

Longitudinal/Cross-Sectional Study of the Impact of *Mathematics in Context* on Student Performance

Student Attitude Inventory Gain Score Data

(Technical Report #53)

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Shafer, M. C., & Folgert, L. (2005). *Student Attitude Inventory gain score data. (Mathematics in Context Longitudinal/Cross-Sectional Study Tech. Rep. No. 53)*. Madison, WI: University of Wisconsin, Wisconsin Center for Education Research.

The research reported in this paper was supported in part by the National Science Foundation #REC-9553889 and #REC-0087511 and by the Wisconsin Center for Education Research, School of Education, University of Wisconsin-Madison and the Northern Illinois University. The views expressed here are those of the authors and do not necessarily reflect the views of the funding agency.

Introduction

The purposes of the longitudinal/cross-sectional study of the impact of *Mathematics in Context* (MiC; National Center for Research in Mathematical Sciences Education & Freudenthal Institute, 1997–1998) on student performance are (a) to determine the mathematical knowledge, understanding, attitudes, and levels of student performance as a consequence of studying MiC for over three years; and (b) to compare student knowledge, understanding, attitudes, and levels of performance of students using MiC with those using conventional mathematics curricula. The research model for this study is an adaptation of a structural model for monitoring changes in school mathematics (Romberg, 1987). For this study, information is being gathered on 14 variables over a 3-year period for three groups of students (those in Grades 5, 6, and 7 in 1997). The variables have been organized in five categories (prior, independent, intervening, outcome, and consequent). (See Figure 1 for variables and hypothesized relationships.)

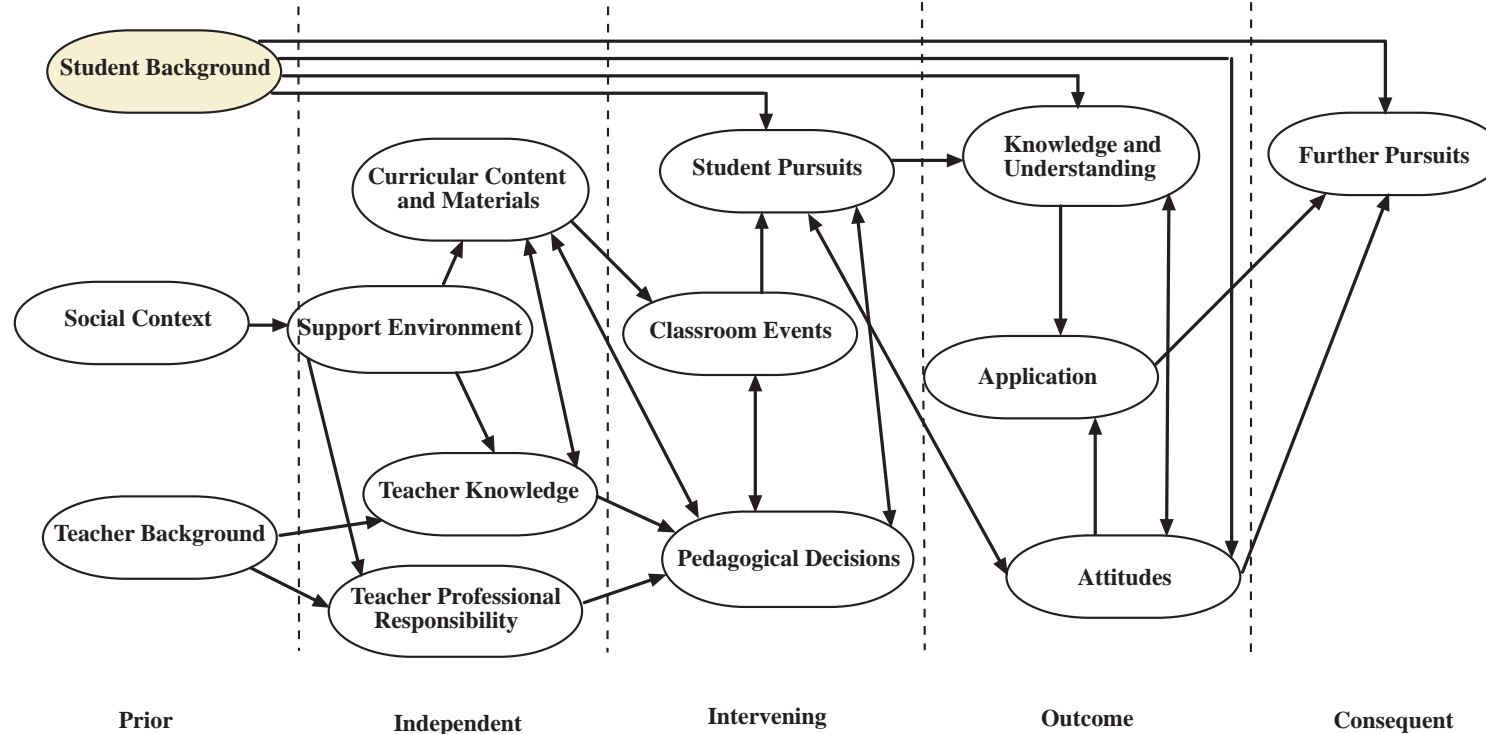


Figure 1. Revised model for the monitoring of school mathematics.

Student Attitude Inventory Subscale Gain Scores

Table 1.1
Student Attitude Inventory Effort and Confidence Subscales Gain Scores for Students in Grade 5, District 1, in 1997-1998

School-Class	Effort in mathematics					Confidence in ability to do mathematics				
	Prior (N)	Mean	End of Year (N)	Mean	Gain Score*	Prior (N)	Mean	End of Year (N)	Mean	Gain Score*
<i>—MiC—</i>										
Beethoven-LaSalle	31	1.69	29	1.82	-0.13	29	1.52	30	1.65	-0.13
Beethoven-Linne	10	1.77	10	1.50	0.27	12	2.07	9	1.80	0.27
Dewey-Mitchell	47	1.57	52	1.56	0.01	53	1.83	51	1.71	0.12
<i>—MiC (Conventional)—</i>										
Banneker-Greene	15	1.59	16	1.82	-0.23	17	1.80	16	1.90	-0.10
Beethoven-Kipling	23	1.60	24	1.77	-0.17	21	1.69	23	1.81	-0.12
Dewey-Hamilton	19	1.53	18	1.58	-0.06	20	1.61	16	1.45	0.16
<i>—Conventional—</i>										
Dewey-Kershaw	20	1.48	15	1.73	-0.25	21	1.57	15	1.75	-0.18
River Forest-Fulton	28	1.61	30	1.78	-0.18	29	1.49	30	1.69	-0.20

* Positive scores indicate more positive attitudes and negative scores indicate more negative attitudes

Table 1.2

Student Attitude Inventory Interest and Usefulness Subscales Gain Scores for Students in Grade 5, District 1, in 1997-1998

School-Class	Interest in mathematics					Usefulness of mathematics				
	Prior (N)	Mean	End of Year (N)	Mean	Gain Score*	Prior (N)	Mean	End of Year (N)	Mean	Gain Score*
<i>—MiC—</i>										
Beethoven-LaSalle	29	1.47	29	1.60	-0.13	31	1.32	30	1.40	-0.07
Beethoven-Linne	10	1.55	9	1.33	0.22	11	1.83	10	1.73	0.10
Dewey-Mitchell	53	1.52	51	1.36	0.16	51	1.73	50	1.47	0.26
<i>—MiC (Conventional)—</i>										
Banneker-Greene	15	1.60	17	1.95	-0.35	15	1.67	16	1.66	0.01
Beethoven-Kipling	23	1.53	24	1.55	-0.02	23	1.43	23	1.42	0.01
Dewey-Hamilton	20	1.66	18	1.48	0.18	18	1.44	16	1.47	-0.02
<i>—Conventional—</i>										
Dewey-Kershaw	19	1.47	13	1.86	-0.38	18	1.52	13	1.53	-0.01
River Forest-Fulton	29	1.55	30	1.72	-0.16	28	1.38	30	1.36	0.01

* Positive scores indicate more positive attitudes and negative scores indicate more negative attitudes

Table 1.3
Student Attitude Inventory Ability to Communicate Subscale Gain Scores for Students in Grade 5, District 1, in 1997-1998

School-Class	Ability to Communicate about mathematics				
	Prior (N)	Mean	End of Year (N)	Mean	Gain Score*
<i>—MiC—</i>					
Beethoven-LaSalle	31	1.69	30	1.61	0.08
Beethoven-Linne	10	1.73	9	1.52	0.20
Dewey-Mitchell	48	1.60	50	1.54	0.06
<i>—MiC (Conventional)—</i>					
Banneker-Greene	16	1.82	17	1.81	0.01
Beethoven-Kipling	20	1.59	24	1.55	0.04
Dewey-Hamilton	19	1.68	16	1.47	0.22
<i>—Conventional—</i>					
Dewey-Kershaw	18	1.49	14	1.76	-0.26
River Forest-Fulton	29	1.74	30	1.74	0.01

* Positive scores indicate more positive attitudes and negative scores indicate more negative attitudes

Table 1.4
Student Attitude Inventory Effort and Confidence Subscales Gain Scores for Students in Grade 5, District 2, in 1997-1998

School-Class	Effort in mathematics					Confidence in ability to do mathematics				
	Prior (N)	Mean	End of Year (N)	Mean	Gain Score*	Prior (N)	Mean	End of Year (N)	Mean	Gain Score*
<i>—MiC—</i>										
Armstrong-Murphy	25	1.69	26	1.76	-0.07	27	1.99	27	1.80	0.19
Armstrong-Nash	20	1.62	21	1.57	0.05	19	1.73	21	1.81	-0.08
Ogden-Fiske	35	1.77	27	1.78	-0.01	36	1.91	25	1.82	0.10
Ogden-Piccolo	66	1.72	70	1.86	-0.14	67	1.93	69	1.94	-0.01
<i>—Conventional—</i>										
VonSteuben-Gant	40	1.85				38	1.94			

* Positive scores indicate more positive attitudes and negative scores indicate more negative attitudes

Table 1.5

Student Attitude Inventory Interest and Usefulness Subscales Gain Scores for Students in Grade 5, District 2, in 1997-1998

School-Class	Interest in mathematics					Usefulness of mathematics				
	Prior (N)	Mean	End of Year (N)	Mean	Gain Score*	Prior (N)	Mean	End of Year (N)	Mean	Gain Score*
<i>—MiC—</i>										
Armstrong-Murphy	24	1.92	27	1.88	0.04	26	1.77	26	1.58	0.19
Armstrong-Nash	19	1.92	21	1.71	0.21	19	1.74	21	1.40	0.34
Ogden-Fiske	35	1.81	27	1.71	0.10	34	1.65	26	1.63	0.03
Ogden-Piccolo	64	1.59	69	1.80	-0.21	63	1.59	66	1.60	0.00
<i>—Conventional—</i>										
VonSteuben-Gant	40	1.80				38	1.63			

* Positive scores indicate more positive attitudes and negative scores indicate more negative attitudes

Table 1.6
*Student Attitude Inventory Ability to Communicate Subscale Gain
 Scores for Students in Grade 5, District 2, in 1997-1998*

School-Class	Ability to Communicate about mathematics				
	Prior (N)	Mean	End of Year (N)	Mean	Gain Score*
<i>—MiC—</i>					
Armstrong-Murphy	28	1.86	27	1.91	-0.05
Armstrong-Nash	18	1.86	21	1.68	0.18
Ogden-Fiske	36	1.85	27	1.68	0.17
Ogden-Piccolo	64	1.78	68	1.71	0.07
<i>—Conventional—</i>					
VonSteuben-Gant	39	1.79			

* Positive scores indicate more positive attitudes and negative scores indicate more negative attitudes

Table 1.7

Student Attitude Inventory Effort and Confidence Subscales Gain Scores for Students in Grade 6, District 1, in 1997-1998

School-Class	Effort in mathematics					Confidence in ability to do mathematics				
	Prior (N)	Mean	End of Year (N)	Mean	Gain Score*	Prior (N)	Mean	End of Year (N)	Mean	Gain Score*
<i>—MiC—</i>										
Fernwood-Lee/Weatherspoon	69	1.89	54	2.02	-0.14	70	2.03	54	2.12	-0.08
<i>—MiC (Conventional)—</i>										
VonHumboldt-Brown	57	2.07	67	2.23	-0.15	58	2.10	69	2.32	-0.22
VonHumboldt-Harvey	64	2.03	43	2.04	-0.01	69	2.08	43	1.96	0.13
<i>—Conventional—</i>										
Addams-Tallackson	16	1.98	14	2.29	-0.31	16	1.98	15	1.92	0.06
Wacker-Krittendon	56	1.85	40	1.81	0.05	54	1.89	41	1.90	-0.01

* Positive scores indicate more positive attitudes and negative scores indicate more negative attitudes

Table 1.8

Student Attitude Inventory Interest and Usefulness Subscales Gain Scores for Students in Grade 6, District 1, in 1997-1998

School-Class	Interest in mathematics					Usefulness of mathematics				
	Prior (N)	Mean	End of Year (N)	Mean	Gain Score*	Prior (N)	Mean	End of Year (N)	Mean	Gain Score*
<i>—MiC—</i>										
Fernwood-Lee/Weatherspoon	69	2.03	52	2.13	-0.10	63	1.70	52	1.84	-0.14
<i>—MiC (Conventional)—</i>										
VonHumboldt-Brown	54	2.38	68	2.62	-0.24	55	1.97	65	1.99	-0.02
VonHumboldt-Harvey	67	2.21	43	2.15	0.05	64	1.95	42	1.82	0.12
<i>—Conventional—</i>										
Addams-Tallackson	16	1.95	16	2.14	-0.19	16	1.62	16	1.84	-0.22
Wacker-Krittendon	56	1.85	40	1.76	0.09	48	1.76	41	1.59	0.17

* Positive scores indicate more positive attitudes and negative scores indicate more negative attitudes

Table 1.9
*Student Attitude Inventory Ability to Communicate Subscale Gain Scores
 for Students in Grade 6, District 1, in 1997-1998*

School-Class	Ability to Communicate about mathematics				
	Prior (N)	Mean	End of Year (N)	Mean	Gain Score*
<i>—MiC—</i>					
Fernwood-Lee/Weatherspoon	70	1.85	51	1.99	-0.14
<i>—MiC (Conventional)—</i>					
VonHumboldt-Brown	55	2.03	68	2.21	-0.18
VonHumboldt-Harvey	67	2.05	44	2.05	0.00
<i>—Conventional—</i>					
Addams-Tallackson	17	2.03	16	2.16	-0.12
Wacker-Krittendon	54	1.77	41	1.71	0.05

* Positive scores indicate more positive attitudes and negative scores indicate more negative attitudes

Table 1.10

Student Attitude Inventory Effort and Confidence Subscales Gain Scores for Students in Grade 6, District 2, in 1997-1998

School-Class	Effort in mathematics					Confidence in ability to do mathematics				
	Prior (N)	Mean	End of Year (N)	Mean	Gain Score*	Prior (N)	Mean	End of Year (N)	Mean	Gain Score*
<i>—MiC—</i>										
Guggenheim-Dillard	37	1.95	15	2.09	-0.14	35	1.95	15	2.08	-0.13
HirschMetro-Davenport	46	1.89	47	2.01	-0.12	44	2.15	46	2.07	0.08
<i>—MiC (Conventional)—</i>										
Guggenheim-Broughton	33	2.08	13	2.18	-0.10	34	2.26	12	2.42	-0.15
HirschMetro-Holland	44	1.68	51	1.87	-0.19	45	2.01	51	2.00	0.00
<i>—Conventional—</i>										
Newberry-Renlund	22	1.89	11	1.71	0.18	23	1.82	11	1.49	0.33
Newberry-Rhaney	13	2.21				17	2.33			

* Positive scores indicate more positive attitudes and negative scores indicate more negative attitudes

Table 1.11

Student Attitude Inventory Interest and Usefulness Subscales Gain Scores for Students in Grade 6, District 2, in 1997-1998

School-Class	Interest in mathematics					Usefulness of mathematics				
	Prior (N)	Mean	End of Year (N)	Mean	Gain Score*	Prior (N)	Mean	End of Year (N)	Mean	Gain Score*
<i>—MiC—</i>										
Guggenheim-Dillard	35	2.17	13	2.30	-0.13	37	1.69	14	1.75	-0.06
HirschMetro-Davenport	42	2.16	45	2.26	-0.11	43	1.76	46	1.64	0.11
<i>—MiC (Conventional)—</i>										
Guggenheim-Broughton	31	2.36	13	2.42	-0.06	34	2.11	12	2.22	-0.11
HirschMetro-Holland	46	1.92	51	2.08	-0.16	43	1.59	52	1.63	-0.04
<i>—Conventional—</i>										
Newberry-Renlund	23	1.92	10	1.56	0.36	21	1.64	11	1.40	0.25
Newberry-Rhaney	13	2.24				13	2.39			

* Positive scores indicate more positive attitudes and negative scores indicate more negative attitudes

Table 1.12
*Student Attitude Inventory Ability to Communicate Subscale Gain Scores
 for Students in Grade 6, District 2, in 1997-1998*

School-Class	Ability to Communicate <i>about mathematics</i>				
	Prior (N)	Mean	End of Year (N)	Mean	Gain Score*
<i>—MiC—</i>					
Guggenheim-Dillard	35	1.87	14	1.90	-0.02
HirschMetro-Davenport	45	1.97	45	2.04	-0.08
<i>—MiC (Conventional)—</i>					
Guggenheim-Broughton	34	2.20	12	2.13	0.07
HirschMetro-Holland	43	1.80	51	1.99	-0.18
<i>—Conventional—</i>					
Newberry-Renlund	23	1.86	11	1.64	0.23
Newberry-Rhaney	15	2.16			

* Positive scores indicate more positive attitudes and negative scores indicate more negative attitudes

Table 1.13

Student Attitude Inventory Effort and Confidence Subscales Gain Scores for Students in Grade 7, District 1, in 1997-1998

School-Class	Effort in mathematics					Confidence in ability to do mathematics				
	Prior (N)	Mean	End of Year (N)	Mean	Gain Score*	Prior (N)	Mean	End of Year (N)	Mean	Gain Score*
<i>—MiC—</i>										
Fernwood-Heath	41	2.08	32	2.14	-0.05	43	2.02	32	1.93	0.10
<i>—MiC (Conventional)—</i>										
VonHumboldt-Donnely	39	2.10	19	2.22	-0.12	45	2.15	20	2.09	0.06
<i>—Conventional—</i>										
Addams-St.James	36	2.05	37	2.15	-0.10	37	1.88	37	1.99	-0.11
Wacker-McLaughlin	42	1.91	23	1.91	0.00	41	1.81	23	1.95	-0.13

* Positive scores indicate more positive attitudes and negative scores indicate more negative attitudes

Table 1.14

Student Attitude Inventory Interest and Usefulness Subscales Gain Scores for Students in Grade 7, District 1, in 1997-1998

School-Class	Interest in mathematics					Usefulness of mathematics				
	Prior (N)	Mean	End of Year (N)	Mean	Gain Score*	Prior (N)	Mean	End of Year (N)	Mean	Gain Score*
<i>—MiC—</i>										
Fernwood-Heath	38	2.11	32	2.15	-0.04	40	1.73	32	1.70	0.03
<i>—MiC (Conventional)—</i>										
VonHumboldt-Donnelly	41	2.41	17	2.62	-0.21	38	1.96	18	1.98	-0.02
<i>—Conventional—</i>										
Addams-St.James	36	2.14	38	2.35	-0.22	36	1.74	37	1.79	-0.05
Wacker-McLaughlin	41	2.04	23	1.97	0.07	39	1.72	23	1.68	0.03

