,000	,135	,126	,113	,360
	Significance (2-tailed)			,000	,000	,000	,000
	df		0	1070	1070	1070	1070
	Bootstrap[a]	Bias	0,000	-,001	,001	,001	,000
		Std. Error	0,000	,032	,029	,028	,027
		BCa 95% Confidence Interval Lower		,078	,068	,058	,304
		Upper		,195	,184	,169	,413
ITEM 2 Bean Bag both hands	Correlation		,135	1,000	,340	,292	,605
	Significance (2-tailed)		,000		,000	,000	,000
	df		1070	0	1070	1070	1070

	Bootstrap[a]	Bias		-,001	0,000	,000	,001	,000
		Std. Error		,032	0,000	,026	,027	,019
		BCa 95% Confidence Interval	Lower	,078		,292	,237	,570
			Upper	,195		,388	,352	,641
ITEM 3 Bean Bag Preferred Hand	Correlation			,126	,340	1,000	,414	,784
	Significance (2-tailed)			,000	,000		,000	,000
	df			1070	1070	0	1070	1070
	Bootstrap[a]	Bias		,001	,000	0,000	,000	,000
		Std. Error		,029	,026	0,000	,027	,012
		BCa 95% Confidence Interval	Lower	,068	,292		,352	,761
			Upper	,184	,388		,473	,806
ITEM 4 Bean Bag non-preferred Hand	Correlation			,113	,292	,414	1,000	,797
	Significance (2-tailed)			,000	,000	,000		,000
	df			1070	1070	1070	0	1070
	Bootstrap[a]	Bias		,001	,001	,000	0,000	,000
		Std. Error		,028	,027	,027	0,000	,011
		BCa 95% Confidence Interval	Lower	,058	,237	,352		,774
			Upper	,169	,352	,473		,819
GMD Total	Correlation			,360	,605	,784	,797	1,000
	Significance (2-tailed)			,000	,000	,000	,000	
	df			1070	1070	1070	1070	0
	Bootstrap[a]	Bias		,000	,000	,000	,000	0,000
		Std. Error		,027	,019	,012	,011	0,000
		BCa 95% Confidence Interval	Lower	,304	,570	,761	,774	
			Upper	,413	,641	,806	,819	

a. Unless otherwise noted, bootstrap results are based on 1000 bootstrap samples.

Table A1b: Partial correlations between ELOM items and Fine Motor Coordination and Visual Motor Integration (FMC&VMI) Total

Age Group 50 to 59 Months Control Variable: Age In Months			ITEM 5 Cross & Square	ITEM 6 Draw Triangle	ITEM 7 Draw Person	ITEM 8 String Beads	FMC-VMI Total
ITEM 5 Cross & Square	Correlation		1,000	,252	,362	,131	,608
	Significance (2-tailed)			,000	,000	,036	,000
	df		0	255	255	255	255
	Bootstrap[a]	Bias	0,000	,003	,000	,002	,000
		Std. Error	0,000	,034	,077	,073	,043
		BCa 95% Confidence Interval	Lower		,175	,196	-,028	,519
			Upper		,327	,509	,278	,687
ITEM 6 Draw Triangle	Correlation		,252	1,000	,235	,166	,777
	Significance (2-tailed)		,000		,000	,008	,000
	df		255	0	255	255	255
	Bootstrap[a]	Bias	,003	0,000	,001	,002	,001
		Std. Error	,034	0,000	,043	,062	,026
		BCa 95% Confidence Interval	Lower	,175		,143	,044	,715
			Upper	,327		,320	,292	,830
ITEM 7 Draw Person	Correlation		,362	,235	1,000	,156	,655
	Significance (2-tailed)		,000	,000		,012	,000
	df		255	255	0	255	255
	Bootstrap[a]	Bias	,000	,001	0,000	,000	-,001
		Std. Error	,077	,043	0,000	,052	,036
		BCa 95% Confidence Interval	Lower	,196	,143		,054	,578
			Upper	,509	,320		,258	,723
ITEM 8 String Beads	Correlation		,131	,166	,156	1,000	,479
	Significance (2-tailed)		,036	,008	,012		,000
	df		255	255	255	0	255
	Bootstrap[a]	Bias	,002	,002	,000	0,000	,000
		Std. Error	,073	,062	,052	0,000	,047

				ITEM 5 Cross & Square	ITEM 6 Draw Triangle	ITEM 7 Draw Person	ITEM 8 String Beads	FMC-VMI Total
		BCa 95% Confidence Interval	Lower	-,028	,044	,054		,382
			Upper	,278	,292	,258		,574
FMC-VMI Total	Correlation			,608	,777	,655	,479	1,000
	Significance (2-tailed)			,000	,000	,000	,000	
	df			255	255	255	255	0
	Bootstrap[a]	Bias		,000	,001	-,001	,000	0,000
		Std. Error		,043	,026	,036	,047	0,000
		BCa 95% Confidence Interval	Lower	,519	,715	,578	,382	
			Upper	,687	,830	,723	,574	

