

A Comparison of Symbol-Precedence View in Investigative and Conventional Textbooks Used in Algebra Courses

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SUPPLEMENTARY MATERIALS

Inclusion Criteria for 16 Textbooks

Table 1
Textbook Sample and Inclusion Criteria

Textbook	Inclusion criteria
<i>Mathematics: Modeling Our World, Course 1</i>	Project 2061
<i>MATH Connections: A Secondary Mathematics Core Curriculum—Algebra I</i>	Project 2061
<i>Carnegie Learning Algebra I</i>	Florida
<i>Center for Mathematics Education (CME) Project, Algebra I Common Core Edition</i>	Huntley & Terrell (2014)
<i>Algebra 1: Learning in Context</i>	Texas, Project 2061
<i>Core Connections Algebra</i>	Texas, California
<i>Discovering Algebra: An Investigative Approach</i>	Texas, Florida, California, Thompson et al. (2012)
<i>Core-Plus Mathematics (Course 1)</i>	Project 2061, Thompson et al. (2012), Huntley & Terrell (2014)
University of Chicago School Mathematics Project – Algebra I	Project 2061, Thompson et al. (2012), Huntley & Terrell (2014)
<i>Holt McDougal Larson Algebra 1</i>	Florida, California
<i>Holt McDougal Algebra I, Common Core Edition</i>	Florida, Texas, California
<i>Saxon Algebra 1</i> (4th ed.)	Florida
<i>Prentice Hall Algebra 1</i>	Texas, Florida, Thompson et al. (2012)
<i>California Standards-Driven Mathematics Program: Algebra I</i>	California
<i>Glencoe Algebra I</i>	Texas, Florida, Thompson et al. (2012), Huntley & Terrell (2014)
<i>Explorations in CORE Math Algebra I</i> (replaced <i>Algebra I, Structure & Method</i>)	California

Notes. For the Project 2061 textbooks, see: <http://www.project2061.org/publications/textbook/algebra/report/browse.htm>.

For the California adoption list used, see: <http://www.cde.ca.gov/ci/ma/im/mathprogramnov2007.asp>.

For the Florida adoption list used, see: https://app1.fldoe.org/BII/Instruct_Mat/InstMatCatalog/Default.aspx.

For the Texas adoption list used, see: https://faulk.tea.state.tx.us/ematevi/EMATREPORTS/RptInst/EM_CURR_ADPN.pdf.

Note that we used the most recent edition available of the textbook on the adoption list, at the time of the study. The *Interactive Mathematics Program* textbook was omitted because the publishers were unable to supply us with the recommended assignments while we were using the textbook in a review capacity. However, we used the *Math Connections* investigative book from this same publisher. *Springboard Mathematics* and *Algebra I* (Kinetic Books) were also omitted because of lack of access.