* Positive scores indicate more positive attitudes and negative scores indicate more negative attitudes

Table 1.15
Student Attitude Inventory Ability to Communicate Subscale Gain Scores for Students in Grade 7, District 1, in 1997-1998

School-Class	Ability to Communicate <i>about mathematics</i>				
	Prior (<i>N</i>)	Mean	End of Year (<i>N</i>)	Mean	Gain Score*
<i>—MiC—</i>					
Fernwood-Heath	39	1.04	29	1.88	-0.84
<i>—MiC (Conventional)—</i>					
VonHumboldt-Donnely	41	2.08	19	2.13	-0.05
<i>—Conventional—</i>					
Addams-St.James	36	1.84	38	2.00	-0.16
Wacker-McLaughlin	42	1.94	22	1.87	0.07

* Positive scores indicate more positive attitudes and negative scores indicate more negative attitudes

Table 1.16

Student Attitude Inventory Effort and Confidence Subscales Gain Scores for Students in Grade 7, District 2, in 1997-1998

School-Class (N)	Effort in mathematics					Confidence in ability to do mathematics				
	Prior (N)	Mean	End of Year (N)	Mean	Gain Score*	Prior (N)	Mean	End of Year (N)	Mean	Gain Score*
<i>—MiC—</i>										
Guggenheim-Keeton	44	2.07	36	2.35	-0.28	45	2.25	39	2.30	-0.05
HirschMetro-McFadden	50	1.74	26	2.08	-0.34	49	1.77	27	2.15	-0.37
<i>—MiC (Conventional)—</i>										
Guggenheim-Teague	44	2.01	31	2.08	-0.07	47	2.01	31	2.02	-0.01
HirschMetro-Draski	39	2.09	41	2.14	-0.05	40	2.12	40	2.24	-0.11
<i>—Conventional—</i>										
Newberry-Cunningham	31	2.10	19	2.12	-0.02	30	2.03	20	2.08	-0.05
Newberry-Stark	12	2.14	19	2.04	0.10	13	2.25	18	1.99	0.26

* Positive scores indicate more positive attitudes and negative scores indicate more negative attitudes

Table 1.17

Student Attitude Inventory Interest and Usefulness Subscales Gain Scores for Students in Grade 7, District 2, in 1997-1998

School-Class (N)	Interest in mathematics					Usefulness of mathematics				
	Prior (N)	Mean	End of Year (N)	Mean	Gain Score*	Prior (N)	Mean	End of Year (N)	Mean	Gain Score*
<i>—MiC—</i>										
Guggenheim-Keeton	47	2.40	37	2.77	-0.37	46	1.94	39	1.95	-0.02
HirschMetro-McFadden	49	1.77	26	2.04	-0.27	49	1.77	25	1.69	0.08
<i>—MiC (Conventional)—</i>										
Guggenheim-Teague	40	2.24	31	2.11	0.13	44	1.94	31	1.91	0.03
HirschMetro-Draski	38	2.35	40	2.49	-0.14	38	1.86	40	1.83	0.03
<i>—Conventional—</i>										
Newberry-Cunningham	29	2.07	20	2.01	0.06	30	2.02	19	1.80	0.22
Newberry-Stark	12	2.16	18	2.43	-0.27	12	2.03	19	1.91	0.12

* Positive scores indicate more positive attitudes and negative scores indicate more negative attitudes

Table 1.18
Student Attitude Inventory Ability to Communicate Subscale Gain Scores for Students in Grade 7, District 2, in 1997-1998

School-Class (N)	Ability to Communicate about mathematics				
	Prior (N)	Mean	End of Year (N)	Mean	Gain Score*
<i>—MiC—</i>					
Guggenheim-Keeton	45	2.02	38	2.05	-0.02
HirschMetro-McFadden	48	1.81	27	1.96	-0.15
<i>—MiC (Conventional)—</i>					
Guggenheim-Teague	46	2.17	30	2.20	-0.03
HirschMetro-Draski	38	1.94	41	2.16	-0.22
<i>—Conventional—</i>					
Newberry-Cunningham	30	2.13	20	1.99	0.15
Newberry-Stark	12	2.05	19	2.07	-0.02

Table 1.19

Student Attitude Inventory Effort and Confidence Subscales Gain Scores for Students in Grade 6, District 1, in 1998-1999

School-Class	Effort in mathematics					Confidence in ability to do mathematics				
	Prior (N)	Mean	End of Year (N)	Mean	Gain Score*	Prior (N)	Mean	End of Year (N)	Mean	Gain Score*
<i>—MiC—</i>										
Addams-Gollen	23	1.86	15	1.81	0.04	23	1.86	15	1.91	-0.05
Fernwood-Weatherspoon	57	1.95	26	1.92	0.03	57	1.98	26	1.88	0.10
Wacker-Lovell	28	1.99	3	2.00	-0.01	28	1.79	3	1.73	0.06
<i>—MiC (Conventional)—</i>										
Von Humboldt-Brown	48	2.07	12	1.90	0.17	48	2.00	10	1.86	0.14
Von Humboldt-Parsons	37	2.09	9	2.09	0.00	37	1.97	9	1.87	0.10
<i>—Conventional—</i>										
Fernwood-Harrison	65	2.17	7	1.71	0.45	65	2.18	7	1.71	0.47

* Positive scores indicate more positive attitudes and negative scores indicate more negative attitudes

Table 1.20

Student Attitude Inventory Interest and Usefulness Subscales Gain Scores for Students in Grade 6, District 1, in 1998-1999

School-Class	Interest in mathematics					Usefulness of mathematics				
	Prior (N)	Mean	End of Year (N)	Mean	Gain Score*	Prior (N)	Mean	End of Year (N)	Mean	Gain Score*
<i>—MiC—</i>										
Addams-Gollen	23	2.04	15	1.98	0.06	23	1.59	14	1.56	0.03
Fernwood-Weatherspoon	57	2.07	26	1.98	0.09	57	1.68	25	1.64	0.04
Wacker-Lovell	28	1.88	2	2.06	-0.18	28	1.54	3	1.38	0.16
<i>—MiC (Conventional)—</i>										
Von Humboldt-Brown	48	2.69	12	2.57	0.12	48	1.73	11	1.45	0.28
Von Humboldt-Parsons	37	2.24	10	2.15	0.09	37	1.94	10	1.94	0.00
<i>—Conventional—</i>										
Fernwood-Harrison	65	2.47	6	2.06	0.40	65	1.89	7	1.55	0.33

* Positive scores indicate more positive attitudes and negative scores indicate more negative attitudes

Table 1.21
Student Attitude Inventory Ability to Communicate Subscale Gain Scores for Students in Grade 6, District 1, in 1998-1999

School-Class	Ability to Communicate <i>about mathematics</i>				
	Prior (<i>N</i>)	Mean	End of Year (<i>N</i>)	Mean	Gain Score*
—MiC—					
Addams-Gollen	23	1.75	14	1.71	0.03
Fernwood-Weatherspoon	57	1.88	26	1.80	0.07
Wacker-Lovell	28	1.71	3	1.62	0.09
—MiC (Conventional)—					
Von Humboldt-Brown	48	1.97	11	1.92	0.05
Von Humboldt-Parsons	37	2.10	9	1.76	0.34
—Conventional—					
Fernwood-Harrison	65	2.07	7	1.76	0.32

* Positive scores indicate more positive attitudes and negative scores indicate more negative attitudes

Table 1.22

Student Attitude Inventory Effort and Confidence Subscales Gain Scores for Students in Grade 6, District 2, in 1998-1999

School-Class	Effort in mathematics					Confidence in ability to do mathematics				
	Prior (N)	Mean	End of Year (N)	Mean	Gain Score*	Prior (N)	Mean	End of Year (N)	Mean	Gain Score*
<i>—MiC—</i>										
Guggenheim-Redling	49	2.09	11	2.17	-0.07	49	1.95	11	2.16	-0.21
<i>—MiC (Conventional)—</i>										
Guggenheim-Broughton	42	2.01	1	1.33	0.68	42	2.03	1	1.20	0.83
Weir-Ferguson	46	2.13				46	2.14			
Weir-Kellner	52	1.76				52	1.81			
<i>—Conventional—</i>										
Newberry-Renlund	43	1.94				43	1.80			
Von Steuben-Friedman	27	1.86	17	1.91	-0.05	27	1.68	17	1.62	0.06

* Positive scores indicate more positive attitudes and negative scores indicate more negative attitudes

Table 1.23

Student Attitude Inventory Interest and Usefulness Subscales Gain Scores for Students in Grade 6, District 2, in 1998-1999

School-Class	Interest in mathematics					Usefulness of mathematics				
	Prior (N)	Mean	End of Year (N)	Mean	Gain Score*	Prior (N)	Mean	End of Year (N)	Mean	Gain Score*
<i>—MiC—</i>										
Guggenheim-Redling	49	2.39	11	2.68	-0.29	49	1.82	11	1.69	0.12
<i>—MiC (Conventional)—</i>										
Guggenheim-Broughton	42	2.27	1	1.75	0.52	42	1.83	1	1.13	0.71
Weir-Ferguson	46	2.26				46	1.84			
Weir-Kellner	52	1.89				52	1.73			
<i>—Conventional—</i>										
Newberry-Renlund	43	1.95				43	1.70			
Von Steuben-Friedman	27	1.48	17	1.42	0.06	27	1.54	17	1.39	0.15

* Positive scores indicate more positive attitudes and negative scores indicate more negative attitudes

Table 1.24
Student Attitude Inventory Ability to Communicate Subscale Gain Scores for Students in Grade 6, District 2, in 1998-1999

School-Class	Ability to Communicate about mathematics				
	Prior (N)	Mean	End of Year (N)	Mean	Gain Score*
<i>—MiC—</i>					
Guggenheim-Redling	49	2.10	11	2.25	-0.15
<i>—MiC (Conventional)—</i>					
Guggenheim-Broughton	42	1.98	1	2.57	-0.59
Weir-Ferguson	46	2.02			
Weir-Kellner	52	1.93			
<i>—Conventional—</i>					
Newberry-Renlund	43	2.07			
Von Steuben-Friedman	27	1.62	16	1.54	0.08

* Positive scores indicate more positive attitudes and negative scores indicate more negative attitudes

Table 1.25

Student Attitude Inventory Effort and Confidence Subscales Gain Scores for Students in Grade 7, District 1, in 1998-1999

School-Class	Effort in mathematics					Confidence in ability to do mathematics				
	Prior (N)	Mean	End of Year (N)	Mean	Gain Score*	Prior (N)	Mean	End of Year (N)	Mean	Gain Score*
<i>—MiC—</i>										
Fernwood-Heath	31	2.22	25	2.21	0.01	31	2.22	25	2.24	-0.02
<i>—MiC (Conventional)—</i>										
Von Humboldt-Bartlett	49	2.37	7	2.60	-0.22	49	2.13	7	2.51	-0.38
Von Humboldt-Muldoon	60	2.29	26	2.41	-0.12	60	2.23	26	2.40	-0.17
Wacker-Burton	20	2.09	7	1.98	0.12	20	2.08	6	1.83	0.25
<i>—Conventional—</i>										
Addams-St. James	55	2.10	3	2.28	-0.17	55	2.00	3	2.07	-0.07
Fernwood-Hodge	22	1.92	10	1.98	-0.07	22	1.93	9	1.98	-0.05
Wacker-Rubin	22	2.07	12	2.03	0.04	22	1.72	12	1.75	-0.03

* Positive scores indicate more positive attitudes and negative scores indicate more negative attitudes

Table 1.26

Student Attitude Inventory Interest and Usefulness Subscales Gain Scores for Students in Grade 7, District 1, in 1998-1999

School-Class	Interest in mathematics					Usefulness of mathematics				
	Prior (N)	Mean	End of Year (N)	Mean	Gain Score*	Prior (N)	Mean	End of Year (N)	Mean	Gain Score*
<i>—MiC—</i>										
Fernwood-Heath	31	2.39	25	2.39	0.00	31	1.79	24	1.80	-0.01
<i>—MiC (Conventional)—</i>										
Von Humboldt-Bartlett	49	2.91	7	3.16	-0.25	49	1.98	7	2.13	-0.14
Von Humboldt-Muldoon	60	2.48	22	2.51	-0.03	60	1.99	25	1.99	0.00
Wacker-Burton	20	2.07	7	1.64	0.42	20	1.82	6	1.69	0.13
<i>—Conventional—</i>										
Addams-St. James	55	2.27	3	2.08	0.18	55	1.71	3	1.58	0.13
Fernwood-Hodge	22	2.05	10	2.18	-0.12	22	1.80	10	2.03	-0.23
Wacker-Rubin	22	1.90	13	1.88	0.02	22	1.56	13	1.56	0.00

* Positive scores indicate more positive attitudes and negative scores indicate more negative attitudes

Table 1.27
Student Attitude Inventory Ability to Communicate Subscale Gain Scores for Students in Grade 7, District 1, in 1998-1999

School-Class	Ability to Communicate <i>about mathematics</i>				
	Prior (N)	Mean	End of Year (N)	Mean	Gain Score*
<i>—MiC—</i>					
Fernwood-Heath	31	1.97	24	1.96	0.00
<i>—MiC (Conventional)—</i>					
Von Humboldt-Bartlett	49	2.21	7	2.27	-0.05
Von Humboldt-Muldoon	60	2.25	24	2.45	-0.20
Wacker-Burton	20	1.95	6	1.74	0.21
<i>—Conventional—</i>					
Addams-St. James	55	1.99	3	2.14	-0.16
Fernwood-Hodge	22	2.03	10	2.13	-0.10
Wacker-Rubin	22	1.90	13	1.85	0.05

* Positive scores indicate more positive attitudes and negative scores indicate more negative attitudes

Table 1.28

Student Attitude Inventory Effort and Confidence Subscales Gain Scores for Students in Grade 7, District 2, in 1998-1999

School-Class	Effort in mathematics					Confidence in ability to do mathematics				
	Prior (N)	Mean	End of Year (N)	Mean	Gain Score*	Prior (N)	Mean	End of Year (N)	Mean	Gain Score*
<i>—MiC—</i>										
Guggenheim-Carlson	74	2.11	22	2.18	-0.07	74	2.14	23	2.10	0.03
Guggenheim-Dillard	34	2.00	13	2.06	-0.06	34	2.12	13	2.17	-0.05
Weir-Gallardo	65	2.13				65	2.00			
<i>—MiC (Conventional)—</i>										
Weir-Caputo	53	2.00				53	2.12			
<i>—Conventional—</i>										
Newberry-Cunningham	28	1.93	10	1.93	0.00	28	2.06	10	1.82	0.24

* Positive scores indicate more positive attitudes and negative scores indicate more negative attitudes

Table 1.29

Student Attitude Inventory Interest and Usefulness Subscales Gain Scores for Students in Grade 7, District 2, in 1998-1999

School-Class	Interest in mathematics					Usefulness of mathematics				
	Prior (N)	Mean	End of Year (N)	Mean	Gain Score*	Prior (N)	Mean	End of Year (N)	Mean	Gain Score*
<i>—MiC—</i>										
Guggenheim-Carlson	74	2.20	23	2.20	0.00	74	1.81	21	1.67	0.15
Guggenheim-Dillard	34	2.13	13	2.10	0.03	34	1.70	13	1.52	0.19
Weir-Gallardo	65	2.25				65	1.73			
<i>—MiC (Conventional)—</i>										
Weir-Caputo	53	2.39				53	1.85			
<i>—Conventional—</i>										
Newberry-Cunningham	28	1.91	9	1.88	0.03	28	1.90	10	1.73	0.18

* Positive scores indicate more positive attitudes and negative scores indicate more negative attitudes

Table 1.30
Student Attitude Inventory Ability to Communicate Subscale Gain Scores for Students in Grade 7, District 2, in 1998-1999

School-Class	Ability to Communicate about mathematics				
	Prior (N)	Mean	End of Year (N)	Mean	Gain Score*
<i>—MiC—</i>					
Guggenheim-Carlson	74	2.08	20	2.12	-0.04
Guggenheim-Dillard	34	1.91	13	1.93	-0.02
Weir-Gallardo	65	2.03			
<i>—MiC (Conventional)—</i>					
Weir-Caputo	53	2.12			
<i>—Conventional—</i>					
Newberry-Cunningham	28	2.08	10	2.07	0.00

* Positive scores indicate more positive attitudes and negative scores indicate more negative attitudes

Table 1.31

Student Attitude Inventory Effort and Confidence Subscales Gain Scores for Students in Grade 8, District 1, in 1998-1999

School-Class	Effort in mathematics					Confidence in ability to do mathematics				
	Prior (N)	Mean	End of Year (N)	Mean	Gain Score*	Prior (N)	Mean	End of Year (N)	Mean	Gain Score*
<i>—MiC—</i>										
Fernwood-Reichers	46	2.32	29	2.26	0.06	46	2.19	29	2.15	0.04
<i>—MiC (Conventional)—</i>										
Von Humboldt-Waters	38	2.12	16	2.05	0.07	38	2.13	15	2.09	0.03
<i>—Conventional—</i>										
Addams-Wolfe	51	2.35	30	2.43	-0.09	51	2.18	30	2.21	-0.03
Wacker-DiMatteo	21	2.61	7	2.62	-0.01	21	2.35	8	2.68	-0.33

* Positive scores indicate more positive attitudes and negative scores indicate more negative attitudes

Table 1.32

Student Attitude Inventory Interest and Usefulness Subscales Gain Scores for Students in Grade 8, District 1, in 1998-1999

School-Class	Interest in mathematics					Usefulness of mathematics				
	Prior (N)	Mean	End of Year (N)	Mean	Gain Score*	Prior (N)	Mean	End of Year (N)	Mean	Gain Score*
<i>—MiC—</i>										
Fernwood-Reichers	46	2.58	29	2.50	0.08	46	1.87	29	1.78	0.08
<i>—MiC (Conventional)—</i>										
Von Humboldt-Waters	38	2.37	16	2.21	0.16	38	1.83	16	1.67	0.16
<i>—Conventional—</i>										
Addams-Wolfe	51	2.50	31	2.49	0.01	51	2.00	32	2.05	-0.05
Wacker-DiMatteo	21	2.92	9	2.82	0.10	21	2.35	8	2.41	-0.06

* Positive scores indicate more positive attitudes and negative scores indicate more negative attitudes

Table 1.33
Student Attitude Inventory Ability to Communicate Subscale Gain Scores for Students in Grade 8, District 1, in 1998-1999

School-Class	Ability to Communicate about mathematics				
	Prior (N)	Mean	End of Year (N)	Mean	Gain Score*
<i>—MiC—</i>					
Fernwood-Reichers	46	1.97	29	1.84	0.14
<i>—MiC (Conventional)—</i>					
Von Humboldt-Waters	38	1.92	14	1.76	0.16
<i>—Conventional—</i>					
Addams-Wolfe	51	2.15	29	2.12	0.03
Wacker-DiMatteo	21	2.70	7	3.02	-0.32

* Positive scores indicate more positive attitudes and negative scores indicate more negative attitudes

Table 1.34

Student Attitude Inventory Effort and Confidence Subscales Gain Scores for Students in Grade 8, District 2, in 1998-1999

School-Class	Effort in mathematics					Confidence in ability to do mathematics				
	Prior (N)	Mean	End of Year (N)	Mean	Gain Score*	Prior (N)	Mean	End of Year (N)	Mean	Gain Score*
<i>—MiC—</i>										
Guggenheim-Keeton	42	2.29	23	2.25	0.03	42	2.24	23	2.23	0.00
Guggenheim-Teague	53	2.16	16	2.09	0.06	53	1.97	16	1.81	0.15
<i>—Conventional—</i>										
Newberry-Cunningham	17	2.04	10	1.93	0.11	17	2.12	10	1.82	0.30
Newberry-Stark	22	2.07	2	2.08	-0.01	22	2.07	2	2.20	-0.13