Age Group 60 to 69 Months Control Variable: Age In Months				**ITEM 5 Cross & Square**	**ITEM 6 Draw Triangle**	**ITEM 7 Draw Person**	**ITEM 8 String Beads**	**FMC-VMI Total**
ITEM 5 Cross & Square	Correlation			1,000	,161	,213	,148	,462
	Significance (2-tailed)				,000	,000	,000	,000
	df			0	1070	1070	1070	1070
	Bootstrap[a]	Bias		0,000	,001	-,002	,000	-,001
		Std. Error		0,000	,029	,044	,029	,028
		BCa 95% Confidence Interval	Lower		,102	,127	,090	,404
			Upper		,215	,296	,203	,514
ITEM 6 Draw Triangle	Correlation			,161	1,000	,226	,122	,825
	Significance (2-tailed)			,000		,000	,000	,000
	df			1070	0	1070	1070	1070
	Bootstrap[a]	Bias		,001	0,000	,000	,000	,000
		Std. Error		,029	0,000	,026	,030	,010
		BCa 95% Confidence Interval	Lower	,102		,172	,058	,804
			Upper	,215		,274	,180	,847
ITEM 7 Draw a Person	Correlation			,213	,226	1,000	,169	,577
	Significance (2-tailed)			,000	,000		,000	,000

	df			1070	1070	0	1070	1070
	Bootstrap[a]	Bias		-,002	,000	0,000	-,002	-,001
		Std. Error		,044	,026	0,000	,031	,023
		BCa 95% Confidence Interval	Lower	,127	,172		,109	,530
			Upper	,296	,274		,224	,617
ITEM 8 String Beads	Correlation			,148	,122	,169	1,000	,477
	Significance (2-tailed)			,000	,000	,000		,000
	df			1070	1070	1070	0	1070
	Bootstrap[a]	Bias		,000	,000	-,002	0,000	-,001
		Std. Error		,029	,030	,031	0,000	,023
		BCa 95% Confidence Interval	Lower	,090	,058	,109		,427
			Upper	,203	,180	,224		,521
FMC-VMI Total	Correlation			,462	,825	,577	,477	1,000
	Significance (2-tailed)			,000	,000	,000	,000	
	df			1070	1070	1070	1070	0
	Bootstrap[a]	Bias		-,001	,000	-,001	-,001	0,000
		Std. Error		,028	,010	,023	,023	0,000
		BCa 95% Confidence Interval	Lower	,404	,804	,530	,427	
			Upper	,514	,847	,617	,521	

a. Unless otherwise noted, bootstrap results are based on 1000 bootstrap samples

Table A1c: Partial correlations between ELOM items and Emergent Numeracy & Mathematics (ENM) Total

Age Group 50 to 59 Months Control Variable: Age In Months				Item 9 Counting in classes	Item 10 Addition & subtraction	Item 11 Sorting & classification	Item 12 Spatial vocabulary	Item 13 Measurement vocabulary	ENM Total
Item 9 Counting in classes	Correlation			1,000	,432	,151	,127	,017	,700
	Significance (2-tailed)				,000	,016	,042	,782	,000
	df			0	255	255	255	255	255
	Bootstrap[a]	Bias		0,000	,001	,003	,000	-,002	,000
		Std. Error		0,000	,057	,056	,054	,063	,031
		BCa 95% Confidence Interval	Lower		,309	,037	,006	-,112	,630
			Upper		,547	,261	,237	,136	,757
Item 10 Addition & subtraction	Correlation			,432	1,000	,264	,163	,012	,773
	Significance (2-tailed)			,000		,000	,009	,852	,000
	df			255	0	255	255	255	255
	Bootstrap[a]	Bias		,001	0,000	,002	-,002	,000	,000
		Std. Error		,057	0,000	,053	,052	,059	,024
		BCa 95% Confidence Interval	Lower	,309		,157	,056	-,110	,721
			Upper	,547		,370	,262	,125	,815
Item 11 Sorting & classification	Correlation			,151	,264	1,000	,087	,018	,577
	Significance (2-tailed)			,016	,000		,165	,778	,000
	df			255	255	0	255	255	255
	Bootstrap[a]	Bias		,003	,002	0,000	,003	,002	,002
		Std. Error		,056	,053	0,000	,066	,061	,035
		BCa 95% Confidence Interval	Lower	,037	,157		-,048	-,092	,502
			Upper	,261	,370		,228	,142	,653
Item 12 Spatial vocabulary	Correlation			,127	,163	,087	1,000	,185	,398
	Significance (2-tailed)			,042	,009	,165		,003	,000
	df			255	255	255	0	255	255
	Bootstrap[a]	Bias		,000	-,002	,003	0,000	-,001	-,001