Summary of Codes for Individual Textbooks

Table 2
Coding Results for Written Exercises and Recommended Assignments

Textbook	Written exercises				Recommended assignments			
	SS	VV	VS	SV	SS	VV	VS	SV
<i>Mathematics: Modeling Our World</i>	0.0%	28.1%	38.6%	33.3%	0.0%	28.6%	37.5%	33.9%
<i>MATH Connections: A Secondary Mathematics Core Curriculum-Algebra I</i>	14.3%	42.9%	20.6%	22.2%	2.1%	45.8%	22.9%	31.3%
<i>Carnegie Learning Algebra I</i>	35.9%	19.2%	25.6%	19.2%	NA	NA	NA	NA
<i>Center for Mathematics Education (CME) Project, Algebra I Common Core Edition</i>	1.7%	6.8%	36.8%	54.7%	21.6%	16.4%	24.1%	37.9%
<i>Algebra I: Learning in Context</i>	1.2%	16.9%	73.5%	8.4%	8.4%	18.1%	3.6%	69.9%
<i>Core Connections Algebra</i>	3.9%	0.0%	38.8%	57.3%	3.9%	0.0%	38.8%	57.3%
<i>Discovering Algebra: An Investigative Approach</i>	0.0%	7.6%	21.5%	70.9%	6.3%	10.1%	21.5%	62.0%
<i>Core-Plus Mathematics (Course I)</i>	0.0%	50.0%	45.0%	5.0%	0.0%	68.3%	19.0%	12.7%
<i>University of Chicago School Mathematics Project—Algebra I</i>	0.0%	8.3%	49.1%	42.6%	0.9%	8.3%	49.1%	41.7%
<i>Holt McDougal Larson Algebra I</i>	0.0%	2.7%	68.0%	29.3%	0.0%	2.7%	68.0%	29.3%
<i>Holt McDougal Algebra I, Common Core Edition</i>	0.0%	8.2%	13.7%	78.1%	0.0%	1.4%	11.0%	87.7%
<i>Saxon Algebra I (4th ed.)</i>	0.0%	0.0%	10.0%	90.0%	NA	NA	NA	NA
<i>Prentice Hall Algebra I</i>	0.0%	5.2%	11.3%	83.5%	1.0%	6.2%	10.3%	82.5%
<i>California Standards-Driven Mathematics Program: Algebra I</i>	17.6%	16.8%	8.8%	56.8%	30.4%	16.8%	8.8%	44.0%
<i>Glencoe Algebra I</i>	1.0%	8.7%	11.7%	78.6%	0.0%	7.8%	10.0%	82.2%
<i>Explorations in CORE Math Algebra I</i>	1.4%	12.3%	15.1%	71.2%	NA	NA	NA	NA

Note. “NA” denotes textbooks that did not have recommended assignments

Table 3
Coding Results for Worked Examples/Student Activities

Textbook	Worked examples/Student activities			
	SS	VV	VS	SV
<i>Mathematics: Modeling Our World</i>	3.4%	75.9%	13.8%	6.9%
<i>MATH Connections: A Secondary Mathematics Core Curriculum—Algebra I</i>	30.2%	33.3%	28.6%	7.9%
<i>Core Connections Algebra</i>	1.9%	35.9%	33.0%	29.1%
<i>Core-Plus Mathematics (Course I)</i>	0.0%	21.4%	75.0%	3.6%
<i>Holt McDougal Larson Algebra I: Common Core Edition</i>	4.1%	11.0%	16.4%	68.5%
<i>Saxon Algebra I (4th ed.)</i>	3.3%	12.5%	9.2%	75.0%
<i>California Standards-Driven Mathematics Program: Algebra I</i>	68.8%	23.2%	4.0%	4.0%
<i>Glencoe Algebra I</i>	4.5%	12.5%	10.2%	72.7%

Table 4
Coding Results for Written Exercises Using the Modified Coding Scheme

Textbook	Written exercises with modified coding scheme								
	MM	MS	MV	SM	SS	SV	VM	VS	VV
<i>Mathematics: Modeling Our World</i>	12.3%	1.8%	10.5%	3.5%	0.0%	0.0%	12.3%	0.0%	59.6%
<i>Math Connections: A Secondary Mathematics Core Curriculum—Algebra I</i>	4.8%	0.0%	19.0%	3.2%	15.9%	4.8%	4.8%	1.6%	46.0%
<i>Core Connections Algebra</i>	47.1%	14.7%	3.9%	17.6%	5.9%	1.0%	6.9%	2.0%	1.0%
<i>Core Plus Mathematics (Course I)</i>	5.0%	0.0%	15.0%	0.0%	0.0%	0.0%	0.0%	0.0%	80.0%
<i>Holt McDougal Larson Algebra I: Common Core Edition</i>	11.0%	0.0%	2.7%	53.4%	24.7%	5.5%	1.4%	0.0%	1.4%
<i>Saxon Algebra I (4th ed.)</i>	68.3%	1.7%	1.7%	26.7%	0.0%	1.7%	0.0%	0.0%	0.0%
<i>California Standards-Driven Mathematics Program: Algebra I</i>	6.4%	4.8%	5.6%	31.2%	26.4%	7.2%	1.6%	0.0%	16.8%
<i>Glencoe Algebra I</i>	4.5%	1.1%	3.4%	63.6%	6.8%	9.1%	0.0%	0.0%	11.4%