* Positive scores indicate more positive attitudes and negative scores indicate more negative attitudes

Table 1.35

Student Attitude Inventory Interest and Usefulness Subscales Gain Scores for Students in Grade 8, District 2, in 1998-1999

School-Class	Interest in mathematics					Usefulness of mathematics				
	Prior (N)	Mean	End of Year (N)	Mean	Gain Score*	Prior (N)	Mean	End of Year (N)	Mean	Gain Score*
<i>—MiC—</i>										
Guggenheim-Keeton	42	2.62	24	2.54	0.09	42	2.09	24	1.82	0.28
Guggenheim-Teague	53	2.23	16	2.13	0.11	53	1.84	15	1.66	0.18
<i>—Conventional—</i>										
Newberry-Cunningham	17	1.96	9	1.88	0.08	17	1.83	10	1.73	0.11
Newberry-Stark	22	2.19	2	1.94	0.26	22	2.02	2	1.75	0.27

* Positive scores indicate more positive attitudes and negative scores indicate more negative attitudes

Table 1.36

Student Attitude Inventory Ability to Communicate Subscales Gain Scores for Students in Grade 8, District 2, in 1998-1999

School-Class	Ability to Communicate about mathematics				
	Prior (N)	Mean	End of Year (N)	Mean	Gain Score*
<i>—MiC—</i>					
Guggenheim-Keeton	42	2.12	23	2.09	0.03
Guggenheim-Teague	53	2.19	16	2.11	0.09
<i>—Conventional—</i>					
Newberry-Cunningham	17	1.87	10	2.07	-0.20
Newberry-Stark	22	2.10	2	1.79	0.32

* Positive scores indicate more positive attitudes and negative scores indicate more negative attitudes

Table 1.37

Student Attitude Inventory Effort and Confidence Subscales Gain Scores for Students in Grade 7, District 1, in 1999-2000

School-Class	Effort in mathematics					Confidence in ability to do mathematics				
	Prior (N)	Mean	End of Year (N)	Mean	Gain Score*	Prior (N)	Mean	End of Year (N)	Mean	Gain Score*
<i>—MiC (Conventional)—</i>										
Addams-St. James	8	2.02	5	2.03	-0.01	8	2.05	5	2.00	0.05
Von Humboldt-Botkin	35	2.02	10	2.42	-0.39	35	2.03	11	2.49	-0.47
Von Humboldt-Muldoon	44	2.12	9	1.76	0.36	44	2.04	9	1.80	0.24
<i>—Conventional—</i>										
Fernwood-Hodge	13	2.30	2	2.25	0.05	13	2.22	2	2.20	0.02

* Positive scores indicate more positive attitudes and negative scores indicate more negative attitudes

Table 1.38

Student Attitude Inventory Interest and Usefulness Subscales Gain Scores for Students in Grade 7, District 1, in 1999-2000

School-Class	Interest in mathematics					Usefulness of mathematics				
	Prior (N)	Mean	End of Year (N)	Mean	Gain Score*	Prior (N)	Mean	End of Year (N)	Mean	Gain Score*
<i>—MiC (Conventional)—</i>										
Addams-St. James	8	2.20	4	1.94	0.27	8	1.57	4	1.75	-0.18
Von Humboldt-Botkin	35	2.53	11	2.70	-0.17	35	1.75	10	1.51	0.24
Von Humboldt-Muldoon	44	2.52	9	2.04	0.47	44	1.87	8	1.34	0.52
<i>—Conventional—</i>										
Fernwood-Hodge	13	2.47	2	2.63	-0.16	13	1.72	2	1.63	0.09

* Positive scores indicate more positive attitudes and negative scores indicate more negative attitudes

Table 1.39
Student Attitude Inventory Ability to Communicate Subscale Gain Scores for Students in Grade 7, District 1, in 1999-2000

School-Class	Ability to Communicate about mathematics				
	Prior (N)	Mean	End of Year (N)	Mean	Gain Score*
<i>—MiC (Conventional)—</i>					
Addams-St. James	8	1.88	5	1.91	-0.04
Von Humboldt-Botkin	35	1.95	9	1.90	0.04
Von Humboldt-Muldoon	44	2.14	8	1.68	0.46
<i>—Conventional—</i>					
Fernwood-Hodge	13	2.16	2	1.79	0.38

* Positive scores indicate more positive attitudes and negative scores indicate more negative attitudes

Table 1.40
Student Attitude Inventory Effort and Confidence Subscales Gain Scores for Students in Grade 7, District 2, in 1999-2000

School-Class	Effort in mathematics					Confidence in ability to do mathematics				
	Prior (N)	Mean	End of Year (N)	Mean	Gain Score*	Prior (N)	Mean	End of Year (N)	Mean	Gain Score*
<i>—MiC—</i>										
Guggenheim-Redling	34	2.13	7	2.60	-0.46	34	1.98	6	2.77	-0.78
<i>—MiC (Conventional)—</i>										
Guggenheim-Broughton	15	1.89	2	2.33	-0.44	15	1.89	2	2.00	-0.11
Weir-Flader	15	1.93				15	1.81			
<i>—Conventional—</i>										
Von Steuben-Friedman	16	1.85	13	2.05	-0.20	16	1.71	13	1.84	-0.12

* Positive scores indicate more positive attitudes and negative scores indicate more negative attitudes

Table 1.41

Student Attitude Inventory Interest and Usefulness Subscales Gain Scores for Students in Grade 7, District 2, in 1999-2000

School-Class	Interest in mathematics					Usefulness of mathematics				
	Prior (N)	Mean	End of Year (N)	Mean	Gain Score*	Prior (N)	Mean	End of Year (N)	Mean	Gain Score*
<i>—MiC—</i>										
Guggenheim-Redling	34	2.49	7	2.86	-0.37	34	1.86	7	1.75	0.11
<i>—MiC (Conventional)—</i>										
Guggenheim-Broughton	15	2.26	2	2.58	-0.32	15	1.91	2	1.83	0.08
Weir-Flader	15	1.89				15	1.68			
<i>—Conventional—</i>										
Von Steuben-Friedman	16	1.52	13	1.84	-0.31	16	1.55	13	1.48	0.07

* Positive scores indicate more positive attitudes and negative scores indicate more negative attitudes

Table 1.42
Student Attitude Inventory Ability to Communicate Subscale Gain Scores for Students in Grade 7, District 2, in 1999-2000

School-Class	Ability to Communicate about mathematics				
	Prior (N)	Mean	End of Year (N)	Mean	Gain Score*
<i>—MiC—</i>					
Guggenheim-Redling	34	2.14	7	2.18	-0.04
<i>—MiC (Conventional)—</i>					
Guggenheim-Broughton	15	1.96	2	2.50	-0.54
Weir-Flader	15	1.90			
<i>—Conventional—</i>					
Von Steuben-Friedman	16	1.67	10	1.73	-0.06

* Positive scores indicate more positive attitudes and negative scores indicate more negative attitudes

Table 1.43

Student Attitude Inventory Effort and Confidence Subscales Gain Scores for Students in Grade 8, District 1, in 1999-2000

School-Class	Effort in mathematics					Confidence in ability to do mathematics				
	Prior (N)	Mean	End of Year (N)	Mean	Gain Score*	Prior (N)	Mean	End of Year (N)	Mean	Gain Score*
<i>—MiC—</i>										
Von Humboldt-Reichers	54	2.31	30	2.34	-0.03	54	2.14	32	2.23	-0.09
<i>—MiC (Conventional)—</i>										
Fernwood-Dunn	26	2.01	15	2.54	-0.54	26	2.03	14	2.36	-0.33
Von Humboldt-Waters	34	2.25	17	2.45	-0.20	34	2.16	17	2.39	-0.22
<i>—Conventional—</i>										
Addams-Wolfe	48	2.11				48	1.98			
Fernwood-Pimm	5	2.00	3	2.00	0.00	5	2.20	3	1.87	0.33

* Positive scores indicate more positive attitudes and negative scores indicate more negative attitudes

Table 1.44

Student Attitude Inventory Interest and Usefulness Subscales Gain Scores for Students in Grade 8, District 1, in 1999-2000

School-Class	Interest in mathematics					Usefulness of mathematics				
	Prior (N)	Mean	End of Year (N)	Mean	Gain Score*	Prior (N)	Mean	End of Year (N)	Mean	Gain Score*
<i>—MiC—</i>										
Von Humboldt-Reichers	54	2.66	32	2.68	-0.02	54	1.96	29	1.82	0.14
<i>—MiC (Conventional)—</i>										
Fernwood-Dunn	26	2.07	15	2.58	-0.51	26	1.73	14	1.88	-0.14
Von Humboldt-Waters	34	2.64	18	2.86	-0.22	34	1.97	16	1.90	0.08
<i>—Conventional—</i>										
Addams-Wolfe	48	2.26				48	1.69			
Fernwood-Pimm	5	2.15	3	1.71	0.44	5	1.95	3	1.63	0.33

* Positive scores indicate more positive attitudes and negative scores indicate more negative attitudes

Table 1.45
Student Attitude Inventory Ability to Communicate Subscale Gain Scores for Students in Grade 8, District 1, in 1999-2000

School-Class	Ability to Communicate about mathematics				
	Prior (N)	Mean	End of Year (N)	Mean	Gain Score*
<i>—MiC—</i>					
Von Humboldt-Reichers	54	2.23	29	2.12	0.11
<i>—MiC (Conventional)—</i>					
Fernwood-Dunn	26	1.92	14	2.16	-0.25
Von Humboldt-Waters	34	2.25	16	2.27	-0.02
<i>—Conventional—</i>					
Addams-Wolfe	48	1.98			
Fernwood-Pimm	5	2.14	3	1.86	0.29

* Positive scores indicate more positive attitudes and negative scores indicate more negative attitudes

Table 1.46

Student Attitude Inventory Effort and Confidence Subscales Gain Scores for Students in Grade 8, District 2, in 1999-2000

School-Class	Effort in mathematics					Confidence in ability to do mathematics				
	Prior (N)	Mean	End of Year (N)	Mean	Gain Score*	Prior (N)	Mean	End of Year (N)	Mean	Gain Score*
<i>—MiC—</i>										
Guggenheim-Dillard	16	1.98	5	2.40	-0.42	16	2.05	5	2.48	-0.43
Weir-Gallardo	21	1.96				21	2.00			
<i>—MiC (Conventional)—</i>										
Guggenheim-Carlson	52	2.15	16	2.33	-0.18	52	2.20	17	2.27	-0.07
Weir-Shepard	15	1.77				15	1.93			
<i>—Conventional—</i>										
(none)										

* Positive scores indicate more positive attitudes and negative scores indicate more negative attitudes

Table 1.47

Student Attitude Inventory Interest and Usefulness Subscales Gain Scores for Students in Grade 8, District 2, in 1999-2000

School-Class	Interest in mathematics					Usefulness of mathematics				
	Prior (N)	Mean	End of Year (N)	Mean	Gain Score*	Prior (N)	Mean	End of Year (N)	Mean	Gain Score*
<i>—MiC—</i>										
Guggenheim-Dillard	16	2.08	5	2.75	-0.67	16	1.61	5	1.73	-0.12
Weir-Gallardo	21	2.25				21	1.89			
<i>—MiC (Conventional)—</i>										
Guggenheim-Carlson	52	2.26	17	2.44	-0.18	52	1.82	17	1.81	0.01
Weir-Shepard	15	2.10				15	1.67			
<i>—Conventional—</i>										
(none)										

* Positive scores indicate more positive attitudes and negative scores indicate more negative attitudes

Table 1.48
Student Attitude Inventory Ability to Communicate Subscale Gain Scores for Students in Grade 8, District 2, in 1999-2000

School-Class	Ability to Communicate <i>about mathematics</i>				
	Prior (N)	Mean	End of Year (N)	Mean	Gain Score*
<i>—MiC—</i>					
Guggenheim-Dillard	16	1.91	4	2.14	-0.23
Weir-Gallardo	21	2.03			
<i>—MiC (Conventional)—</i>					
Guggenheim-Carlson	52	2.04	16	2.25	-0.21
Weir-Shepard	15	1.98			
<i>—Conventional—</i>					
(none)					

* Positive scores indicate more positive attitudes and negative scores indicate more negative attitudes

Student Attitude Inventory General Perceptions Gain Scores

Table 2.1

Student Attitude Inventory General Perceptions Gain Scores for Students in Grade 5, District 1, in 1997-1998

School-Class	Item Number (see Key)																			
	3					4					6					11				
	Prior (N)	Mean	End of Year (N)	Mean	Gain Score*	Prior (N)	Mean	End of Year (N)	Mean	Gain Score*	Prior (N)	Mean	End of Year (N)	Mean	Gain Score*	Prior (N)	Mean	End of Year (N)	Mean	Gain Score*
<i>—MiC—</i>																				
Beethoven-LaSalle	32	1.28	30	1.37	-0.09	32	1.47	30	1.47	0.00	32	2.47	30	2.10	0.37	32	1.28	30	1.17	0.11
Beethoven-Linne	12	1.58	10	1.10	0.48	13	1.69	10	1.50	0.19	13	2.54	10	2.20	0.34	11	1.09	10	1.00	0.09
Dewey-Mitchell	53	1.13	51	1.14	-0.01	54	1.59	52	1.37	0.22	54	2.96	52	2.79	0.17	54	1.13	52	1.12	0.01
<i>—MiC (Conventional)—</i>																				
Banneker-Greene	17	1.53	16	1.44	0.09	17	1.65	17	1.35	0.29	17	2.65	17	2.71	-0.06	17	1.00	17	1.12	-0.12
Beethoven-Kipling	23	1.30	24	1.33	-0.03	23	1.35	24	1.50	-0.15	22	2.41	24	2.25	0.16	23	1.00	23	1.09	-0.09
Dewey-Hamilton	20	1.25	17	1.29	-0.04	20	1.40	18	1.44	-0.04	19	2.58	18	2.50	0.08	20	1.10	18	1.06	0.04
<i>—Conventional—</i>																				
Dewey-Kershaw	21	1.14	15	1.13	0.01	22	1.18	15	1.33	-0.15	22	2.82	15	2.67	0.15	22	1.23	14	1.14	0.08
River Forest-Fulton	30	1.20	30	1.17	0.03	30	1.67	30	1.87	-0.20	29	2.31	30	1.60	0.71	30	1.30	30	1.43	-0.13
School-Class	16					20					27					28				
	Prior (N)	Mean	End of Year (N)	Mean	Gain Score*	Prior (N)	Mean	End of Year (N)	Mean	Gain Score*	Prior (N)	Mean	End of Year (N)	Mean	Gain Score*	Prior (N)	Mean	End of Year (N)	Mean	Gain Score*
	<i>—MiC—</i>																			
Beethoven-LaSalle	32	1.06	30	1.07	0.00	31	1.39	30	1.30	0.09	32	1.63	30	1.70	-0.08	31	2.16	30	2.07	0.09
Beethoven-Linne	13	1.54	10	1.20	0.34	12	2.08	10	2.40	-0.32	13	2.69	10	2.50	0.19	13	2.00	10	1.20	0.80
Dewey-Mitchell	54	1.28	52	1.08	0.20	54	1.81	52	1.31	0.50	54	2.48	52	2.19	0.29	53	2.08	52	1.75	0.33
<i>—MiC (Conventional)—</i>																				
Banneker-Greene	17	1.24	17	1.06	0.18	17	2.29	17	2.24	0.06	17	2.71	16	2.38	0.33	17	1.82	17	1.88	-0.06
Beethoven-Kipling	23	1.26	24	1.33	-0.07	23	1.35	24	1.33	0.01	23	2.52	24	2.17	0.36	23	2.22	24	2.17	0.05
Dewey-Hamilton	20	1.05	18	1.28	-0.23	20	1.80	18	1.28	0.52	20	2.00	18	1.78	0.22	20	2.30	18	1.89	0.41
<i>—Conventional—</i>																				
Dewey-Kershaw	22	1.18	15	1.13	0.05	22	1.45	14	1.79	-0.33	21	2.57	15	2.27	0.30	22	2.68	15	2.67	0.02
River Forest-Fulton	30	1.27	30	1.27	0.00	30	1.53	30	1.27	0.27	30	2.20	29	2.17	0.03	29	2.38	30	2.40	-0.02

* Positive scores indicate more positive attitudes and negative scores indicate more negative attitudes

Table 2.1

Student Attitude Inventory General Perceptions Gain Scores for Students in Grade 5, District 1, in 1997-1998, continued

School-Class	Item Number (see Key)																			
	37			38			39			44										
	Prior (N)	Mean	End of Year (N)	Mean	Gain Score*	Prior (N)	Mean	End of Year (N)	Mean	Gain Score*	Prior (N)	Mean	End of Year (N)	Mean	Gain Score*	Prior (N)	Mean	End of Year (N)	Mean	Gain Score*
<i>—MiC—</i>																				
Beethoven-LaSalle	32	2.63	30	2.07	0.56	32	1.25	30	1.20	0.05	31	2.03	30	1.77	0.27	31	2.87	30	2.93	-0.06
Beethoven-Linne	12	3.08	10	2.60	0.48	12	2.33	9	2.11	0.22	11	3.18	10	2.50	0.68	13	3.31	9	3.33	-0.03
Dewey-Mitchell	54	3.11	52	2.94	0.17	18	1.50	51	1.43	0.07	51	2.37	52	2.27	0.10	54	3.19	52	3.21	-0.02
<i>—MiC (Conventional)—</i>																				
Banneker-Greene	17	3.53	17	2.94	0.59	17	1.88	17	1.76	0.12	17	2.47	17	2.47	0.00	17	3.18	17	2.71	0.47
Beethoven-Kipling	23	2.65	24	2.46	0.19	23	1.17	24	1.08	0.09	23	2.13	24	1.69	0.44	23	3.35	24	3.38	-0.03
Dewey-Hamilton	20	2.70	18	2.17	0.53	54	1.80	18	1.17	0.63	20	2.30	18	2.00	0.30	20	3.00	18	3.17	-0.17
<i>—Conventional—</i>																				
Dewey-Kershaw	22	2.68	15	2.53	0.15	22	1.14	15	1.53	-0.40	21	2.14	15	1.73	0.41	20	2.85	15	2.73	0.12
River Forest-Fulton	29	2.69	30	2.17	0.52	28	1.43	30	1.33	0.10	29	1.62	30	1.60	0.02	29	2.83	30	2.27	0.56
School-Class	45			49			53			55										
	Prior (N)	Mean	End of Year (N)	Mean	Gain Score*	Prior (N)	Mean	End of Year (N)	Mean	Gain Score*	Prior (N)	Mean	End of Year (N)	Mean	Gain Score*	Prior (N)	Mean	End of Year (N)	Mean	Gain Score*
<i>—MiC—</i>																				
Beethoven-LaSalle	32	2.91	30	2.77	0.14	32	1.25	30	1.30	-0.05	30	1.40	30	1.30	0.10	32	2.50	30	2.53	-0.03
Beethoven-Linne	13	2.77	10	2.00	0.77	13	2.92	10	2.60	0.32	13	1.69	10	1.40	0.29	13	2.92	10	3.30	-0.38
Dewey-Mitchell	54	2.85	52	2.73	0.12	53	2.42	52	2.10	0.32	53	1.57	52	1.65	-0.08	54	2.78	52	2.92	-0.14
<i>—MiC (Conventional)—</i>																				
Banneker-Greene	17	3.12	17	2.47	0.65	17	2.59	17	2.06	0.53	17	1.29	17	1.59	-0.29	17	2.65	17	2.53	0.12
Beethoven-Kipling	22	3.27	24	3.58	-0.31	23	2.13	24	1.46	0.67	23	1.48	24	1.38	0.10	23	2.78	24	2.92	-0.13
Dewey-Hamilton	20	2.85	18	2.78	0.07	20	1.80	17	1.53	0.27	20	1.70	18	1.50	0.20	20	2.85	18	2.22	0.63
<i>—Conventional—</i>																				
Dewey-Kershaw	20	2.75	15	2.87	-0.12	20	1.75	15	1.80	-0.05	20	1.25	14	1.64	-0.39	20	2.45	15	2.40	0.05
River Forest-Fulton	29	3.17	30	2.83	0.34	29	1.38	30	1.23	0.15	29	1.41	30	1.47	-0.05	29	2.24	30	1.43	0.81

* Positive scores indicate more positive attitudes and negative scores indicate more negative attitudes

Table 2.1

Student Attitude Inventory General Perceptions Gain Scores for Students in Grade 5, District 1, in 1997-1998, continued

Key

3. I feel sure that I am able to learn new ideas in math class. (*confidence in ability to learn mathematics*)
4. In mathematics, you can discover new ways of solving problems that the teacher or your classmates may not have thought of. (*problem solving*)
- 6.* If I use a calculator to solve a problem, I can be sure it will always give me the right answer. (*calculator use*)
11. Anyone who works hard enough can be good at math. (*effort*)
16. It's okay if I solve a math problem differently than my classmates do. (*problem solving*)
- 20.* Mathematics is not related to any of my other school subjects. (*connection to other school subjects*)
- 27.* Understanding why an answer is right is not as important as getting the right answer. (*understanding vs. answer*)
- 28.* Mathematics is more difficult to understand than other subjects. (*connection to other school subjects*)
- 37.* No matter how hard a person works, some people are just naturally good at math and some are just not. (*effort*)
- 38.* Answering questions correctly in math means only giving a number. (*process vs. answer*)
- 39.* Each new math topic I study is not related to ones I have learned before. (*connection among mathematics topics*)
- 44.* When my teacher asks a question I will get it right if I have memorized the correct rule or fact. (*mathematics as facts or rules*)
- 45.* If you have to use a calculator to solve a problem, you don't really understand how to do the problem. (*calculator use*)
- 49.* It really doesn't matter if you understand a math problem or how you get an answer as long as the answer you get is right. (*understanding vs. answer*)
53. Knowing how to solve a problem is as important as getting the answer. (*process vs. answer*)
- 55.* Mathematics is mostly learned by memorizing facts and rules. (*mathematics as facts or rules*)

* Reverse-scored due to wording of question.