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			Item 9 Counting in classes	Item 10 Addition & subtraction	Item 11 Sorting & classification	Item 12 Spatial vocabulary	Item 13 Measurement vocabulary	ENM Total
		Std. Error	,054	,052	,066	0,000	,065	,051
	BCa 95% Confidence Interval	Lower	,006	,056	-,048		,055	,295
		Upper	,237	,262	,228		,306	,487
Item 13 Measurement vocabulary	Correlation		,017	,012	,018	,185	1,000	,273
	Significance (2-tailed)		,782	,852	,778	,003		,000
	df		255	255	255	255	0	255
	Bootstrap[a]	Bias	-,002	,000	,002	-,001	0,000	-,001
		Std. Error	,063	,059	,061	,065	0,000	,057
	BCa 95% Confidence Interval	Lower	-,112	-,110	-,092	,055		,148
		Upper	,136	,125	,142	,306		,376
ENM Total	Correlation		,700	,773	,577	,398	,273	1,000
	Significance (2-tailed)		,000	,000	,000	,000	,000	
	df		255	255	255	255	255	0
	Bootstrap[a]	Bias	,000	,000	,002	-,001	-,001	0,000
		Std. Error	,031	,024	,035	,051	,057	0,000
	BCa 95% Confidence Interval	Lower	,630	,721	,502	,295	,148	
		Upper	,757	,815	,653	,487	,376	

Age Group 60 to 69 Months Control Variable: Age In Months			Item 9 Counting in classes	Item 10 Addition & subtraction	Item 11 Sorting & classification	Item 12 Spatial vocabulary	Item 13 Measurement vocabulary	ENM Total
Item 9 Counting in classes	Correlation		1,000	,397	,169	,134	,165	,748
	Significance (2-tailed)			,000	,000	,000	,000	,000
	df		0	1070	1070	1070	1070	1070
	Bootstrap[a]	Bias	0,000	-,001	,001	,001	,000	,000
		Std. Error	0,000	,027	,031	,030	,028	,013
	BCa 95% Confidence Interval	Lower		,342	,108	,074	,108	,721
		Upper		,447	,233	,196	,219	,772
Item 10	Correlation		,397	1,000	,182	,116	,130	,722

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Sorting & classification	Significance (2-tailed)			,000		,000	,000	,000	,000
	df			1070	0	1070	1070	1070	1070
	Bootstrap[a]	Bias		-,001	0,000	,000	-,001	,000	-,001
		Std. Error		,027	0,000	,030	,030	,028	,013
		BCa 95% Confidence Interval	Lower	,342		,123	,051	,075	,695
			Upper	,447		,242	,175	,183	,746
Item 11 Sorting & classification	Correlation			,169	,182	1,000	,104	,121	,533
	Significance (2-tailed)			,000	,000		,001	,000	,000
	df			1070	1070	0	1070	1070	1070
	Bootstrap[a]	Bias		,001	,000	0,000	,000	,000	,001
		Std. Error		,031	,030	0,000	,031	,030	,022
		BCa 95% Confidence Interval	Lower	,108	,123		,046	,062	,489
			Upper	,233	,242		,159	,181	,579
Item 12 Spatial vocabulary	Correlation			,134	,116	,104	1,000	,160	,412
	Significance (2-tailed)			,000	,000	,001		,000	,000
	df			1070	1070	1070	0	1070	1070
	Bootstrap[a]	Bias		,001	-,001	,000	0,000	-,001	,000
		Std. Error		,030	,030	,031	0,000	,032	,025
		BCa 95% Confidence Interval	Lower	,074	,051	,046		,103	,359
			Upper	,196	,175	,159		,219	,461
Item 13 Measurement vocabulary	Correlation			,165	,130	,121	,160	1,000	,397
	Significance (2-tailed)			,000	,000	,000	,000		,000
	df			1070	1070	1070	1070	0	1070
	Bootstrap[a]	Bias		,000	,000	,000	-,001	0,000	,000
		Std. Error		,028	,028	,030	,032	0,000	,024
		BCa 95% Confidence Interval	Lower	,108	,075	,062	,103		,350
			Upper	,219	,183	,181	,219		,441

ENM Total	Correlation			,748	,722	,533	,412	,397	1,000
	Significance (2-tailed)			,000	,000	,000	,000	,000	
	df			1070	1070	1070	1070	1070	0
	Bootstrap[a]	Bias		,000	-,001	,001	,000	,000	0,000
		Std. Error		,013	,013	,022	,025	,024	0,000
		BCa 95% Confidence Interval	Lower	,721	,695	,489	,359	,350	
			Upper	,772	,746	,579	,461	,441	

a. Unless otherwise noted, bootstrap results are based on 1000 bootstrap samples

Table A1d: Partial correlations between ELOM items and Executive Functioning (CEF) Total

Age Group 50 to 59 Months Control Variable: Age In Months				Item 14 DCCS	Item 15 Pencil Tapping	Item 16 Digit Span	Item 17 Picture Puzzle	CEF Total
Item 14 DCCS	Correlation			1,000	,207	,248	,170	,583
	Significance (2-tailed)				,001	,000	,006	,000
	df			0	255	255	255	255
	Bootstrap[a]	Bias		0,000	,001	-,002	-,001	-,001
		Std. Error		0,000	,063	,060	,057	,038
		BCa 95% Confidence Interval	Lower		,086	,129	,046	,504
			Upper		,332	,356	,277	,654
Item 15 Pencil Tapping	Correlation			,207	1,000	,285	,243	,729
	Significance (2-tailed)			,001		,000	,000	,000
	df			255	0	255	255	255
	Bootstrap[a]	Bias		,001	0,000	,001	,002	,000
		Std. Error		,063	0,000	,057	,058	,030
		BCa 95% Confidence Interval	Lower	,086		,171	,127	,664
			Upper	,332		,398	,360	,786
Item 16 Digit	Correlation			,248	,285	1,000	,176	,679

			Item 14 DCCS	Item 15 Pencil Tapping	Item 16 Digit Span	Item 17 Picture Puzzle	CEF Total
Span	Significance (2-tailed)		,000	,000		,005	,000
	df		255	255	0	255	255
	Bootstrap[a]	Bias	-,002	,001	0,000	-,001	-,001
		Std. Error	,060	,057	0,000	,062	,034
		BCa 95% Confidence Interval	Lower ,129	,171		,052	,607
			Upper ,356	,398		,297	,743
Item 17 Picture Puzzle	Correlation		,170	,243	,176	1,000	,578
	Significance (2-tailed)		,006	,000	,005		,000
	df		255	255	255	0	255
	Bootstrap[a]	Bias	-,001	,002	-,001	0,000	,000
		Std. Error	,057	,058	,062	0,000	,040
		BCa 95% Confidence Interval	Lower ,046	,127	,052		,487
			Upper ,277	,360	,297		,653
CEF Total	Correlation		,583	,729	,679	,578	1,000
	Significance (2-tailed)		,000	,000	,000	,000	
	df		255	255	255	255	0
	Bootstrap[a]	Bias	-,001	,000	-,001	,000	0,000
		Std. Error	,038	,030	,034	,040	0,000
		BCa 95% Confidence Interval	Lower ,504	,664	,607	,487	
			Upper ,654	,786	,743	,653	
Age Group 60 to 69 Months Control Variable: Age In Months			**Item 14 DCCS**	**Item 15 Pencil Tapping**	**Item 16 Digit Span**	**Item 17 Picture Puzzle**	**CEF Total**
Item 14 DCCS	Correlation		1,000	,231	,117	,137	,504
	Significance (2-tailed)			,000	,000	,000	,000
	df		0	1070	1070	1070	1070
	Bootstrap[a]	Bias	0,000	,001	-,001	,001	,000
		Std. Error	0,000	,029	,031	,030	,022

	BCa 95% Confidence Interval	Lower		,174	,055	,077	,460
		Upper		,290	,175	,200	,552
Item 15 Pencil Tapping	Correlation		,231	1,000	,262	,273	,786
	Significance (2-tailed)		,000		,000	,000	,000
	df		1070	0	1070	1070	1070
	Bootstrap[a] Bias		,001	0,000	,001	,001	,001
	Std. Error		,029	0,000	,028	,029	,011
	BCa 95% Confidence Interval	Lower	,174		,208	,219	,764
		Upper	,290		,318	,332	,810
Item 16 Digit Span	Correlation		,117	,262	1,000	,107	,580
	Significance (2-tailed)		,000	,000		,000	,000
	df		1070	1070	0	1070	1070
	Bootstrap[a] Bias		-,001	,001	0,000	,001	,000
	Std. Error		,031	,028	0,000	,030	,019
	BCa 95% Confidence Interval	Lower	,055	,208		,049	,542
		Upper	,175	,318		,171	,617
Item 17 Picture Puzzle	Correlation		,137	,273	,107	1,000	,606
	Significance (2-tailed)		,000	,000	,000		,000
	df		1070	1070	1070	0	1070
	Bootstrap[a] Bias		,001	,001	,001	0,000	,001
	Std. Error		,030	,029	,030	0,000	,019
	BCa 95% Confidence Interval	Lower	,077	,219	,049		,568
		Upper	,200	,332	,171		,645
CEF Total	Correlation		,504	,786	,580	,606	1,000
	Significance (2-tailed)		,000	,000	,000	,000	
	df		1070	1070	1070	1070	0
	Bootstrap[a] Bias		,000	,001	,000	,001	0,000

	Std. Error		,022	,011	,019	,019	0,000
	BCa 95% Confidence Interval	Lower	,460	,764	,542	,568	
		Upper	,552	,810	,617	,645	

a. Unless otherwise noted, bootstrap results are based on 1000 bootstrap samples

Table A1e: Partial correlations between ELOM items and Emergent Language and Literacy (ELL) Total

Age Group 50 to 59 Months Control Variable: Age In Months			Item 18 Expressive language: empathy	Item 19 Expressive language: self-awareness	Item 20 Expressive language	Item 21 Expressive vocabulary	Item 22 Oral comprehension	Item 23 Initial sound discrimination	ELL Total
Item 18 Expressive language: empathy	Correlation		1,000	,427	,370	,299	,175	,144	,679
	Significance (2-tailed)			,000	,000	,000	,005	,021	,000
	df		0	255	255	255	255	255	255
	Bootstrap[a]	Bias	0,000	,000	,002	-,001	-,001	,002	,000
		Std. Error	0,000	,058	,049	,046	,057	,065	,028
		BCa 95% Confidence Interval	Lower		,300	,265	,205	,060	-,004	,616
			Upper		,534	,467	,389	,290	,281	,737
Item 19 Expressive language: self-awareness	Correlation		,427	1,000	,358	,264	,171	,201	,693
	Significance (2-tailed)		,000		,000	,000	,006	,001	,000
	df		255	0	255	255	255	255	255
	Bootstrap[a]	Bias	,000	0,000	,000	-,001	-,003	,001	,000
		Std. Error	,058	0,000	,054	,055	,059	,059	,030
		BCa 95% Confidence Interval	Lower	,300		,251	,160	,054	,077	,631
			Upper	,534		,464	,366	,285	,322	,746
Item 20 Expressive language	Correlation		,370	,358	1,000	,458	,312	,155	,670
	Significance (2-tailed)		,000	,000		,000	,000	,013	,000
	df		255	255	0	255	255	255	255