Table 2.2

Student Attitude Inventory General Perceptions Gain Scores for Students in Grade 5, District 2, in 1997-1998

School-Class	3					4					6					11				
	Prior (N)	Mean	End of Year (N)	Mean	Gain Score*	Prior (N)	Mean	End of Year (N)	Mean	Gain Score*	Prior (N)	Mean	End of Year (N)	Mean	Gain Score*	Prior (N)	Mean	End of Year (N)	Mean	Gain Score*
<i>—MiC—</i>																				
Armstrong-Murphy	30	1.50	27	1.26	0.24	30	1.73	27	1.59	0.14	30	2.67	27	2.56	0.11	29	1.34	26	1.19	0.15
Armstrong-Nash	20	1.40	21	1.38	0.02	19	1.42	21	1.52	-0.10	19	2.74	21	2.62	0.12	20	1.00	21	1.05	-0.05
Ogden-Fiske	46	1.37	26	1.23	0.14	46	1.63	27	1.41	0.22	46	2.59	27	2.63	-0.04	46	1.35	27	1.15	0.20
Ogden-Piccolo	73	1.38	70	1.31	0.07	73	1.73	71	1.55	0.18	72	3.08	69	2.90	0.18	72	1.10	70	1.11	-0.02
<i>—Conventional—</i>																				
VonSteuben-Gant	40	1.33				42	1.83				42	2.76				41	1.12			
School-Class	16					20					27					28				
	Prior (N)	Mean	End of Year (N)	Mean	Gain Score*	Prior (N)	Mean	End of Year (N)	Mean	Gain Score*	Prior (N)	Mean	End of Year (N)	Mean	Gain Score*	Prior (N)	Mean	End of Year (N)	Mean	Gain Score*
<i>—MiC—</i>																				
Armstrong-Murphy	29	1.17	27	1.11	0.06	29	2.00	27	1.78	0.22	29	2.45	26	2.58	-0.13	29	2.59	27	2.11	0.48
Armstrong-Nash	20	1.10	21	1.00	0.10	19	1.42	21	1.38	0.04	20	2.25	21	2.24	0.01	20	2.60	21	2.48	0.12
Ogden-Fiske	45	1.58	27	1.37	0.21	44	2.09	27	1.89	0.20	45	2.47	27	2.11	0.36	44	2.20	27	2.11	0.09
Ogden-Piccolo	72	1.53	71	1.54	-0.01	70	2.19	69	1.86	0.33	73	2.44	70	2.29	0.15	73	2.15	71	2.41	-0.26
<i>—Conventional—</i>																				
VonSteuben-Gant	42	1.62				42	2.00				42	2.07				42	2.40			

* Positive scores indicate more positive attitudes and negative scores indicate more negative attitudes

Key

3. I feel sure that I am able to learn new ideas in math class. (*confidence in ability to learn mathematics*)
 4. In mathematics, you can discover new ways of solving problems that the teacher or your classmates may not have thought of. (*problem solving*)
 6.* If I use a calculator to solve a problem, I can be sure it will always give me the right answer. (*calculator use*)
 11. Anyone who works hard enough can be good at math. (*effort*)
 16. It's okay if I solve a math problem differently than my classmates do. (*problem solving*)
 20.* Mathematics is not related to any of my other school subjects. (*connection to other school subjects*)
 27.* Understanding why an answer is right is not as important as getting the right answer. (*understanding vs. answer*)
 28.* Mathematics is more difficult to understand than other subjects. (*connection to other school subjects*)

* Reverse-scored due to wording of question.

Table 2.2

Student Attitude Inventory General Perceptions Gain Scores for Students in Grade 5, District 2, in 1997-1998, continued

School-Class	37					38					39					44				
	Prior (N)	Mean	End of Year (N)	Mean	Gain Score*	Prior (N)	Mean	End of Year (N)	Mean	Gain Score*	Prior (N)	Mean	End of Year (N)	Mean	Gain Score*	Prior (N)	Mean	End of Year (N)	Mean	Gain Score*
<i>—MiC—</i>																				
Armstrong-Murphy	30	2.53	27	2.85	-0.32	30	1.93	27	1.78	0.16	28	2.29	27	2.44	-0.16	29	3.41	27	3.04	0.38
Armstrong-Nash	20	3.00	21	2.29	0.71	20	1.75	21	1.57	0.18	20	2.40	21	2.29	0.11	20	3.65	21	3.52	0.13
Ogden-Fiske	43	2.86	27	2.85	0.01	42	2.07	27	1.81	0.26	42	2.64	26	2.85	-0.20	40	3.48	27	3.33	0.14
Ogden-Piccolo	71	3.03	69	2.84	0.19	72	1.89	71	1.85	0.04	70	2.67	70	2.36	0.31	70	3.26	70	3.30	-0.04
<i>—Conventional—</i>																				
VonSteuben-Gant	40	2.33				40	1.53				40	2.25				42	3.10			
School-Class	45					49					53					55				
	Prior (N)	Mean	End of Year (N)	Mean	Gain Score*	Prior (N)	Mean	End of Year (N)	Mean	Gain Score*	Prior (N)	Mean	End of Year (N)	Mean	Gain Score*	Prior (N)	Mean	End of Year (N)	Mean	Gain Score*
<i>—MiC—</i>																				
Armstrong-Murphy	29	2.90	27	2.41	0.49	29	2.24	27	2.04	0.20	29	1.52	27	1.41	0.11	29	2.97	27	2.81	0.15
Armstrong-Nash	19	2.68	21	2.71	-0.03	20	2.05	21	1.48	0.57	19	1.63	21	1.52	0.11	20	3.40	20	3.55	-0.15
Ogden-Fiske	40	3.10	27	3.19	-0.09	40	2.03	27	2.67	-0.64	39	1.41	27	1.52	-0.11	39	3.26	27	3.22	0.03
Ogden-Piccolo	70	2.97	70	3.06	-0.09	69	2.42	69	2.17	0.25	69	1.43	70	1.49	-0.05	66	3.15	70	3.12	0.03
<i>—Conventional—</i>																				
VonSteuben-Gant	42	2.83				42	1.64				42	1.43				42	2.76			

* Positive scores indicate more positive attitudes and negative scores indicate more negative attitudes

Key

37.* No matter how hard a person works, some people are just naturally good at math and some are just not. (*effort*)

38.* Answering questions correctly in math means only giving a number. (*process vs. answer*)

39.* Each new math topic I study is not related to ones I have learned before. (*connection among mathematics topics*)

44.* When my teacher asks a question I will get it right if I have memorized the correct rule or fact. (*mathematics as facts or rules*)

45.* If you have to use a calculator to solve a problem, you don't really understand how to do the problem. (*calculator use*)

49.* It really doesn't matter if you understand a math problem or how you get an answer as long as the answer you get is right. (*understanding vs. answer*)

53. Knowing how to solve a problem is as important as getting the answer. (*process vs. answer*)

55.* Mathematics is mostly learned by memorizing facts and rules. (*mathematics as facts or rules*)

* Reverse-scored due to wording of question.

Table 2.3

Student Attitude Inventory General Perceptions Gain Scores for Students in Grade 6, District 1, in 1997-1998

School-Class	3					4					6					11				
	Prior (N)	Mean	End of Year (N)	Mean	Gain Score*	Prior (N)	Mean	End of Year (N)	Mean	Gain Score*	Prior (N)	Mean	End of Year (N)	Mean	Gain Score*	Prior (N)	Mean	End of Year (N)	Mean	Gain Score*
—MiC—																				
Fernwood-Lee/Weatherspoon	72	1.46	56	1.71	-0.26	74	1.61	56	1.66	-0.05	75	2.69	56	2.41	0.28	75	1.24	56	1.36	-0.12
—MiC (Conventional)—																				
VonHumboldt-Brown	58	1.60	70	1.64	-0.04	61	1.70	70	1.93	-0.22	60	2.40	70	2.16	0.24	60	1.38	70	1.74	-0.36
VonHumboldt-Harvey	70	1.60	45	1.56	0.04	73	1.81	45	1.98	-0.17	73	2.52	45	2.22	0.30	71	1.35	45	1.38	-0.03
—Conventional—																				
Addams-Tallackson	17	1.88	17	2.06	-0.18	18	1.89	17	1.94	-0.05	18	2.22	17	2.24	-0.01	17	1.41	17	1.82	-0.41
Wacker-Krittendon	58	1.22	41	1.27	-0.04	59	1.64	41	1.46	0.18	58	2.64	41	2.22	0.42	60	1.13	38	1.24	-0.10
School-Class	16					20					27					28				
	Prior (N)	Mean	End of Year (N)	Mean	Gain Score*	Prior (N)	Mean	End of Year (N)	Mean	Gain Score*	Prior (N)	Mean	End of Year (N)	Mean	Gain Score*	Prior (N)	Mean	End of Year (N)	Mean	Gain Score*
—MiC—																				
Fernwood-Lee/Weatherspoon	77	1.34	56	1.29	0.05	76	1.89	54	1.83	0.06	75	2.35	55	2.35	0.00	76	2.66	53	2.62	0.04
—MiC (Conventional)—																				
VonHumboldt-Brown	60	1.28	70	1.37	-0.09	61	1.80	68	2.12	-0.31	60	2.25	70	2.43	-0.18	61	2.80	70	2.87	-0.07
VonHumboldt-Harvey	72	1.38	45	1.29	0.09	73	1.86	43	1.28	0.58	72	2.49	44	2.25	0.24	73	2.47	44	2.27	0.19
—Conventional—																				
Addams-Tallackson	18	1.56	17	1.47	0.08	18	1.56	17	1.76	-0.21	18	2.89	17	2.71	0.18	17	2.47	17	2.41	0.06
Wacker-Krittendon	60	1.32	41	1.10	0.22	60	2.03	40	1.73	0.31	60	2.35	41	2.02	0.33	60	2.38	41	2.13	0.25

* Positive scores indicate more positive attitudes and negative scores indicate more negative attitudes

Key

3. I feel sure that I am able to learn new ideas in math class. (*confidence in ability to learn mathematics*)
4. In mathematics, you can discover new ways of solving problems that the teacher or your classmates may not have thought of. (*problem solving*)
- 6.* If I use a calculator to solve a problem, I can be sure it will always give me the right answer. (*calculator use*)
11. Anyone who works hard enough can be good at math. (*effort*)
16. It's okay if I solve a math problem differently than my classmates do. (*problem solving*)
- 20.* Mathematics is not related to any of my other school subjects. (*connection to other school subjects*)
- 27.* Understanding why an answer is right is not as important as getting the right answer. (*understanding vs. answer*)
- 28.* Mathematics is more difficult to understand than other subjects. (*connection to other school subjects*)

* Reverse-scored due to wording of question.

Table 2.3

Student Attitude Inventory General Perceptions Gain Scores for Students in Grade 6, District 1, in 1997-1998, continued

School-Class	37					38					39					44				
	Prior (N)	Mean	End of Year (N)	Mean	Gain Score*	Prior (N)	Mean	End of Year (N)	Mean	Gain Score*	Prior (N)	Mean	End of Year (N)	Mean	Gain Score*	Prior (N)	Mean	End of Year (N)	Mean	Gain Score*
—MiC—																				
Fernwood-Lee/Weatherspoon	76	2.84	54	2.89	-0.05	75	1.97	55	1.85	0.12	72	2.51	55	2.36	0.15	73	3.14	55	3.02	0.12
—MiC (Conventional)—																				
VonHumboldt-Brown	60	3.22	70	3.10	0.12	60	1.63	70	1.83	-0.20	60	2.47	70	2.17	0.30	60	2.93	70	2.56	0.38
VonHumboldt-Harvey	70	3.11	44	3.09	0.02	69	1.80	44	1.36	0.43	69	2.55	44	2.02	0.53	71	2.86	44	2.59	0.27
—Conventional—																				
Addams-Tallackson	18	3.00	17	3.18	-0.18	18	1.94	17	2.12	-0.17	18	3.00	17	2.59	0.41	18	2.89	17	2.82	0.07
Wacker-Krittendon	58	2.97	41	2.68	0.28	60	1.85	40	1.35	0.50	58	2.66	41	1.83	0.83	59	2.85	41	3.10	-0.25
School-Class	45					49					53					55				
	Prior (N)	Mean	End of Year (N)	Mean	Gain Score*	Prior (N)	Mean	End of Year (N)	Mean	Gain Score*	Prior (N)	Mean	End of Year (N)	Mean	Gain Score*	Prior (N)	Mean	End of Year (N)	Mean	Gain Score*
—MiC—																				
Fernwood-Lee/Weatherspoon	72	2.75	55	2.73	0.02	73	2.07	53	2.13	-0.06	74	1.51	54	1.93	-0.41	74	2.91	55	2.53	0.38
—MiC (Conventional)—																				
VonHumboldt-Brown	60	2.62	70	2.49	0.13	60	2.32	68	2.10	0.21	58	1.71	70	1.73	-0.02	59	2.64	70	2.47	0.17
VonHumboldt-Harvey	70	2.77	44	2.41	0.36	70	2.16	44	1.86	0.29	69	1.88	44	1.89	0.00	70	2.56	44	2.36	0.19
—Conventional—																				
Addams-Tallackson	17	2.59	16	2.63	-0.04	18	1.83	16	1.81	0.02	18	1.39	16	1.69	-0.30	18	2.67	16	2.50	0.17
Wacker-Krittendon	59	2.78	41	3.15	-0.37	58	2.12	41	1.78	0.34	59	1.58	41	1.71	-0.13	57	2.93	41	2.66	0.27

* Positive scores indicate more positive attitudes and negative scores indicate more negative attitudes

Key

37.* No matter how hard a person works, some people are just naturally good at math and some are just not. (*effort*)

38.* Answering questions correctly in math means only giving a number. (*process vs. answer*)

39.* Each new math topic I study is not related to ones I have learned before. (*connection among mathematics topics*)

44.* When my teacher asks a question I will get it right if I have memorized the correct rule or fact. (*mathematics as facts or rules*)

45.* If you have to use a calculator to solve a problem, you don't really understand how to do the problem. (*calculator use*)

49.* It really doesn't matter if you understand a math problem or how you get an answer as long as the answer you get is right. (*understanding vs. answer*)

53.* Knowing how to solve a problem is as important as getting the answer. (*process vs. answer*)

55.* Mathematics is mostly learned by memorizing facts and rules. (*mathematics as facts or rules*)

* Reverse-scored due to wording of question.

Table 2.4

Student Attitude Inventory General Perceptions Gain Scores for Students in Grade 6, District 2, in 1997-1998

School-Class	3					4					6					11				
	Prior (N)	Mean	End of Year (N)	Mean	Gain Score*	Prior (N)	Mean	End of Year (N)	Mean	Gain Score*	Prior (N)	Mean	End of Year (N)	Mean	Gain Score*	Prior (N)	Mean	End of Year (N)	Mean	Gain Score*
—MiC—																				
Guggenheim-Dillard	37	1.59	15	1.40	0.19	37	1.46	15	1.80	-0.34	37	2.43	15	2.60	-0.17	37	1.16	14	1.71	-0.55
HirschMetro-Davenport	43	1.65	47	1.40	0.25	45	1.64	47	1.60	0.05	46	2.87	47	2.43	0.44	46	1.30	47	1.32	-0.01
—MiC (Conventional)—																				
Guggenheim-Broughton	32	1.50	13	1.69	-0.19	32	1.78	13	1.46	0.32	32	2.75	13	2.85	-0.10	32	1.41	13	1.31	0.10
HirschMetro-Holland	46	1.59	13	1.69	-0.11	47	1.68	52	1.62	0.07	46	3.09	52	2.37	0.72	47	1.09	52	1.12	-0.03
—Conventional—																				
Newberry-Renlund	23	1.22	11	1.27	-0.06	24	1.67	11	1.55	0.12	24	2.63	11	2.09	0.53	24	1.13	11	1.09	0.03
Newberry-Rhaney	27	1.41				28	1.68				28	2.61				26	1.27			
School-Class	16					20					27					28				
	Prior (N)	Mean	End of Year (N)	Mean	Gain Score*	Prior (N)	Mean	End of Year (N)	Mean	Gain Score*	Prior (N)	Mean	End of Year (N)	Mean	Gain Score*	Prior (N)	Mean	End of Year (N)	Mean	Gain Score*
—MiC—																				
Guggenheim-Dillard	37	1.35	15	1.13	0.22	36	1.42	15	1.20	0.22	37	2.51	15	2.53	-0.02	37	2.51	15	2.67	-0.15
HirschMetro-Davenport	46	1.52	47	1.45	0.07	47	1.62	47	1.77	-0.15	45	2.29	45	2.29	0.00	46	2.43	46	2.72	-0.28
—MiC (Conventional)—																				
Guggenheim-Broughton	32	1.41	13	1.38	0.02	31	1.94	13	2.00	-0.06	32	2.75	13	3.00	-0.25	31	2.45	13	3.15	-0.70
HirschMetro-Holland	49	1.53	52	1.67	-0.14	49	1.88	51	1.51	0.37	49	1.90	52	2.25	-0.35	47	2.23	52	2.42	-0.19
—Conventional—																				
Newberry-Renlund	24	1.42	11	1.18	0.23	24	1.33	11	1.18	0.15	24	2.21	10	2.30	-0.09	23	2.09	11	1.82	0.27
Newberry-Rhaney	28	1.79				26	2.19				23	2.52				26	2.88			

* Positive scores indicate more positive attitudes and negative scores indicate more negative attitudes

Key

3. I feel sure that I am able to learn new ideas in math class. (*confidence in ability to learn mathematics*)
4. In mathematics, you can discover new ways of solving problems that the teacher or your classmates may not have thought of. (*problem solving*)
- 6.* If I use a calculator to solve a problem, I can be sure it will always give me the right answer. (*calculator use*)
11. Anyone who works hard enough can be good at math. (*effort*)
16. It's okay if I solve a math problem differently than my classmates do. (*problem solving*)
- 20.* Mathematics is not related to any of my other school subjects. (*connection to other school subjects*)
- 27.* Understanding why an answer is right is not as important as getting the right answer. (*understanding vs. answer*)
- 28.* Mathematics is more difficult to understand than other subjects. (*connection to other school subjects*)

* Reverse-scored due to wording of question.

Table 2.4

Student Attitude Inventory General Perceptions Gain Scores for Students in Grade 6, District 2, in 1997-1998, continued

School-Class (N)	37					38					39					44				
	Prior (N)	Mean	End of Year (N)	Mean	Gain Score*	Prior (N)	Mean	End of Year (N)	Mean	Gain Score*	Prior (N)	Mean	End of Year (N)	Mean	Gain Score*	Prior (N)	Mean	End of Year (N)	Mean	Gain Score*
—MiC—																				
Guggenheim-Dillard	37	2.81	15	2.87	-0.06	37	1.76	15	1.60	0.16	36	2.36	15	2.47	-0.11	37	3.22	15	3.27	-0.05
HirschMetro-Davenport	46	2.74	46	3.13	-0.39	47	1.72	45	1.78	-0.05	47	2.60	47	2.30	0.30	47	3.09	47	3.19	-0.11
—MiC (Conventional)—																				
Guggenheim-Broughton	31	3.06	13	2.92	0.14	31	2.00	13	2.23	-0.23	31	2.52	13	2.69	-0.18	31	3.06	13	3.15	-0.09
HirschMetro-Holland	48	2.96	52	2.71	0.25	48	1.69	52	1.52	0.17	48	2.56	51	2.35	0.21	48	3.17	52	3.31	-0.14
—Conventional—																				
Newberry-Renlund	24	2.92	11	2.09	0.83	24	1.46	11	1.64	-0.18	24	2.04	11	1.82	0.22	24	3.50	11	3.27	0.23
Newberry-Rhaney	20	3.00				19	2.95				19	2.53				18	3.06			
School-Class (N)	45					49					53					55				
	Prior (N)	Mean	End of Year (N)	Mean	Gain Score*	Prior (N)	Mean	End of Year (N)	Mean	Gain Score*	Prior (N)	Mean	End of Year (N)	Mean	Gain Score*	Prior (N)	Mean	End of Year (N)	Mean	Gain Score*
—MiC—																				
Guggenheim-Dillard	37	2.57	15	2.20	0.37	37	1.95	15	1.60	0.35	37	1.16	15	1.40	-0.24	37	2.84	15	2.93	-0.10
HirschMetro-Davenport	46	2.87	47	2.79	0.08	47	2.34	47	2.15	0.19	47	1.70	47	1.64	0.06	46	2.93	47	2.98	-0.04
—MiC (Conventional)—																				
Guggenheim-Broughton	31	3.23	13	2.77	0.46	31	2.42	13	2.62	-0.20	31	1.65	13	2.31	-0.66	31	2.90	13	3.00	-0.10
HirschMetro-Holland	49	3.12	51	3.08	0.04	49	2.04	52	1.83	0.21	49	1.41	51	1.59	-0.18	49	3.10	52	2.98	0.12
—Conventional—																				
Newberry-Renlund	24	2.96	11	2.73	0.23	24	1.75	11	1.82	-0.07	23	1.48	11	1.45	0.02	23	2.78	11	2.36	0.42
Newberry-Rhaney	18	2.78				17	2.41				18	1.89				17	2.71			

* Positive scores indicate more positive attitudes and negative scores indicate more negative attitudes

Key

- 37.* No matter how hard a person works, some people are just naturally good at math and some are just not. (*effort*)
 38.* Answering questions correctly in math means only giving a number. (*process vs. answer*)
 39.* Each new math topic I study is not related to ones I have learned before. (*connection among mathematics topics*)
 44.* When my teacher asks a question I will get it right if I have memorized the correct rule or fact. (*mathematics as facts or rules*)
 45.* If you have to use a calculator to solve a problem, you don't really understand how to do the problem. (*calculator use*)
 49.* It really doesn't matter if you understand a math problem or how you get an answer as long as the answer you get is right. (*understanding vs. answer*)
 53. Knowing how to solve a problem is as important as getting the answer. (*process vs. answer*)
 55.* Mathematics is mostly learned by memorizing facts and rules. (*mathematics as facts or rules*)

* Reverse-scored due to wording of question.

Table 2.5

Student Attitude Inventory General Perceptions Gain Scores for Students in Grade 7, District 1, in 1997-1998

School-Class	3					4					6					11				
	Prior (N)	Mean	End of Year (N)	Mean	Gain Score*	Prior (N)	Mean	End of Year (N)	Mean	Gain Score*	Prior (N)	Mean	End of Year (N)	Mean	Gain Score*	Prior (N)	Mean	End of Year (N)	Mean	Gain Score*
<i>—MiC—</i>																				
Fernwood-Heath	46	1.57	32	1.41	0.16	47	1.55	32	1.53	0.02	47	2.17	32	2.16	0.01	47	1.34	32	1.34	0.00
32																				
VonHumboldt-Donnelly	54	1.78	20	2.00	-0.22	52	1.73	20	2.25	-0.52	53	2.21	20	2.55	-0.34	53	1.38	20	1.40	-0.02
<i>—Conventional—</i>																				
Addams-St.James	36	1.36	38	1.37	-0.01	37	1.92	37	1.78	0.14	37	2.30	38	2.29	0.01	37	1.27	37	1.43	-0.16
Wacker-McLaughlin	44	1.43	23	1.65	-0.22	45	1.67	23	1.57	0.10	45	2.53	23	2.43	0.10	45	1.49	23	1.43	0.05
School-Class	16					20					27					28				
	Prior (N)	Mean	End of Year (N)	Mean	Gain Score*	Prior (N)	Mean	End of Year (N)	Mean	Gain Score*	Prior (N)	Mean	End of Year (N)	Mean	Gain Score*	Prior (N)	Mean	End of Year (N)	Mean	Gain Score*
<i>—MiC—</i>																				
Fernwood-Heath	47	1.30	32	1.19	0.11	46	1.48	32	1.50	-0.02	47	2.43	32	2.19	0.24	47	2.53	32	2.34	0.19
<i>—MiC (Conventional)—</i>																				
VonHumboldt-Donnelly	53	1.25	20	1.40	-0.15	52	1.88	20	2.05	-0.17	51	2.39	19	2.21	0.18	50	2.82	20	2.60	0.22
<i>—Conventional—</i>																				
Addams-St.James	38	1.50	38	1.24	0.26	38	1.32	38	1.45	-0.13	38	1.74	38	2.11	-0.37	38	2.58	38	2.95	-0.37
Wacker-McLaughlin	45	1.38	23	1.22	0.16	44	1.68	23	1.48	0.20	44	2.45	23	1.87	0.58	45	2.27	23	1.83	0.44

* Positive scores indicate more positive attitudes and negative scores indicate more negative attitudes

Key

3. I feel sure that I am able to learn new ideas in math class. (*confidence in ability to learn mathematics*)
4. In mathematics, you can discover new ways of solving problems that the teacher or your classmates may not have thought of. (*problem solving*)
6.* If I use a calculator to solve a problem, I can be sure it will always give me the right answer. (*calculator use*)
11. Anyone who works hard enough can be good at math. (*effort*)
16. It's okay if I solve a math problem differently than my classmates do. (*problem solving*)
20.* Mathematics is not related to any of my other school subjects. (*connection to other school subjects*)
27.* Understanding why an answer is right is not as important as getting the right answer. (*understanding vs. answer*)
28.* Mathematics is more difficult to understand than other subjects. (*connection to other school subjects*)

* Reverse-scored due to wording of question.

Table 2.5

Student Attitude Inventory General Perceptions Gain Scores for Students in Grade 7, District 1, in 1997-1998, continued

School-Class	37					38					39					44				
	Prior (N)	Mean	End of Year (N)	Mean	Gain Score*	Prior (N)	Mean	End of Year (N)	Mean	Gain Score*	Prior (N)	Mean	End of Year (N)	Mean	Gain Score*	Prior (N)	Mean	End of Year (N)	Mean	Gain Score*
—MiC—																				
Fernwood-Heath	47	2.77	32	2.53	0.23	46	1.80	32	1.66	0.15	45	2.38	32	2.36	0.02	44	3.30	32	2.97	0.33
—MiC (Conventional)—																				
VonHumboldt-Donnelly	47	3.06	20	2.50	0.56	46	1.89	20	1.70	0.19	46	2.11	20	1.80	0.31	42	2.93	20	2.55	0.38
—Conventional—																				
Addams-St.James	38	2.58	38	2.79	-0.21	38	1.50	38	1.66	-0.16	38	2.16	38	1.95	0.21	38	2.89	38	2.97	-0.08
Wacker-McLaughlin	44	3.02	23	2.91	0.11	44	1.52	23	1.52	0.00	43	2.02	23	2.00	0.02	44	3.05	23	2.74	0.31
School-Class	45					49					53					55				
	Prior (N)	Mean	End of Year (N)	Mean	Gain Score*	Prior (N)	Mean	End of Year (N)	Mean	Gain Score*	Prior (N)	Mean	End of Year (N)	Mean	Gain Score*	Prior (N)	Mean	End of Year (N)	Mean	Gain Score*
—MiC—																				
Fernwood-Heath	44	2.70	32	2.84	-0.14	44	1.91	32	2.00	-0.09	45	1.78	32	1.70	0.07	45	2.71	32	2.86	-0.15
—MiC (Conventional)—																				
VonHumboldt-Donnelly	41	2.56	20	2.68	-0.11	40	2.05	19	2.32	-0.27	41	1.68	20	2.20	-0.52	41	2.88	20	2.50	0.38
—Conventional—																				
Addams-St.James	38	2.13	37	2.14	0.00	38	1.74	38	1.58	0.16	37	1.59	38	1.57	0.03	37	2.84	38	2.86	-0.02
Wacker-McLaughlin	42	2.43	22	1.95	0.47	43	2.02	23	1.87	0.15	42	1.62	23	1.78	-0.16	43	2.58	23	2.61	-0.03

* Positive scores indicate more positive attitudes and negative scores indicate more negative attitudes

Key

- 37.* No matter how hard a person works, some people are just naturally good at math and some are just not. (*effort*)
 38.* Answering questions correctly in math means only giving a number. (*process vs. answer*)
 39.* Each new math topic I study is not related to ones I have learned before. (*connection among mathematics topics*)
 44.* When my teacher asks a question I will get it right if I have memorized the correct rule or fact. (*mathematics as facts or rules*)
 45.* If you have to use a calculator to solve a problem, you don't really understand how to do the problem. (*calculator use*)
 49.* It really doesn't matter if you understand a math problem or how you get an answer as long as the answer you get is right. (*understanding vs. answer*)
 53. Knowing how to solve a problem is as important as getting the answer. (*process vs. answer*)
 55.* Mathematics is mostly learned by memorizing facts and rules. (*mathematics as facts or rules*)

* Reverse-scored due to wording of question.

Table 2.6

Student Attitude Inventory General Perceptions Gain Scores for Students in Grade 7, District 2, in 1997-1998

School-Class	3			4			6			11										
	Prior (N)	Mean	End of Year (N)	Mean	Gain Score*	Prior (N)	Mean	End of Year (N)	Mean	Gain Score*	Prior (N)	Mean	End of Year (N)	Mean	Gain Score*					
—MiC—																				
Guggenheim-Keeton	48	1.83	39	1.95	-0.12	49	1.78	39	1.87	-0.10	49	2.76	39	2.31	0.45	47	1.34	39	1.54	-0.20
HirschMetro-McFadden	51	1.61	27	1.41	0.20	51	1.73	27	1.70	0.02	51	2.41	28	2.29	0.13	51	1.29	28	1.29	0.01
—MiC (Conventional)—																				
Guggenheim-Teague	47	1.43	32	1.75	-0.32	48	1.40	31	1.68	-0.28	48	2.67	32	2.38	0.29	47	1.26	32	1.47	-0.21
HirschMetro-Draski	41	1.37	41	1.54	-0.17	41	1.63	41	1.76	-0.12	40	2.38	41	2.37	0.01	41	1.15	41	1.29	-0.15
—Conventional—																				
Newberry-Cunningham	31	1.48	20	1.35	0.13	31	1.77	20	2.00	-0.23	31	2.48	20	2.35	0.13	31	1.55	20	1.25	0.30
Newberry-Stark	13	1.46	19	1.53	-0.06	14	1.93	20	1.75	0.18	14	2.43	20	2.55	-0.12	14	1.36	20	1.15	0.21
School-Class	16			20			27			28										
	Prior (N)	Mean	End of Year (N)	Mean	Gain Score*	Prior (N)	Mean	End of Year (N)	Mean	Gain Score*	Prior (N)	Mean	End of Year (N)	Mean	Gain Score*	Prior (N)	Mean	End of Year (N)	Mean	Gain Score*
—MiC—																				
Guggenheim-Keeton	49	1.33	39	1.33	-0.01	49	1.39	39	1.38	0.00	48	2.48	39	2.49	-0.01	49	2.96	39	3.36	-0.40
HirschMetro-McFadden	51	1.49	28	1.46	0.03	51	1.94	28	1.54	0.41	49	2.43	27	2.48	-0.05	51	2.51	28	2.32	0.19
—MiC (Conventional)—																				
Guggenheim-Teague	49	1.63	32	1.56	0.07	49	1.76	32	1.53	0.22	48	2.38	32	2.50	-0.13	48	2.29	31	2.23	0.07
HirschMetro-Draski	41	1.46	41	1.54	-0.07	41	1.76	41	1.68	0.07	40	2.13	41	1.95	0.17	41	2.68	41	2.76	-0.07
—Conventional—																				
Newberry-Cunningham	31	1.45	20	1.60	-0.15	31	2.00	20	1.95	0.05	31	2.61	20	2.20	0.41	31	2.68	20	2.45	0.23
Newberry-Stark	14	1.57	20	1.75	-0.18	14	1.57	19	2.05	-0.48	14	2.14	20	2.40	-0.26	14	2.50	20	2.75	-0.25

* Positive scores indicate more positive attitudes and negative scores indicate more negative attitudes

Key

3. I feel sure that I am able to learn new ideas in math class. (*confidence in ability to learn mathematics*)
 4. In mathematics, you can discover new ways of solving problems that the teacher or your classmates may not have thought of. (*problem solving*)
 6.* If I use a calculator to solve a problem, I can be sure it will always give me the right answer. (*calculator use*)
 11. Anyone who works hard enough can be good at math. (*effort*)
 16. It's okay if I solve a math problem differently than my classmates do. (*problem solving*)
 20.* Mathematics is not related to any of my other school subjects. (*connection to other school subjects*)
 27.* Understanding why an answer is right is not as important as getting the right answer. (*understanding vs. answer*)
 28.* Mathematics is more difficult to understand than other subjects. (*connection to other school subjects*)

* Reverse-scored due to wording of question.

Table 2.6

Student Attitude Inventory General Perceptions Gain Scores for Students in Grade 7, District 2, in 1997-1998, continued

School-Class	37					38					39					44				
	Prior (N)	Mean	End of Year (N)	Mean	Gain Score*	Prior (N)	Mean	End of Year (N)	Mean	Gain Score*	Prior (N)	Mean	End of Year (N)	Mean	Gain Score*	Prior (N)	Mean	End of Year (N)	Mean	Gain Score*
—MiC—																				
Guggenheim-Keeton	47	3.32	39	2.92	0.40	47	1.91	39	1.62	0.30	46	2.61	39	2.56	0.04	48	3.06	39	3.10	-0.04
HirschMetro-McFadden	50	2.82	28	2.71	0.11	50	1.84	28	1.32	0.52	50	2.50	28	2.21	0.29	51	3.06	28	3.11	-0.05
—MiC (Conventional)—																				
Guggenheim-Teague	49	2.88	32	2.91	-0.03	49	1.80	32	1.53	0.26	47	2.43	32	2.09	0.33	48	3.15	32	2.91	0.24
HirschMetro-Draski	41	2.78	41	3.02	-0.24	41	1.93	41	1.63	0.29	40	2.63	41	2.39	0.23	41	3.12	41	3.24	-0.12
—Conventional—																				
Newberry-Cunningham	30	3.17	20	2.95	0.22	31	2.26	20	1.85	0.41	31	2.45	20	2.40	0.05	31	2.97	20	3.20	-0.23
Newberry-Stark	13	2.62	19	2.42	0.19	13	2.00	19	1.89	0.11	13	2.69	19	2.00	0.69	13	2.92	20	3.05	-0.13
School-Class	45					49					53					55				
	Prior (N)	Mean	End of Year (N)	Mean	Gain Score*	Prior (N)	Mean	End of Year (N)	Mean	Gain Score*	Prior (N)	Mean	End of Year (N)	Mean	Gain Score*	Prior (N)	Mean	End of Year (N)	Mean	Gain Score*
—MiC—																				
Guggenheim-Keeton	47	2.55	39	2.40	0.16	48	2.10	39	1.97	0.13	48	1.69	39	1.59	0.10	48	2.71	39	2.97	-0.27
HirschMetro-McFadden	51	2.59	28	2.54	0.05	50	2.30	27	2.07	0.23	51	1.51	27	1.67	-0.16	51	2.98	27	3.04	-0.06
—MiC (Conventional)—																				
Guggenheim-Teague	48	2.71	32	2.50	0.21	48	2.15	32	2.16	-0.01	48	1.63	32	1.84	-0.22	48	2.85	32	2.88	-0.02
HirschMetro-Draski	41	3.00	41	2.83	0.17	41	2.22	41	1.88	0.34	40	1.55	40	1.48	0.08	41	2.93	41	2.98	-0.05
—Conventional—																				
Newberry-Cunningham	31	2.77	19	2.53	0.25	30	2.77	20	2.35	0.42	31	1.90	20	1.95	-0.05	31	3.10	20	2.85	0.25
Newberry-Stark	13	2.85	20	3.05	-0.20	12	1.92	20	1.90	0.02	12	1.58	20	1.35	0.23	12	3.17	20	2.90	0.27

* Positive scores indicate more positive attitudes and negative scores indicate more negative attitudes

Key

37.* No matter how hard a person works, some people are just naturally good at math and some are just not. (*effort*)

38.* Answering questions correctly in math means only giving a number. (*process vs. answer*)

39.* Each new math topic I study is not related to ones I have learned before. (*connection among mathematics topics*)

44.* When my teacher asks a question I will get it right if I have memorized the correct rule or fact. (*mathematics as facts or rules*)

45.* If you have to use a calculator to solve a problem, you don't really understand how to do the problem. (*calculator use*)

49.* It really doesn't matter if you understand a math problem or how you get an answer as long as the answer you get is right. (*understanding vs. answer*)

53. Knowing how to solve a problem is as important as getting the answer. (*process vs. answer*)

55.* Mathematics is mostly learned by memorizing facts and rules. (*mathematics as facts or rules*)

* Reverse-scored due to wording of question.