	Bootstrap[a]	Bias		,002	,000	0,000	-,001	-,003	,001	,000
		Std. Error		,049	,054	0,000	,051	,058	,056	,031
		BCa 95% Confidence Interval	Lower	,265	,251		,361	,188	,041	,607
			Upper	,467	,464		,551	,417	,268	,729
Item 21 Expressive vocabulary	Correlation			,299	,264	,458	1,000	,351	,183	,625
	Significance (2-tailed)			,000	,000	,000		,000	,003	,000
	df			255	255	255	0	255	255	255
	Bootstrap[a]	Bias		-,001	-,001	-,001	0,000	-,002	,001	-,001
		Std. Error		,046	,055	,051	0,000	,057	,052	,037
		BCa 95% Confidence Interval	Lower	,205	,160	,361		,235	,077	,548
			Upper	,389	,366	,551		,460	,284	,691
Item 22 Oral comprehension	Correlation			,175	,171	,312	,351	1,000	,181	,554
	Significance (2-tailed)			,005	,006	,000	,000		,004	,000
	df			255	255	255	255	0	255	255
	Bootstrap[a]	Bias		-,001	-,003	-,003	-,002	0,000	,000	-,003
		Std. Error		,057	,059	,058	,057	0,000	,056	,042
		BCa 95% Confidence Interval	Lower	,060	,054	,188	,235		,063	,469
			Upper	,290	,285	,417	,460		,298	,633
Item 23 Initial sound discrimination	Correlation			,144	,201	,155	,183	,181	1,000	,513
	Significance (2-tailed)			,021	,001	,013	,003	,004		,000
	df			255	255	255	255	255	0	255
	Bootstrap[a]	Bias		,002	,001	,001	,001	,000	0,000	,001
		Std. Error		,065	,059	,056	,052	,056	0,000	,045
		BCa 95% Confidence Interval	Lower	-,004	,077	,041	,077	,063		,410
			Upper	,281	,322	,268	,284	,298		,605
ELL Total	Correlation			,679	,693	,670	,625	,554	,513	1,000
	Significance (2-tailed)			,000	,000	,000	,000	,000	,000	
	df			255	255	255	255	255	255	0

			Item 18 Expressive language: empathy	Item 19 Expressive language: self-awareness	Item 20 Expressive language	Item 21 Expressive vocabulary	Item 22 Oral comprehension	Item 23 Initial sound discrimination	ELL Total
	Bootstrapᵃ	Bias	,000	,000	,000	-,001	-,003	,001	0,000
		Std. Error	,028	,030	,031	,037	,042	,045	0,000
	BCa 95% Confidence Interval	Lower	,616	,631	,607	,548	,469	,410	
		Upper	,737	,746	,729	,691	,633	,605	
Age Group 60 to 69 Months Control Variable: Age In Months			**Item 18 Expressive language: empathy**	**Item 19 Expressive language: self-awareness**	**Item 20 Expressive language**	**Item 21 Expressive vocabulary**	**Item 22 Oral comprehension**	**Item 23 Initial sound discrimination**	**ELL Total**
Item 18 Expressive language: empathy	Correlation		1,000	,407	,303	,243	,195	,126	,654
	Significance (2-tailed)			,000	,000	,000	,000	,000	,000
	df		0	1070	1070	1070	1070	1070	1070
	Bootstrapᵃ	Bias	0,000	,001	-,001	,001	-,001	,001	,001
		Std. Error	0,000	,024	,025	,024	,027	,031	,015
	BCa 95% Confidence Interval	Lower		,357	,253	,198	,141	,060	,622
		Upper		,458	,351	,294	,247	,190	,686
Item 19 Expressive language: self-awareness	Correlation		,407	1,000	,424	,311	,220	,158	,699
	Significance (2-tailed)		,000		,000	,000	,000	,000	,000
	df		1070	0	1070	1070	1070	1070	1070
	Bootstrapᵃ	Bias	,001	0,000	-,001	,001	-,001	,000	,000
		Std. Error	,024	0,000	,025	,027	,028	,029	,014
	BCa 95% Confidence Interval	Lower	,357		,375	,261	,169	,104	,670
		Upper	,458		,471	,367	,272	,215	,726
Item 20 Expressive language	Correlation		,303	,424	1,000	,418	,339	,191	,652
	Significance (2-tailed)		,000	,000		,000	,000	,000	,000
	df		1070	1070	0	1070	1070	1070	1070
	Bootstrapᵃ	Bias	-,001	-,001	0,000	,001	-,001	-,001	-,001
		Std. Error	,025	,025	0,000	,029	,029	,026	,018
	BCa 95%	Lower	,253	,375		,356	,282	,139	,615