Table 2.7

Student Attitude Inventory General Perceptions Gain Scores for Students in Grade 6, District 1, in 1998-1999

School-Class	3					4					6					11				
	Prior (N)	Mean	End of Year (N)	Mean	Gain Score*	Prior (N)	Mean	End of Year (N)	Mean	Gain Score*	Prior (N)	Mean	End of Year (N)	Mean	Gain Score*	Prior (N)	Mean	End of Year (N)	Mean	Gain Score*
—MiC—																				
Addams-Gollen	23	1.43	15	1.33	0.10	23	1.52	15	1.53	-0.01	23	2.17	15	2.33	-0.16	23	1.22	15	1.20	0.02
Fernwood-Weatherspoon	79	1.48	28	1.43	0.05	80	1.58	29	1.59	-0.01	80	2.36	29	2.55	-0.19	80	1.36	29	1.34	0.02
Wacker-Lovell	27	1.41	3	1.33	0.07	28	1.50	3	1.00	0.50	28	1.96	3	1.00	0.96	28	1.21	3	1.00	0.21
—MiC (Conventional)—																				
Von Humboldt-Brown	48	1.73	12	1.67	0.06	48	1.56	12	1.17	0.40	48	2.25	12	2.08	0.17	48	1.42	12	1.25	0.17
Von Humboldt-Parsons	37	1.89	10	1.60	0.29	37	1.76	10	1.40	0.36	36	1.89	10	1.60	0.29	37	1.57	10	1.50	0.07
—Conventional—																				
Fernwood-Harrison	64	1.77	7	1.57	0.19	64	1.92	7	1.57	0.35	65	2.18	7	1.57	0.61	64	1.30	7	1.14	0.15
School-Class	16					20					27					28				
	Prior (N)	Mean	End of Year (N)	Mean	Gain Score*	Prior (N)	Mean	End of Year (N)	Mean	Gain Score*	Prior (N)	Mean	End of Year (N)	Mean	Gain Score*	Prior (N)	Mean	End of Year (N)	Mean	Gain Score*
—MiC—																				
Addams-Gollen	23	1.26	15	1.33	-0.07	23	1.35	15	1.33	0.01	23	2.04	15	2.33	-0.29	23	2.04	15	1.87	0.18
Fernwood-Weatherspoon	78	1.17	28	1.11	0.06	76	1.53	27	1.56	-0.03	78	2.26	28	2.32	-0.07	77	2.32	28	2.46	-0.14
Wacker-Lovell	28	1.36	3	1.33	0.02	28	1.29	3	1.00	0.29	28	2.25	3	1.67	0.58	28	2.21	3	2.00	0.21
—MiC (Conventional)—																				
Von Humboldt-Brown	48	1.31	12	1.25	0.06	47	1.49	12	1.58	-0.09	48	1.98	12	1.92	0.06	48	2.73	12	2.67	0.06
Von Humboldt-Parsons	36	1.42	10	1.20	0.22	36	1.67	10	1.50	0.17	34	2.41	10	2.30	0.11	36	2.36	10	2.70	-0.34
—Conventional—																				
Fernwood-Harrison	65	1.43	7	1.14	0.29	64	1.92	7	1.43	0.49	64	2.25	7	1.86	0.39	64	2.75	7	2.43	0.32

* Positive scores indicate more positive attitudes and negative scores indicate more negative attitudes

Key

3. I feel sure that I am able to learn new ideas in math class. (*confidence in ability to learn mathematics*)
 4. In mathematics, you can discover new ways of solving problems that the teacher or your classmates may not have thought of. (*problem solving*)
 6.* If I use a calculator to solve a problem, I can be sure it will always give me the right answer. (*calculator use*)
 11. Anyone who works hard enough can be good at math. (*effort*)
 16. It's okay if I solve a math problem differently than my classmates do. (*problem solving*)
 20.* Mathematics is not related to any of my other school subjects. (*connection to other school subjects*)
 27.* Understanding why an answer is right is not as important as getting the right answer. (*understanding vs. answer*)
 28.* Mathematics is more difficult to understand than other subjects. (*connection to other school subjects*)

* Reverse-scored due to wording of question.

Table 2.7

Student Attitude Inventory General Perceptions Gain Scores for Students in Grade 6, District 1, in 1998-1999, continued

School-Class	37					38					39					44				
	Prior (N)	Mean	End of Year (N)	Mean	Gain Score*	Prior (N)	Mean	End of Year (N)	Mean	Gain Score*	Prior (N)	Mean	End of Year (N)	Mean	Gain Score*	Prior (N)	Mean	End of Year (N)	Mean	Gain Score*
—MiC—																				
Addams-Gollen	23	2.57	15	2.67	-0.10	23	1.30	15	1.27	0.04	23	1.91	15	2.00	-0.09	23	2.87	15	2.87	0.00
Fernwood-Weatherspoon	77	2.94	27	3.00	-0.06	78	1.53	28	1.79	-0.26	77	2.14	28	2.25	-0.11	78	2.87	28	2.79	0.09
Wacker-Lovell	28	1.50	3	1.67	-0.17	28	1.50	3	1.33	0.17	28	1.71	3	1.33	0.38	28	3.07	3	2.00	1.07
—MiC (Conventional)—																				
Von Humboldt-Brown	48	2.79	12	2.33	0.46	48	1.42	12	1.42	0.00	48	1.98	12	1.67	0.31	48	2.94	12	2.83	0.10
Von Humboldt-Parsons	35	0.00	10	3.20	-3.20	36	1.83	10	1.40	0.43	35	2.31	10	2.20	0.11	35	3.06	10	3.40	-0.34
—Conventional—																				
Fernwood-Harrison	64	2.81	7	2.29	0.53	64	1.75	7	1.57	0.18	63	2.17	6	2.17	0.01	63	2.87	7	3.00	-0.13
School-Class	45					49					53					55				
	Prior (N)	Mean	End of Year (N)	Mean	Gain Score*	Prior (N)	Mean	End of Year (N)	Mean	Gain Score*	Prior (N)	Mean	End of Year (N)	Mean	Gain Score*	Prior (N)	Mean	End of Year (N)	Mean	Gain Score*
—MiC—																				
Addams-Gollen	23	2.35	15	2.33	0.01	23	1.52	15	1.53	-0.01	23	1.52	15	1.60	-0.08	23	2.43	15	2.33	0.10
Fernwood-Weatherspoon	77	2.57	27	2.59	-0.02	77	1.79	27	2.07	-0.28	75	1.53	28	1.50	0.03	75	2.45	28	1.50	0.95
Wacker-Lovell	28	2.50	3	2.33	0.17	28	1.64	3	1.00	0.64	27	1.33	3	1.00	0.33	27	2.85	3	1.67	1.19
—MiC (Conventional)—																				
Von Humboldt-Brown	48	2.69	12	2.67	0.02	48	1.69	12	1.58	0.10	48	1.50	12	1.50	0.00	48	2.71	12	2.42	0.29
Von Humboldt-Parsons	36	2.97	10	2.90	0.07	36	1.83	10	2.10	-0.27	36	1.92	10	1.70	0.22	36	2.61	10	3.00	-0.39
—Conventional—																				
Fernwood-Harrison	64	2.75	7	3.14	-0.39	64	2.13	7	2.00	0.13	63	1.89	7	1.71	0.17	61	2.84	7	2.57	0.26

* Positive scores indicate more positive attitudes and negative scores indicate more negative attitudes

Key

37.* No matter how hard a person works, some people are just naturally good at math and some are just not. (*effort*)

38.* Answering questions correctly in math means only giving a number. (*process vs. answer*)

39.* Each new math topic I study is not related to ones I have learned before. (*connection among mathematics topics*)

44.* When my teacher asks a question I will get it right if I have memorized the correct rule or fact. (*mathematics as facts or rules*)

45.* If you have to use a calculator to solve a problem, you don't really understand how to do the problem. (*calculator use*)

49.* It really doesn't matter if you understand a math problem or how you get an answer as long as the answer you get is right. (*understanding vs. answer*)

53.* Knowing how to solve a problem is as important as getting the answer. (*process vs. answer*)

55.* Mathematics is mostly learned by memorizing facts and rules. (*mathematics as facts or rules*)

* Reverse-scored due to wording of question.

Table 2.8

Student Attitude Inventory General Perceptions Gain Scores for Students in Grade 6, District 2, in 1998-1999

School-Class	3					4					6					11				
	Prior (N)	Mean	End of Year (N)	Mean	Gain Score*	Prior (N)	Mean	End of Year (N)	Mean	Gain Score*	Prior (N)	Mean	End of Year (N)	Mean	Gain Score*	Prior (N)	Mean	End of Year (N)	Mean	Gain Score*
—MiC—																				
Guggenheim-Redling	49	1.78	11	2.18	-0.41	49	1.94	11	2.09	-0.15	48	2.46	11	2.09	0.37	48	1.46	11	1.45	0.00
—MiC (Conventional)—																				
Guggenheim-Broughton	42	1.40	1	2.00	-0.60	41	1.44	1	2.00	-0.56	42	2.55	1	3.00	-0.45	40	1.08	1	1.00	0.08
Weir-Ferguson	46	1.48				46	1.70				46	2.50				45	1.16			
Weir-Kellner	52	1.38				50	1.44				52	2.35				52	1.27			
—Conventional—																				
Newberry-Renlund	43	1.37				43	1.51				43	2.70				43	1.35			
Von Steuben-Friedman	27	1.30	17	1.29	0.00	27	1.74	17	1.94	-0.20	27	2.48	17	2.18		27	1.33	17	1.24	0.10
School-Class	16					20					27					28				
	Prior (N)	Mean	End of Year (N)	Mean	Gain Score*	Prior (N)	Mean	End of Year (N)	Mean	Gain Score*	Prior (N)	Mean	End of Year (N)	Mean	Gain Score*	Prior (N)	Mean	End of Year (N)	Mean	Gain Score*
—MiC—																				
Guggenheim-Redling	49	1.39	11	1.45	-0.07	49	1.65	11	1.27	0.38	48	2.17	11	2.45	-0.29	48	2.88	11	3.27	-0.40
—MiC (Conventional)—																				
Guggenheim-Broughton	42	1.36	1	2.00	-0.64	41	2.05	1	1.00	1.05	42	2.36	1	3.00	-0.64	41	2.37	1	1.00	1.37
Weir-Ferguson	46	1.37				46	1.85				44	2.43				46	2.48			
Weir-Kellner	52	1.19				52	1.83				50	2.64				49	2.24			
—Conventional—																				
Newberry-Renlund	43	1.30				43	1.91				43	2.19				43	2.09			
Von Steuben-Friedman	27	1.22	17	1.29	-0.07	27	1.63	17	1.47	0.16	27	2.00	17	1.94	0.06	27	2.37	17	2.18	0.19

* Positive scores indicate more positive attitudes and negative scores indicate more negative attitudes

Key

3. I feel sure that I am able to learn new ideas in math class. (*confidence in ability to learn mathematics*)
 4. In mathematics, you can discover new ways of solving problems that the teacher or your classmates may not have thought of. (*problem solving*)
 6.* If I use a calculator to solve a problem, I can be sure it will always give me the right answer. (*calculator use*)
 11. Anyone who works hard enough can be good at math. (*effort*)
 16. It's okay if I solve a math problem differently than my classmates do. (*problem solving*)
 20.* Mathematics is not related to any of my other school subjects. (*connection to other school subjects*)
 27.* Understanding why an answer is right is not as important as getting the right answer. (*understanding vs. answer*)
 28.* Mathematics is more difficult to understand than other subjects. (*connection to other school subjects*)

* Reverse-scored due to wording of question.

Table 2.8

Student Attitude Inventory General Perceptions Gain Scores for Students in Grade 6, District 2, in 1998-1999, continued

School-Class	37					38					39					44				
	Prior (N)	Mean	End of Year (N)	Mean	Gain Score*	Prior (N)	Mean	End of Year (N)	Mean	Gain Score*	Prior (N)	Mean	End of Year (N)	Mean	Gain Score*	Prior (N)	Mean	End of Year (N)	Mean	Gain Score*
—MiC—																				
Guggenheim-Redling	48	2.48	11	2.45	0.02	46	1.54	11	1.27	0.27	48	2.00	11	1.73	0.27	48	3.17	11	3.09	0.08
—MiC (Conventional)—																				
Guggenheim-Broughton	42	3.05	1	4.00	-0.95	42	1.88	1	1.00	0.88	41	2.41	1	1.00	1.41	42	3.14	1	3.00	0.14
Weir-Ferguson	46	2.93				46	1.89				45	2.58				46	3.28			
Weir-Kellner	49	2.63				50	1.86				49	2.27				50	3.58			
—Conventional—																				
Newberry-Renlund	43	2.93				43	1.42				42	2.12				43	3.19			
Von Steuben-Friedman	27	2.22	17	2.18	0.05	27	1.63	17	1.59	0.04	27	2.15	17	2.00	0.15	27	3.15	17	3.41	-0.26
School-Class	45					49					53					55				
	Prior (N)	Mean	End of Year (N)	Mean	Gain Score*	Prior (N)	Mean	End of Year (N)	Mean	Gain Score*	Prior (N)	Mean	End of Year (N)	Mean	Gain Score*	Prior (N)	Mean	End of Year (N)	Mean	Gain Score*
—MiC—																				
Guggenheim-Redling	48	2.67	11	2.55	0.12	48	1.73	11	1.73	0.00	48	1.52	11	1.36	0.16	47	2.87	11	3.27	-0.40
—MiC (Conventional)—																				
Guggenheim-Broughton	42	3.21	1	4.00	-0.79	42	2.38	1	1.00	1.38	42	1.67	1	1.00	0.67	41	3.00	1	3.00	0.00
Weir-Ferguson	45	2.71				46	2.35				45	1.56				44	3.09			
Weir-Kellner	50	2.74				49	1.43				50	1.64				50	2.98			
—Conventional—																				
Newberry-Renlund	43	2.74				43	2.00				43	1.51				43	2.95			
Von Steuben-Friedman	27	2.74	17	2.41	0.33	27	1.44	17	1.29	0.15	27	1.48	17	1.53	-0.05	27	2.70	17	2.59	0.12

* Positive scores indicate more positive attitudes and negative scores indicate more negative attitudes

Key

- 37.* No matter how hard a person works, some people are just naturally good at math and some are just not. (*effort*)
 38.* Answering questions correctly in math means only giving a number. (*process vs. answer*)
 39.* Each new math topic I study is not related to ones I have learned before. (*connection among mathematics topics*)
 44.* When my teacher asks a question I will get it right if I have memorized the correct rule or fact. (*mathematics as facts or rules*)
 45.* If you have to use a calculator to solve a problem, you don't really understand how to do the problem. (*calculator use*)
 49.* It really doesn't matter if you understand a math problem or how you get an answer as long as the answer you get is right. (*understanding vs. answer*)
 53. Knowing how to solve a problem is as important as getting the answer. (*process vs. answer*)
 55.* Mathematics is mostly learned by memorizing facts and rules. (*mathematics as facts or rules*)

* Reverse-scored due to wording of question.

Table 2.9

Student Attitude Inventory General Perceptions Gain Scores for Students in Grade 7, District 1, in 1998-1999

School-Class	3					4					6					11				
	Prior (N)	Mean	End of Year (N)	Mean	Gain Score*	Prior (N)	Mean	End of Year (N)	Mean	Gain Score*	Prior (N)	Mean	End of Year (N)	Mean	Gain Score*	Prior (N)	Mean	End of Year (N)	Mean	Gain Score*
—MiC—																				
Fernwood-Heath	30	1.60	24	1.63	-0.02	31	1.55	25	1.64	-0.09	30	2.63	24	2.54	0.09	30	1.47	25	1.40	0.07
—MiC (Conventional)—																				
Von Humboldt-Bartlett	49	1.90	7	2.43	-0.53	49	2.20	7	2.57	-0.37	49	2.29	7	2.14	0.14	49	1.39	7	1.29	0.10
Von Humboldt-Muldoon	60	1.82	26	1.85	-0.03	59	1.71	25	1.80	-0.09	60	2.37	26	2.19	0.17	60	1.47	26	1.81	-0.34
Wacker-Burton	20	1.40	7	1.29	0.11	20	1.90	7	1.57	0.33	19	2.05	6	2.00	0.05	20	1.25	7	1.29	-0.04
—Conventional—																				
Addams-St. James	55	1.47	3	1.00	0.47	55	1.58	3	1.33	0.25	55	2.22	3	1.67	0.55	54	1.39	3	1.00	0.39
Fernwood-Hodge	22	1.45				22	1.68				22	2.55				22	1.14			
Wacker-Rubin	22	1.50				22	1.77				22	2.27				22	1.05			
School-Class	16					20					27					28				
	Prior (N)	Mean	End of Year (N)	Mean	Gain Score*	Prior (N)	Mean	End of Year (N)	Mean	Gain Score*	Prior (N)	Mean	End of Year (N)	Mean	Gain Score*	Prior (N)	Mean	End of Year (N)	Mean	Gain Score*
—MiC—																				
Fernwood-Heath	31	1.19	25	1.20	-0.01	31	1.71	25	1.76	-0.05	31	2.58	25	2.68	-0.10	31	2.74	25	2.84	-0.10
—MiC (Conventional)—																				
Von Humboldt-Bartlett	49	1.33	7	1.14	0.18	49	1.88	7	2.29	-0.41	49	2.39	7	2.86	-0.47	49	2.69	7	2.86	-0.16
Von Humboldt-Muldoon	60	1.27	26	1.38	-0.12	60	1.87	26	1.92	-0.06	60	2.13	26	2.00	0.13	60	2.80	26	2.42	0.38
Wacker-Burton	20	1.40	7	1.29	0.11	20	1.80	7	1.86	-0.06	20	2.10	7	2.00	0.10	20	2.65	7	2.29	0.36
—Conventional—																				
Addams-St. James	55	1.18	3	1.00	0.18	55	1.47	3	1.67	-0.19	55	1.95	3	2.33	-0.39	55	2.80	3	3.33	-0.53
Fernwood-Hodge	22	1.23				21	1.81				22	2.32				22	2.64			
Wacker-Rubin	22	1.27				22	1.73				21	2.43				22	2.00			

* Positive scores indicate more positive attitudes and negative scores indicate more negative attitudes

Key

3. I feel sure that I am able to learn new ideas in math class. (*confidence in ability to learn mathematics*)
 4. In mathematics, you can discover new ways of solving problems that the teacher or your classmates may not have thought of. (*problem solving*)
 6.* If I use a calculator to solve a problem, I can be sure it will always give me the right answer. (*calculator use*)
 11. Anyone who works hard enough can be good at math. (*effort*)
 16. It's okay if I solve a math problem differently than my classmates do. (*problem solving*)
 20.* Mathematics is not related to any of my other school subjects. (*connection to other school subjects*)
 27.* Understanding why an answer is right is not as important as getting the right answer. (*understanding vs. answer*)
 28.* Mathematics is more difficult to understand than other subjects. (*connection to other school subjects*)

* Reverse-scored due to wording of question.