		Confidence Interval	Upper	,351	,471		,478	,395	,241	,686
Item 21 Expressive Vocabulary	Correlation			,243	,311	,418	1,000	,345	,139	,587
	Significance (2-tailed)			,000	,000	,000		,000	,000	,000
	df			1070	1070	1070	0	1070	1070	1070
	Bootstrap[a]	Bias		,001	,001	,001	0,000	,001	,001	,001
		Std. Error		,024	,027	,029	0,000	,029	,029	,020
		BCa 95% Confidence Interval	Lower	,198	,261	,356		,284	,077	,544
			Upper	,294	,367	,478		,407	,204	,630
Item 22 Oral Comprehension	Correlation			,195	,220	,339	,345	1,000	,225	,588
	Significance (2-tailed)			,000	,000	,000	,000		,000	,000
	df			1070	1070	1070	1070	0	1070	1070
	Bootstrap[a]	Bias		-,001	-,001	-,001	,001	0,000	,001	-,001
		Std. Error		,027	,028	,029	,029	0,000	,027	,020
		BCa 95% Confidence Interval	Lower	,141	,169	,282	,284		,170	,551
			Upper	,247	,272	,395	,407		,282	,627
Item 23 Initial Sound Discrimination	Correlation			,126	,158	,191	,139	,225	1,000	,540
	Significance (2-tailed)			,000	,000	,000	,000	,000		,000
	df			1070	1070	1070	1070	1070	0	1070
	Bootstrap[a]	Bias		,001	,000	-,001	,001	,001	0,000	,000
		Std. Error		,031	,029	,026	,029	,027	0,000	,020
		BCa 95% Confidence Interval	Lower	,060	,104	,139	,077	,170		,498
			Upper	,190	,215	,241	,204	,282		,579
Emergent Literacy & Language	Correlation			,654	,699	,652	,587	,588	,540	1,000
	Significance (2-tailed)			,000	,000	,000	,000	,000	,000	
	df			1070	1070	1070	1070	1070	1070	0
	Bootstrap[a]	Bias		,001	,000	-,001	,001	-,001	,000	0,000
		Std. Error		,015	,014	,018	,020	,020	,020	0,000
		BCa 95%	Lower	,622	,670	,615	,544	,551	,498	

				,686	,726	,686	,630	,627	,579	
		Confidence Interval	Upper							

a. Unless otherwise noted, bootstrap results are based on 1000 bootstrap samples

Appendix 2: ROC Curve Analysis

In Tables A2.1. and A2.2.the selected cut-off score is **bold** and **red** font.

Table A2.1. Selection of ELOM Targeting Tool cut-off scores for Age Group 50 to 59 Months

Coordinates of the Curve 50-59 months		
Positive if Greater Than or Equal To	**Sensitivity**	**1 - Specificity**
-1.0000	1.000	1.000
.6700	.965	.632
1.9800	.942	.586
2.6300	.912	.483
2.6600	.883	.402
2.7450	.877	.391
3.1150	.848	.368
3.6900	**.801**	**.287**
3.9700	.795	.253
4.0150	.760	.253
4.1000	.754	.253
4.2000	.754	.241
4.3100	.754	.195
4.4750	.749	.184
4.6700	.731	.161
5.0100	.725	.149
5.2800	.708	.149
5.3100	.696	.126
5.3750	.690	.126
5.4400	.673	.126
5.4700	.649	.126
5.7050	.637	.103
5.9800	.632	.103
6.0700	.614	.103
6.1650	.596	.103
6.5100	.585	.103
6.8400	.573	.103
6.9100	.550	.103
6.9950	.532	.103
7.1300	.526	.080
7.2100	.520	.057

Coordinates of the Curve 50-59 months		
Positive if Greater Than or Equal To	Sensitivity	1 - Specificity
7.2400	.515	.046
7.3200	.509	.046
7.3850	.503	.046
7.5300	.491	.046
7.7300	.474	.046
7.8650	.462	.046
7.9750	.450	.034
8.0600	.444	.034
8.1200	.444	.023
8.2650	.427	.023
8.4700	.421	.023
8.5500	.409	.023
8.7050	.404	.023
8.8800	.398	.023
9.1100	.392	.023
9.3250	.386	.023
9.3550	.380	.023
9.3900	.374	.023
9.4900	.368	.023
9.6350	.363	.023
9.7500	.363	.011
9.8200	.351	.011
9.8700	.339	.011
9.9550	.333	.011
10.0200	.327	.000
10.0500	.322	.000
10.1050	.316	.000
10.1650	.310	.000
10.2700	.304	.000
10.4750	.298	.000
10.6400	.292	.000
10.8100	.287	.000
10.9900	.281	.000
11.0500	.275	.000
11.1550	.269	.000
11.2800	.263	.000
11.4200	.257	.000
11.5500	.246	.000
11.6650	.240	.000