Table 2.9

Student Attitude Inventory General Perceptions Gain Scores for Students in Grade 7, District 1, in 1998-1999, continued

School-Class	37					38					39					44				
	Prior (N)	Mean	End of Year (N)	Mean	Gain Score*	Prior (N)	Mean	End of Year (N)	Mean	Gain Score*	Prior (N)	Mean	End of Year (N)	Mean	Gain Score*	Prior (N)	Mean	End of Year (N)	Mean	Gain Score*
—MiC—																				
Fernwood-Heath	31	2.81	25	2.92	-0.11	30	1.47	24	1.50	-0.03	31	2.39	25	2.48	-0.09	31	3.03	25	3.04	-0.01
—MiC (Conventional)—																				
Von Humboldt-Bartlett	49	2.86	7	3.29	-0.43	49	1.57	7	1.71	-0.14	49	2.0204	7	1.71	0.31	49	2.71	7	2.43	0.29
Von Humboldt-Muldoon	40	3.13	26	3.15	-0.03	40	1.68	25	1.56	0.12	40	2.25	25	2.08	0.17	40	2.58	26	2.77	-0.19
Wacker-Burton	20	2.90	7	2.57	0.33	20	1.75	7	2.14	-0.39	20	2.00	7	2.00	0.00	20	2.85	7	3.14	-0.29
—Conventional—																				
Addams-St. James	55	2.82	3	2.33	0.48	55	1.40	3	1.33	0.07	55	1.65	3	2.33	-0.68	55	2.91	3	2.67	0.24
Fernwood-Hodge	22	2.68				22	1.55				22	1.95				22	3.09			
Wacker-Rubin	22	2.68				22	1.82				22	2.27				22	3.14			
School-Class	45					49					53					55				
	Prior (N)	Mean	End of Year (N)	Mean	Gain Score*	Prior (N)	Mean	End of Year (N)	Mean	Gain Score*	Prior (N)	Mean	End of Year (N)	Mean	Gain Score*	Prior (N)	Mean	End of Year (N)	Mean	Gain Score*
—MiC—																				
Fernwood-Heath	31	2.87	25	2.76	0.11	31	1.94	25	1.84	0.10	31	1.55	25	1.56	-0.01	30	2.63	25	2.64	-0.01
—MiC (Conventional)—																				
Von Humboldt-Bartlett	49	2.31	7	2.43	-0.12	48	1.92	7	2.14	-0.23	49	1.82	7	1.86	-0.04	49	2.37	7	2.29	0.08
Von Humboldt-Muldoon	40	2.38	26	2.50	-0.13	40	1.98	26	1.77	0.21	39	1.85	26	1.85	0.00	40	2.50	26	2.69	-0.19
Wacker-Burton	20	3.25	7	3.29	-0.04	20	1.80	7	2.00	-0.20	20	1.80	7	1.86	-0.06	20	3.05	7	2.57	0.48
—Conventional—																				
Addams-St. James	55	2.25	3	2.67	-0.41	55	1.62	3	1.33	0.28	55	1.35	3	1.67	-0.32	55	2.84	3	3.00	-0.16
Fernwood-Hodge	22	2.68				22	1.36				22	1.64				22	2.77			
Wacker-Rubin	22	2.73				22	1.95				22	1.50				22	3.00			

* Positive scores indicate more positive attitudes and negative scores indicate more negative attitudes

Key

37.* No matter how hard a person works, some people are just naturally good at math and some are just not. (*effort*)

38.* Answering questions correctly in math means only giving a number. (*process vs. answer*)

39.* Each new math topic I study is not related to ones I have learned before. (*connection among mathematics topics*)

44.* When my teacher asks a question I will get it right if I have memorized the correct rule or fact. (*mathematics as facts or rules*)

45.* If you have to use a calculator to solve a problem, you don't really understand how to do the problem. (*calculator use*)

49.* It really doesn't matter if you understand a math problem or how you get an answer as long as the answer you get is right. (*understanding vs. answer*)

53.* Knowing how to solve a problem is as important as getting the answer. (*process vs. answer*)

55.* Mathematics is mostly learned by memorizing facts and rules. (*mathematics as facts or rules*)

* Reverse-scored due to wording of question.

Table 2.10

Student Attitude Inventory General Perceptions Gain Scores for Students in Grade 7, District 2, in 1998-1999

School-Class	3					4					6					11				
	Prior (N)	Mean	End of Year (N)	Mean	Gain Score*	Prior (N)	Mean	End of Year (N)	Mean	Gain Score*	Prior (N)	Mean	End of Year (N)	Mean	Gain Score*	Prior (N)	Mean	End of Year (N)	Mean	Gain Score*
—MiC—																				
Guggenheim-Carlson	74	1.54	23	1.74	-0.20	73	1.73	23	1.78	-0.06	72	2.42	23	2.57	-0.15	74	1.32	23	1.43	-0.11
Guggenheim-Dillard	34	1.56	13	1.62	-0.06	34	1.76	13	1.77	0.00	34	2.44	13	2.54	-0.10	34	1.32	13	1.38	-0.06
Weir-Gallardo	64	1.44				63	1.52				64	2.41				62	1.27			
—MiC (Conventional)—																				
Weir-Caputo	53	1.38				53	1.62				52	2.58				52	1.21			
—Conventional—																				
Newberry-Cunningham	28	1.25	11	1.36	-0.11	28	1.46	11	1.91	-0.44	27	2.44	9	2.44	0.00	28	1.11	10	1.10	0.01
School-Class	16					20					27					28				
	Prior (N)	Mean	End of Year (N)	Mean	Gain Score*	Prior (N)	Mean	End of Year (N)	Mean	Gain Score*	Prior (N)	Mean	End of Year (N)	Mean	Gain Score*	Prior (N)	Mean	End of Year (N)	Mean	Gain Score*
—MiC—																				
Guggenheim-Carlson	74	1.53	23	1.52	0.01	71	1.92	23	1.91	0.00	73	2.60	23	2.52	0.08	74	2.62	23	2.87	-0.25
Guggenheim-Dillard	34	1.32	13	1.38	-0.06	33	1.36	13	1.85	-0.48	34	2.21	13	2.23	-0.02	34	2.29	13	2.46	-0.17
Weir-Gallardo	65	1.22				64	1.84				63	2.08				64	2.69			
—MiC (Conventional)—																				
Weir-Caputo	52	1.35				50	1.92				50	2.28				49	2.61			
—Conventional—																				
Newberry-Cunningham	28	1.43	10	1.50	-0.07	28	1.61	11	1.82	-0.21	28	2.39	11	1.91	0.48	28	2.21	11	2.09	0.12

* Positive scores indicate more positive attitudes and negative scores indicate more negative attitudes

Key

3. I feel sure that I am able to learn new ideas in math class. (*confidence in ability to learn mathematics*)
4. In mathematics, you can discover new ways of solving problems that the teacher or your classmates may not have thought of. (*problem solving*)
6.* If I use a calculator to solve a problem, I can be sure it will always give me the right answer. (*calculator use*)
11. Anyone who works hard enough can be good at math. (*effort*)
16. It's okay if I solve a math problem differently than my classmates do. (*problem solving*)
20.* Mathematics is not related to any of my other school subjects. (*connection to other school subjects*)
27.* Understanding why an answer is right is not as important as getting the right answer. (*understanding vs. answer*)
28.* Mathematics is more difficult to understand than other subjects. (*connection to other school subjects*)

* Reverse-scored due to wording of question.

Table 2.10

Student Attitude Inventory General Perceptions Gain Scores for Students in Grade 7, District 2, in 1998-1999, continued

School-Class	37					38					39					44				
	Prior (N)	Mean	End of Year (N)	Mean	Gain Score*	Prior (N)	Mean	End of Year (N)	Mean	Gain Score*	Prior (N)	Mean	End of Year (N)	Mean	Gain Score*	Prior (N)	Mean	End of Year (N)	Mean	Gain Score*
—MiC—																				
Guggenheim-Carlson	74	2.84	23	2.65	0.19	74	1.95	23	1.96	-0.01	73	2.63	23	2.48	0.15	73	3.05	23	2.83	0.23
Guggenheim-Dillard	34	2.76	13	2.69	0.07	34	1.68	13	1.77	-0.09	34	1.85	13	1.92	-0.07	34	3.06	13	3.00	0.06
Weir-Gallardo	65	2.58				65	1.74				65	2.46				65	3.20			
—MiC (Conventional)—																				
Weir-Caputo	49	2.88				48	1.79				49	2.43				46	3.35			
—Conventional—																				
Newberry-Cunningham	28	3.14	11	3.27	-0.13	28	1.96	11	1.82	0.15	28	2.46	11	2.18	0.28	28	3.14	11	3.36	-0.22
School-Class	45					49					53					55				
	Prior (N)	Mean	End of Year (N)	Mean	Gain Score*	Prior (N)	Mean	End of Year (N)	Mean	Gain Score*	Prior (N)	Mean	End of Year (N)	Mean	Gain Score*	Prior (N)	Mean	End of Year (N)	Mean	Gain Score*
—MiC—																				
Guggenheim-Carlson	73	2.81	23	2.52	0.29	73	2.00	23	2.13	-0.13	74	1.64	23	2.04	-0.41	73	2.95	23	3.13	-0.19
Guggenheim-Dillard	33	2.64	13	2.54	0.10	34	1.94	13	1.85	0.10	34	1.59	13	1.62	-0.03	34	2.97	13	2.92	0.05
Weir-Gallardo	65	2.62				64	1.89				65	1.45				63	3.00			
—MiC (Conventional)—																				
Weir-Caputo	46	2.72				46	2.00				46	1.63				46	2.96			
—Conventional—																				
Newberry-Cunningham	28	2.96	11	2.82	0.15	28	2.46	11	2.36	0.10	28	1.50	10	1.70	-0.20	28	2.93	11	3.09	-0.16

* Positive scores indicate more positive attitudes and negative scores indicate more negative attitudes

Key

- 37.* No matter how hard a person works, some people are just naturally good at math and some are just not. (*effort*)
 38.* Answering questions correctly in math means only giving a number. (*process vs. answer*)
 39.* Each new math topic I study is not related to ones I have learned before. (*connection among mathematics topics*)
 44.* When my teacher asks a question I will get it right if I have memorized the correct rule or fact. (*mathematics as facts or rules*)
 45.* If you have to use a calculator to solve a problem, you don't really understand how to do the problem. (*calculator use*)
 49.* It really doesn't matter if you understand a math problem or how you get an answer as long as the answer you get is right. (*understanding vs. answer*)
 53. Knowing how to solve a problem is as important as getting the answer. (*process vs. answer*)
 55.* Mathematics is mostly learned by memorizing facts and rules. (*mathematics as facts or rules*)

* Reverse-scored due to wording of question.

Table 2.11

Student Attitude Inventory General Perceptions Gain Scores for Students in Grade 8, District 1, in 1998-1999

School-Class	3					4					6					11				
	Prior (N)	Mean	End of Year (N)	Mean	Gain Score*	Prior (N)	Mean	End of Year (N)	Mean	Gain Score*	Prior (N)	Mean	End of Year (N)	Mean	Gain Score*	Prior (N)	Mean	End of Year (N)	Mean	Gain Score*
—MiC—																				
Fernwood-Reichers	45	1.49	30	1.47	0.02	46	1.57	30	1.40	0.17	46	2.15	30	1.93	0.22	46	1.39	30	1.30	0.09
—MiC (Conventional)—																				
Von Humboldt-Waters	38	1.87	16	1.81	0.06	38	1.84	16	1.94	-0.10	38	2.37	16	2.38	-0.01	38	1.37	16	1.38	-0.01
—Conventional—																				
Addams-Wolfe	49	1.86	31	1.81	0.05	49	2.10	32	1.94	0.16	50	2.26	32	2.28	-0.02	49	1.90	32	1.94	-0.04
Wacker-DiMatteo	21	2.19	9	2.67	-0.48	21	2.43	9	2.89	-0.46	21	2.86	9	2.78	0.08	21	1.76	9	2.22	-0.46
School-Class	16					20					27					28				
	Prior (N)	Mean	End of Year (N)	Mean	Gain Score*	Prior (N)	Mean	End of Year (N)	Mean	Gain Score*	Prior (N)	Mean	End of Year (N)	Mean	Gain Score*	Prior (N)	Mean	End of Year (N)	Mean	Gain Score*
—MiC—																				
Fernwood-Reichers	46	1.17	30	1.13	0.04	45	1.64	29	1.55	0.09	46	2.39	30	2.40	-0.01	46	2.89	30	2.83	0.06
—MiC (Conventional)—																				
Von Humboldt-Waters	38	1.37	16	1.50	-0.13	38	1.84	16	1.75	0.09	38	2.39	16	2.63	-0.23	38	2.61	16	2.50	0.11
—Conventional—																				
Addams-Wolfe	49	1.29	32	1.28	0.00	49	1.63	32	1.59	0.04	49	2.10	32	2.22	-0.12	49	2.69	32	2.69	0.01
Wacker-DiMatteo	21	1.86	9	2.22	-0.37	20	2.20	8	2.50	-0.30	21	2.24	9	2.00	0.24	21	2.86	9	2.78	0.08

* Positive scores indicate more positive attitudes and negative scores indicate more negative attitudes

Key

3. I feel sure that I am able to learn new ideas in math class. (*confidence in ability to learn mathematics*)
 4. In mathematics, you can discover new ways of solving problems that the teacher or your classmates may not have thought of. (*problem solving*)
 6.* If I use a calculator to solve a problem, I can be sure it will always give me the right answer. (*calculator use*)
 11. Anyone who works hard enough can be good at math. (*effort*)
 16. It's okay if I solve a math problem differently than my classmates do. (*problem solving*)
 20.* Mathematics is not related to any of my other school subjects. (*connection to other school subjects*)
 27.* Understanding why an answer is right is not as important as getting the right answer. (*understanding vs. answer*)
 28.* Mathematics is more difficult to understand than other subjects. (*connection to other school subjects*)

* Reverse-scored due to wording of question.

Table 2.11

Student Attitude Inventory General Perceptions Gain Scores for Students in Grade 8, District 1, in 1998-1999, continued

School-Class	37					38					39					44				
	Prior (N)	Mean	End of Year (N)	Mean	Gain Score*	Prior (N)	Mean	End of Year (N)	Mean	Gain Score*	Prior (N)	Mean	End of Year (N)	Mean	Gain Score*	Prior (N)	Mean	End of Year (N)	Mean	Gain Score*
—MiC—																				
Fernwood-Reichers	46	2.61	30	2.53	0.08	46	1.70	30	1.60	0.10	46	2.26	30	2.27	-0.01	45	2.96	29	3.03	-0.08
—MiC (Conventional)—																				
Von Humboldt-Waters	37	2.70	15	2.67	0.04	38	1.58	16	1.69	-0.11	36	1.89	16	1.88	0.01	37	3.08	16	3.00	0.08
—Conventional—																				
Addams-Wolfe	49	3.06	33	3.12	-0.06	49	1.86	33	1.94	-0.08	50	2.00	33	2.06	-0.06	49	2.94	32	2.94	0.00
Wacker-DiMatteo	21	2.95	9	2.11	0.84	21	1.90	9	2.11	-0.21	20	2.40	9	2.56	-0.16	21	2.48	9	2.33	0.14
School-Class	45					49					53					55				
	Prior (N)	Mean	End of Year (N)	Mean	Gain Score*	Prior (N)	Mean	End of Year (N)	Mean	Gain Score*	Prior (N)	Mean	End of Year (N)	Mean	Gain Score*	Prior (N)	Mean	End of Year (N)	Mean	Gain Score*
—MiC—																				
Fernwood-Reichers	45	2.82	29	2.76	0.06	46	1.74	30	1.60	0.14	46	1.67	30	1.67	0.01	46	2.72	30	2.70	0.02
—MiC (Conventional)—																				
Von Humboldt-Waters	36	2.69	16	2.81	-0.12	37	2.03	16	2.00	0.03	37	1.95	16	2.19	-0.24	37	0.06	16	2.69	-2.63
—Conventional—																				
Addams-Wolfe	49	2.12	32	1.91	0.22	49	1.71	32	1.78	-0.07	49	1.53	32	1.63	-0.09	49	2.65	32	2.75	-0.10
Wacker-DiMatteo	20	2.70	9	2.67	0.03	20	2.15	9	2.11	0.04	21	1.81	9	2.00	-0.19	21	2.62	9	2.44	0.17

* Positive scores indicate more positive attitudes and negative scores indicate more negative attitudes

Key

- 37.* No matter how hard a person works, some people are just naturally good at math and some are just not. (*effort*)
 38.* Answering questions correctly in math means only giving a number. (*process vs. answer*)
 39.* Each new math topic I study is not related to ones I have learned before. (*connection among mathematics topics*)
 44.* When my teacher asks a question I will get it right if I have memorized the correct rule or fact. (*mathematics as facts or rules*)
 45.* If you have to use a calculator to solve a problem, you don't really understand how to do the problem. (*calculator use*)
 49.* It really doesn't matter if you understand a math problem or how you get an answer as long as the answer you get is right. (*understanding vs. answer*)
 53. Knowing how to solve a problem is as important as getting the answer. (*process vs. answer*)
 55.* Mathematics is mostly learned by memorizing facts and rules. (*mathematics as facts or rules*)

* Reverse-scored due to wording of question.

Table 2.12

Student Attitude Inventory General Perceptions Gain Scores for Students in Grade 8, District 2, in 1998-1999

School-Class	3					4					6					11				
	Prior (N)	Mean	End of Year (N)	Mean	Gain Score*	Prior (N)	Mean	End of Year (N)	Mean	Gain Score*	Prior (N)	Mean	End of Year (N)	Mean	Gain Score*	Prior (N)	Mean	End of Year (N)	Mean	Gain Score*
—MiC—																				
Guggenheim-Keeton	42	1.79	24	1.67	0.12	42	1.93	24	1.75	0.18	42	2.21	24	2.29	-0.08	42	1.86	24	1.88	-0.02
Guggenheim-Teague	51	1.57	16	1.63	-0.06	52	1.73	16	1.88	-0.14	53	2.53	16	2.31	0.22	53	1.51	16	1.69	-0.18
—Conventional—																				
Newberry-Cunningham	17	1.29	11	1.36	-0.07	17	2.00	11	1.91	0.09	16	2.44	9	2.44	-0.01	16	1.50	10	1.10	0.40
Newberry-Stark	21	1.43	2	1.50	-0.07	21	1.57	2	1.50	0.07	21	2.43	2	3.00	-0.57	21	1.19	2	1.50	-0.31
School-Class	16					20					27					28				
	Prior (N)	Mean	End of Year (N)	Mean	Gain Score*	Prior (N)	Mean	End of Year (N)	Mean	Gain Score*	Prior (N)	Mean	End of Year (N)	Mean	Gain Score*	Prior (N)	Mean	End of Year (N)	Mean	Gain Score*
—MiC—																				
Guggenheim-Keeton	42	1.38	24	1.46	-0.08	42	1.60	24	1.58	0.01	42	2.38	24	2.46	-0.08	41	2.54	24	2.67	-0.13
Guggenheim-Teague	53	1.45	16	1.19	0.27	53	1.75	16	1.94	-0.18	52	2.44	16	2.31	0.13	50	2.00	16	1.94	0.06
—Conventional—																				
Newberry-Cunningham	16	1.63	10	1.50	0.13	16	2.13	11	1.82	0.31	15	2.13	11	1.91	0.22	16	2.44	11	2.09	0.35
Newberry-Stark	21	1.24	2	1.50	-0.26	20	1.80	2	2.00	-0.20	20	2.25	2	3.50	-1.25	20	2.80	2	3.00	-0.20

* Positive scores indicate more positive attitudes and negative scores indicate more negative attitudes

Key

3. I feel sure that I am able to learn new ideas in math class. (*confidence in ability to learn mathematics*)
4. In mathematics, you can discover new ways of solving problems that the teacher or your classmates may not have thought of. (*problem solving*)
6.* If I use a calculator to solve a problem, I can be sure it will always give me the right answer. (*calculator use*)
11. Anyone who works hard enough can be good at math. (*effort*)
16. It's okay if I solve a math problem differently than my classmates do. (*problem solving*)
20.* Mathematics is not related to any of my other school subjects. (*connection to other school subjects*)
27.* Understanding why an answer is right is not as important as getting the right answer. (*understanding vs. answer*)
28.* Mathematics is more difficult to understand than other subjects. (*connection to other school subjects*)

* Reverse-scored due to wording of question.