Coordinates of the Curve 50-59 months		
Positive if Greater Than or Equal To	Sensitivity	1 - Specificity
11.8750	.234	.000
12.0700	.228	.000
12.2000	.222	.000
12.3450	.216	.000
12.4800	.211	.000
12.5850	.205	.000
12.6700	.199	.000
12.7000	.193	.000
12.7400	.187	.000
12.7900	.181	.000
12.9650	.175	.000
13.1400	.170	.000
13.2950	.164	.000
13.6750	.158	.000
13.9550	.152	.000
14.0900	.146	.000
14.2350	.140	.000
14.3350	.135	.000
14.4250	.129	.000
14.7250	.123	.000
15.0850	.117	.000
15.1900	.111	.000
15.3800	.105	.000
15.5900	.099	.000
15.8150	.094	.000
16.0600	.088	.000
16.2550	.082	.000
16.5100	.076	.000
16.6750	.070	.000
17.0350	.053	.000
17.3450	.047	.000
17.6600	.041	.000
18.3100	.029	.000
18.7200	.018	.000
20.6800	.012	.000
22.6100	.006	.000
23.6500	.000	.000

Coordinates of the Curve 50-59 months		
Positive if Greater Than or Equal To	**Sensitivity**	**1 - Specificity**
The smallest cut-off value is the minimum observed test value minus 1, and the largest cut-off value is the maximum observed test value plus 1. All the other cut-off values are the averages of two consecutive ordered observed test values.		

Table A2.2. Selection of ELOM Targeting Tool cut-off scores for Age Group 60 to 69 Months

Coordinates of the Curve 60-69 months		
Positive if Greater Than or Equal To[a]	**Sensitivity**	**1 - Specificity**
-1.0000	1.000	1.000
.6700	.999	.847
1.9800	.996	.829
2.6300	.991	.716
2.6600	.979	.648
2.7450	.971	.615
3.1150	.971	.593
3.6900	.966	.575
3.9700	.958	.560
4.0150	.956	.554
4.1000	.953	.547
4.2000	.952	.544
4.3100	.940	.486
4.4750	.936	.483
4.6700	.930	.440
5.0100	.928	.440
5.2800	.914	.379
5.3100	.909	.349
5.3550	.901	.324
5.4100	.901	.318
5.4400	.901	.281
5.4700	.894	.269
5.5400	.890	.263
5.7550	.885	.263
5.9800	.883	.260
6.0700	.865	.260
6.1650	.855	.260
6.4150	.846	.257
6.6350	.842	.257

Coordinates of the Curve 60-69 months		
Positive if Greater Than or Equal To[a]	Sensitivity	1 - Specificity
6.6800	.842	.248
6.7050	.835	.248
6.7250	.834	.248
6.7500	.831	.245
6.8300	.827	.235
6.9100	.820	.217
6.9600	.811	.205
7.0000	.808	.205
7.0350	.806	.199
7.1200	**.804**	**.190**
7.1900	.799	.180
7.2100	.795	.156
7.2400	.787	.141
7.3200	.780	.135
7.3850	.776	.131
7.4300	.776	.128
7.5700	.775	.128
7.7300	.764	.125
7.8650	.761	.125
7.9700	.748	.107
8.0050	.741	.104
8.0200	.741	.101
8.0500	.740	.101
8.0900	.736	.101
8.1200	.733	.098
8.1800	.725	.092
8.3150	.720	.092
8.4100	.718	.092
8.4800	.716	.092
8.5500	.710	.089
8.5900	.709	.089
8.6250	.708	.089
8.6400	.704	.089
8.6600	.702	.089
8.6950	.701	.089
8.7750	.697	.086
8.8400	.696	.076
8.8800	.693	.076
8.9300	.685	.073

Coordinates of the Curve 60-69 months		
Positive if Greater Than or Equal To[a]	Sensitivity	1 - Specificity
8.9800	.684	.073
9.1600	.680	.073
9.3250	.678	.073
9.3500	.677	.070
9.3650	.676	.067
9.4700	.672	.064
9.6000	.664	.064
9.6650	.660	.064
9.7200	.654	.058
9.7700	.649	.055
9.8100	.642	.055
9.8300	.641	.055
9.8600	.621	.052
9.8900	.609	.043
9.9550	.603	.040
10.0200	.602	.028
10.0500	.601	.024
10.1050	.592	.021
10.1450	.591	.021
10.1600	.588	.021
10.2600	.583	.021
10.3800	.575	.021
10.4450	.575	.018
10.5500	.571	.018
10.6500	.564	.018
10.7150	.562	.018
10.7600	.551	.018
10.8700	.551	.015
10.9750	.548	.015
11.0100	.547	.015
11.0400	.547	.015
11.0500	.544	.015
11.1200	.536	.015
11.2150	.532	.015
11.2550	.528	.015
11.2650	.524	.015
11.2850	.521	.012
11.3150	.520	.012
11.3400	.519	.012

Coordinates of the Curve 60-69 months		
Positive if Greater Than or Equal To[a]	Sensitivity	1 - Specificity
11.3900	.517	.012
11.4500	.515	.012
11.4900	.509	.012
11.5200	.508	.009
11.5500	.505	.009
11.5800	.504	.009
11.6150	.496	.009
11.7000	.493	.006
11.8600	.489	.006
11.9700	.488	.006
11.9850	.487	.006
12.0150	.480	.006
12.0450	.479	.006
12.1000	.475	.006
12.2000	.472	.006
12.2650	.471	.006
12.3250	.469	.006
12.3750	.468	.006
12.4100	.462	.006
12.4800	.458	.006
12.5550	.453	.006
12.6000	.450	.006
12.6300	.449	.006
12.6700	.444	.006
12.7000	.434	.006
12.7400	.421	.003
12.8250	.420	.003
12.9000	.418	.003
12.9500	.417	.003
12.9900	.416	.003
13.0100	.410	.003
13.0300	.409	.003
13.1000	.406	.003
13.1800	.403	.003
13.2450	.401	.003
13.2950	.399	.003
13.3450	.397	.003
13.4000	.394	.003
13.4200	.393	.003

Coordinates of the Curve 60-69 months		
Positive if Greater Than or Equal To[a]	Sensitivity	1 - Specificity
13.4600	.391	.003
13.5550	.389	.003
13.6500	.387	.003
13.7850	.385	.003
13.9100	.381	.003
13.9350	.374	.003
13.9450	.373	.003
13.9600	.369	.003
13.9800	.367	.003
14.0300	.366	.003
14.0900	.363	.003
14.1300	.361	.003
14.1800	.353	.003
14.2150	.343	.003
14.2500	.342	.003
14.3000	.340	.003
14.3500	.336	.003
14.3850	.328	.003
14.3950	.326	.003
14.4100	.320	.003
14.4400	.318	.003
14.5550	.316	.003
14.6850	.315	.003
14.7250	.314	.003
14.7400	.308	.003
14.7600	.307	.003
14.7800	.302	.003
14.8200	.299	.003
14.8900	.294	.003
14.9600	.292	.003
15.0850	.290	.003
15.1900	.288	.003
15.2150	.287	.003
15.2700	.286	.003
15.3200	.282	.003
15.3400	.272	.003
15.3700	.271	.003
15.4550	.265	.003
15.5350	.264	.003

Coordinates of the Curve 60-69 months		
Positive if Greater Than or Equal To[a]	Sensitivity	1 - Specificity
15.5600	.263	.003
15.5950	.260	.003
15.6300	.252	.003
15.7400	.248	.003
15.9250	.244	.000
16.0100	.244	.000
16.0200	.241	.000
16.0600	.239	.000
16.1000	.237	.000
16.1300	.231	.000
16.1600	.228	.000
16.2350	.227	.000
16.3500	.225	.000
16.4100	.224	.000
16.4900	.218	.000
16.5650	.217	.000
16.6100	.209	.000
16.6900	.208	.000
16.7400	.204	.000
16.7800	.198	.000
16.8850	.196	.000
16.9900	.189	.000
17.1100	.184	.000
17.2250	.182	.000
17.2600	.177	.000
17.2800	.176	.000
17.3150	.174	.000
17.3450	.173	.000
17.4400	.169	.000
17.5750	.168	.000
17.6400	.165	.000
17.7000	.162	.000
17.7700	.160	.000
17.8950	.155	.000
18.0000	.151	.000
18.0400	.149	.000
18.1300	.147	.000
18.1950	.145	.000
18.2300	.141	.000

Coordinates of the Curve 60-69 months		
Positive if Greater Than or Equal To[a]	Sensitivity	1 - Specificity
18.3100	.135	.000
18.3800	.134	.000
18.4200	.131	.000
18.4950	.127	.000
18.6000	.126	.000
18.7100	.119	.000
18.7800	.115	.000
18.7900	.115	.000
18.8800	.111	.000
18.9750	.110	.000
19.0100	.105	.000
19.2050	.098	.000
19.4000	.091	.000
19.5150	.088	.000
19.7450	.087	.000
19.9000	.080	.000
19.9400	.076	.000
20.0600	.075	.000
20.1650	.071	.000
20.3950	.068	.000
20.6400	.063	.000
20.7100	.060	.000
20.8750	.059	.000
21.0750	.058	.000
21.2700	.056	.000
21.4850	.052	.000
21.6800	.048	.000
21.8250	.047	.000
21.9000	.043	.000
22.0850	.042	.000
22.3100	.036	.000
22.4650	.034	.000
22.5700	.032	.000
22.7150	.021	.000
22.9300	.020	.000
23.1950	.019	.000
23.4950	.016	.000
23.7650	.015	.000
23.9300	.013	.000

Coordinates of the Curve 60-69 months		
Positive if Greater Than or Equal To[a]	Sensitivity	1 - Specificity
24.0850	.012	.000
24.3750	.008	.000
24.6300	.007	.000
24.7750	.005	.000
24.9100	.004	.000
25.0950	.003	.000
25.5800	.001	.000
26.9700	.000	.000
[a]The smallest cut-off value is the minimum observed test value minus 1, and the largest cut-off value is the maximum observed test value plus 1. All the other cut-off values are the averages of two consecutive ordered observed test values.		