Table 2.12

Student Attitude Inventory General Perceptions Gain Scores for Students in Grade 8, District 2, in 1998-1999, continued

School-Class	37					38					39					44				
	Prior (N)	Mean	End of Year (N)	Mean	Gain Score*	Prior (N)	Mean	End of Year (N)	Mean	Gain Score*	Prior (N)	Mean	End of Year (N)	Mean	Gain Score*	Prior (N)	Mean	End of Year (N)	Mean	Gain Score*
<i>—MiC—</i>																				
Guggenheim-Keeton	42	2.69	24	2.75	-0.06	42	1.62	24	1.75	-0.13	42	2.17	24	2.13	0.04	41	2.98	24	2.92	0.06
Guggenheim-Teague	53	2.89	16	2.69	0.20	53	1.72	16	1.63	0.09	53	2.32	16	2.13	0.20	53	3.13	16	3.31	-0.18
<i>—Conventional—</i>																				
Newberry-Cunningham	16	2.63	11	3.27	-0.65	16	2.00	11	1.82	0.18	16	2.38	11	2.18	0.19	16	3.25	11	3.36	-0.11
Newberry-Stark	20	3.25	2	3.00	0.25	20	2.00	2	3.50	-1.50	20	2.45	2	2.00	0.45	20	3.15	2	3.00	0.15
School-Class	45					49					53					55				
	Prior (N)	Mean	End of Year (N)	Mean	Gain Score*	Prior (N)	Mean	End of Year (N)	Mean	Gain Score*	Prior (N)	Mean	End of Year (N)	Mean	Gain Score*	Prior (N)	Mean	End of Year (N)	Mean	Gain Score*
<i>—MiC—</i>																				
Guggenheim-Keeton	42	2.33	24	2.17	0.17	42	1.76	24	1.88	-0.11	42	1.74	24	1.75	-0.01	41	2.78	24	2.75	0.03
Guggenheim-Teague	53	2.58	16	2.50	0.08	53	2.08	16	2.00	0.08	53	1.60	16	1.44	0.17	53	2.96	16	3.13	-0.16
<i>—Conventional—</i>																				
Newberry-Cunningham	16	2.88	11	2.82	0.06	15	1.80	11	2.36	-0.56	15	1.87	10	1.70	0.17	15	3.00	11	3.09	-0.09
Newberry-Stark	20	2.4	2	2.00	0.40	20	2.35	2	2.00	0.35	20	1.55	2	2.00	-0.45	20	3.15	2	3.00	0.15

* Positive scores indicate more positive attitudes and negative scores indicate more negative attitudes

Key

- 37.* No matter how hard a person works, some people are just naturally good at math and some are just not. (*effort*)
 38.* Answering questions correctly in math means only giving a number. (*process vs. answer*)
 39.* Each new math topic I study is not related to ones I have learned before. (*connection among mathematics topics*)
 44.* When my teacher asks a question I will get it right if I have memorized the correct rule or fact. (*mathematics as facts or rules*)
 45.* If you have to use a calculator to solve a problem, you don't really understand how to do the problem. (*calculator use*)
 49.* It really doesn't matter if you understand a math problem or how you get an answer as long as the answer you get is right. (*understanding vs. answer*)
 53. Knowing how to solve a problem is as important as getting the answer. (*process vs. answer*)
 55.* Mathematics is mostly learned by memorizing facts and rules. (*mathematics as facts or rules*)

* Reverse-scored due to wording of question.

Table 2.13

Student Attitude Inventory General Perceptions Gain Scores for Students in Grade 7, District 1, in 1999-2000

School-Class	3					4					6					11				
	Prior (N)	Mean	End of Year (N)	Mean	Gain Score*	Prior (N)	Mean	End of Year (N)	Mean	Gain Score*	Prior (N)	Mean	End of Year (N)	Mean	Gain Score*	Prior (N)	Mean	End of Year (N)	Mean	Gain Score*
<i>—MiC (Conventional)—</i>																				
Addams-St. James	8	1.50	5	1.20	0.30	8	1.63	5	1.60	0.02	8	2.50	5	2.20	0.30	8	1.25	5	1.00	0.25
Von Humboldt-Botkin	43	1.67	11	1.82	-0.14	43	1.56	11	1.73	-0.17	43	2.14	11	2.18	-0.04	43	1.44	11	1.82	-0.38
Von Humboldt-Muldoon	44	1.84	9	1.22	0.62	44	1.68	9	1.11	0.57	43	2.14	9	1.22	0.92	44	1.55	9	1.11	0.43
<i>—Conventional—</i>																				
Fernwood-Hodge	13	1.38	2	1.50	-0.12	13	1.77	2	2.50	-0.73	13	2.54	2	2.00	0.54	13	1.31	2	1.00	0.31
School-Class	16					20					27					28				
	Prior (N)	Mean	End of Year (N)	Mean	Gain Score*	Prior (N)	Mean	End of Year (N)	Mean	Gain Score*	Prior (N)	Mean	End of Year (N)	Mean	Gain Score*	Prior (N)	Mean	End of Year (N)	Mean	Gain Score*
<i>—MiC (Conventional)—</i>																				
Addams-St. James	8	1.25	5	1.20	0.05	8	1.38	5	1.80	-0.43	8	2.50	5	3.00	-0.50	8	2.13	5	2.60	-0.48
Von Humboldt-Botkin	43	1.37	11	1.18	0.19	43	1.70	11	1.45	0.24	43	2.19	11	2.45	-0.27	43	2.58	11	2.64	-0.05
Von Humboldt-Muldoon	43	1.35	9	1.00	0.35	43	1.37	9	1.44	-0.07	42	2.05	9	1.67	0.38	43	2.51	9	2.78	-0.27
<i>—Conventional—</i>																				
Fernwood-Hodge	13	1.31	2	1.00	0.31	13	1.85	2	2.00	-0.15	13	2.23	2	3.00	-0.77	13	2.62	2	2.00	0.62

* Positive scores indicate more positive attitudes and negative scores indicate more negative attitudes

Key

3. I feel sure that I am able to learn new ideas in math class. (*confidence in ability to learn mathematics*)
 4. In mathematics, you can discover new ways of solving problems that the teacher or your classmates may not have thought of. (*problem solving*)
 6.* If I use a calculator to solve a problem, I can be sure it will always give me the right answer. (*calculator use*)
 11. Anyone who works hard enough can be good at math. (*effort*)
 16. It's okay if I solve a math problem differently than my classmates do. (*problem solving*)
 20.* Mathematics is not related to any of my other school subjects. (*connection to other school subjects*)
 27.* Understanding why an answer is right is not as important as getting the right answer. (*understanding vs. answer*)
 28.* Mathematics is more difficult to understand than other subjects. (*connection to other school subjects*)

* Reverse-scored due to wording of question.

Table 2.13

Student Attitude Inventory General Perceptions Gain Scores for Students in Grade 7, District 1, in 1999-2000, continued

School-Class	37					38					39					44				
	Prior (N)	Mean	End of Year (N)	Mean	Gain Score*	Prior (N)	Mean	End of Year (N)	Mean	Gain Score*	Prior (N)	Mean	End of Year (N)	Mean	Gain Score*	Prior (N)	Mean	End of Year (N)	Mean	Gain Score*
<i>—MiC (Conventional)—</i>																				
Addams-St. James	8	2.50	5	2.80	-0.30	8	1.38	5	2.00	-0.63	8	2.00	5	1.40	0.60	8	3.13	5	2.20	0.93
Von Humboldt-Botkin	43	2.88	11	3.09	-0.21	43	1.47	11	1.55	-0.08	43	2.00	11	2.09	-0.09	43	2.98	11	3.00	-0.02
Von Humboldt-Muldoon	42	2.83	9	1.78	1.06	43	1.58	9	1.33	0.25	43	2.09	9	1.78	0.32	42	3.00	9	3.33	-0.33
<i>—Conventional—</i>																				
Fernwood-Hodge	13	2.92	2	3.00	-0.08	13	2.15	2	2.00	0.15	13	1.92	2	3.00	-1.08	13	2.92	2	3.00	-0.08
School-Class	45					49					53					55				
	Prior (N)	Mean	End of Year (N)	Mean	Gain Score*	Prior (N)	Mean	End of Year (N)	Mean	Gain Score*	Prior (N)	Mean	End of Year (N)	Mean	Gain Score*	Prior (N)	Mean	End of Year (N)	Mean	Gain Score*
<i>—MiC (Conventional)—</i>																				
Addams-St. James	8	2.13	5	2.80	-0.68	8	1.63	5	2.00	-0.38	8	1.75	5	2.00	-0.25	8	2.75	5	2.60	0.15
Von Humboldt-Botkin	43	2.53	11	2.82	-0.28	43	1.84	11	1.91	-0.07	43	1.58	10	2.00	-0.42	57	2.75	11	2.45	0.30
Von Humboldt-Muldoon	43	2.84	9	3.00	-0.16	43	1.67	9	1.56	0.12	43	1.86	9	1.67	0.19	48	2.54	9	3.11	-0.57
<i>—Conventional—</i>																				
Fernwood-Hodge	13	2.92	2	1.50	1.42	13	2.00	2	2.50	-0.50	13	1.77	2	2.00	-0.23	12	3.17	2	3.00	0.17

* Positive scores indicate more positive attitudes and negative scores indicate more negative attitudes

Key

- 37.* No matter how hard a person works, some people are just naturally good at math and some are just not. (*effort*)
 38.* Answering questions correctly in math means only giving a number. (*process vs. answer*)
 39.* Each new math topic I study is not related to ones I have learned before. (*connection among mathematics topics*)
 44.* When my teacher asks a question I will get it right if I have memorized the correct rule or fact. (*mathematics as facts or rules*)
 45.* If you have to use a calculator to solve a problem, you don't really understand how to do the problem. (*calculator use*)
 49.* It really doesn't matter if you understand a math problem or how you get an answer as long as the answer you get is right. (*understanding vs. answer*)
 53. Knowing how to solve a problem is as important as getting the answer. (*process vs. answer*)
 55.* Mathematics is mostly learned by memorizing facts and rules. (*mathematics as facts or rules*)

* Reverse-scored due to wording of question.

Table 2.14

Student Attitude Inventory General Perceptions Gain Scores for Students in Grade 7, District 2, in 1999-2000

School-Class	3					4					6					11				
	Prior (N)	Mean	End of Year (N)	Mean	Gain Score*	Prior (N)	Mean	End of Year (N)	Mean	Gain Score*	Prior (N)	Mean	End of Year (N)	Mean	Gain Score*	Prior (N)	Mean	End of Year (N)	Mean	Gain Score*
<i>—MiC—</i>																				
Guggenheim-Redling	34	1.88	7	2.14	-0.26	34	1.94	7	2.43	-0.49	33	2.55	7	2.29	0.26	33	1.45	7	1.43	0.03
<i>—MiC (Conventional)—</i>																				
Guggenheim-Broughton	15	1.60	2	2.50	-0.90	15	1.40	2	3.00	-1.60	15	2.60	2	3.00	-0.40	14	1.07	2	2.00	-0.93
Weir-Flader	15	1.87				14	2.00				15	2.53				15	1.40			
<i>—Conventional—</i>																				
Von Steuben-Friedman	16	1.31	13	1.54	-0.23	16	1.75	13	1.69	0.06	16	2.63	13	2.46	0.16	16	1.19	13	1.15	0.03
School-Class	16					20					27					28				
	Prior (N)	Mean	End of Year (N)	Mean	Gain Score*	Prior (N)	Mean	End of Year (N)	Mean	Gain Score*	Prior (N)	Mean	End of Year (N)	Mean	Gain Score*	Prior (N)	Mean	End of Year (N)	Mean	Gain Score*
<i>—MiC—</i>																				
Guggenheim-Redling	34	1.38	7	1.29	0.10	34	1.74	7	2.00	-0.26	34	2.18	7	2.29	-0.11	33	3.06	7	3.14	-0.08
<i>—MiC (Conventional)—</i>																				
Guggenheim-Broughton	15	1.27	2	2.00	-0.73	15	1.87	2	1.00	0.87	14	2.86	2	2.50	0.36	15	2.73	2	2.00	0.73
Weir-Flader	15	1.27				15	1.80				15	2.20				15	2.07			
<i>—Conventional—</i>																				
Von Steuben-Friedman	16	1.25	13	1.31	-0.06	16	1.69	13	1.46	0.23	16	2.19	13	2.00	0.19	16	2.31	13	2.62	-0.30

* Positive scores indicate more positive attitudes and negative scores indicate more negative attitudes

Key

3. I feel sure that I am able to learn new ideas in math class. (*confidence in ability to learn mathematics*)
 4. In mathematics, you can discover new ways of solving problems that the teacher or your classmates may not have thought of. (*problem solving*)
 6.* If I use a calculator to solve a problem, I can be sure it will always give me the right answer. (*calculator use*)
 11. Anyone who works hard enough can be good at math. (*effort*)
 16. It's okay if I solve a math problem differently than my classmates do. (*problem solving*)
 20.* Mathematics is not related to any of my other school subjects. (*connection to other school subjects*)
 27.* Understanding why an answer is right is not as important as getting the right answer. (*understanding vs. answer*)
 28.* Mathematics is more difficult to understand than other subjects. (*connection to other school subjects*)

* Reverse-scored due to wording of question.

Table 2.14

Student Attitude Inventory General Perceptions Gain Scores for Students in Grade 7, District 2, in 1999-2000, continued

School-Class	37					38					39					44				
	Prior (N)	Mean	End of Year (N)	Mean	Gain Score*	Prior (N)	Mean	End of Year (N)	Mean	Gain Score*	Prior (N)	Mean	End of Year (N)	Mean	Gain Score*	Prior (N)	Mean	End of Year (N)	Mean	Gain Score*
—MiC—																				
Guggenheim-Redling	34	2.44	7	1.57	0.87	33	1.45	7	1.57	-0.12	34	1.76	7	2.43	-0.66	34	3.12	7	3.14	-0.03
—MiC (Conventional)—																				
Guggenheim-Broughton	14	3.14	2	1.00	2.14	14	1.64	2	1.00	0.64	14	2.57	2	1.50	1.07	14	3.29	2	3.00	0.29
Weir-Flader	15	2.40				15	1.80				15	2.47				15	3.73			
—Conventional—																				
Von Steuben-Friedman	16	2.19	13	1.38	0.80	16	1.56	13	1.38	0.18	16	2.38	13	2.00	0.38	16	3.19	13	3.46	-0.27
School-Class	45					49					53					55				
	Prior (N)	Mean	End of Year (N)	Mean	Gain Score*	Prior (N)	Mean	End of Year (N)	Mean	Gain Score*	Prior (N)	Mean	End of Year (N)	Mean	Gain Score*	Prior (N)	Mean	End of Year (N)	Mean	Gain Score*
—MiC—																				
Guggenheim-Redling	34	2.76	7	2.29	0.48	34	1.68	7	2.29	-0.61	34	1.44	7	1.43	0.01	37	2.81	7	3.14	-0.33
—MiC (Conventional)—																				
Guggenheim-Broughton	14	3.14	2	2.00	1.14	14	2.71	2	1.50	1.21	14	1.50	2	1.00	0.50	22	3.14	2	2.00	1.14
Weir-Flader	15	3.13				15	1.93				14	1.57				20	3.30			
—Conventional—																				
Von Steuben-Friedman	16	3.19	13	2.62	0.57	16	1.56	13	1.69	-0.13	16	1.44	13	2.00	-0.56	17	3.12	12	2.92	0.20

* Positive scores indicate more positive attitudes and negative scores indicate more negative attitudes

Key

- 37.* No matter how hard a person works, some people are just naturally good at math and some are just not. (*effort*)
 38.* Answering questions correctly in math means only giving a number. (*process vs. answer*)
 39.* Each new math topic I study is not related to ones I have learned before. (*connection among mathematics topics*)
 44.* When my teacher asks a question I will get it right if I have memorized the correct rule or fact. (*mathematics as facts or rules*)
 45.* If you have to use a calculator to solve a problem, you don't really understand how to do the problem. (*calculator use*)
 49.* It really doesn't matter if you understand a math problem or how you get an answer as long as the answer you get is right. (*understanding vs. answer*)
 53.* Knowing how to solve a problem is as important as getting the answer. (*process vs. answer*)
 55.* Mathematics is mostly learned by memorizing facts and rules. (*mathematics as facts or rules*)

* Reverse-scored due to wording of question.

Table 2.15

Student Attitude Inventory General Perceptions Gain Scores for Students in Grade 8, District 1, in 1999-2000

School-Class	3					4					6					11				
	Prior (N)	Mean	End of Year (N)	Mean	Gain Score*	Prior (N)	Mean	End of Year (N)	Mean	Gain Score*	Prior (N)	Mean	End of Year (N)	Mean	Gain Score*	Prior (N)	Mean	End of Year (N)	Mean	Gain Score*
—MiC—																				
Von Humboldt-Reichers	53	1.72	32	1.91	-0.19	54	1.93	32	1.94	-0.01	54	2.43	32	2.28	0.14	54	1.35	32	1.59	-0.24
—MiC (Conventional)—																				
Fernwood-Dunn	24	1.54	13	1.62	-0.07	26	1.58	15	1.73	-0.16	25	2.60	15	3.13	-0.53	26	1.23	15	1.47	-0.24
Von Humboldt-Waters	34	1.94	19	2.11	-0.16	34	1.91	19	2.05	-0.14	34	2.21	19	2.16	0.05	34	1.44	18	1.44	0.00
—Conventional—																				
Addams-Wolfe	48	1.48				48	1.58				48	2.21				47	1.43			
Fernwood-Pimm	5	1.40	3	1.33	0.07	5	1.40	3	1.33	0.07	5	2.00	3	2.00	0.00	5	1.20	3	1.00	0.20
School-Class	16					20					27					28				
	Prior (N)	Mean	End of Year (N)	Mean	Gain Score*	Prior (N)	Mean	End of Year (N)	Mean	Gain Score*	Prior (N)	Mean	End of Year (N)	Mean	Gain Score*	Prior (N)	Mean	End of Year (N)	Mean	Gain Score*
—MiC—																				
Von Humboldt-Reichers	53	1.23	32	1.25	-0.02	53	1.92	32	1.91	0.02	53	2.17	32	2.09	0.08	53	2.77	32	2.78	-0.01
—MiC (Conventional)—																				
Fernwood-Dunn	26	1.23	15	1.40	-0.17	26	1.85	15	2.20	-0.35	26	2.46	15	2.40	0.06	26	2.65	15	2.67	-0.01
Von Humboldt-Waters	34	1.35	19	1.26	0.09	34	1.74	19	1.79	-0.05	34	2.41	19	2.00	0.41	34	2.65	19	2.89	-0.25
—Conventional—																				
Addams-Wolfe	48	1.19				48	1.50				48	1.96				48	2.81			
Fernwood-Pimm	5	1.20	3	1.00	0.20	4	1.75	3	1.67	0.08	5	1.80	3	2.00	-0.20	5	2.20	3	2.00	0.20

* Positive scores indicate more positive attitudes and negative scores indicate more negative attitudes

Key

3. I feel sure that I am able to learn new ideas in math class. (*confidence in ability to learn mathematics*)
 4. In mathematics, you can discover new ways of solving problems that the teacher or your classmates may not have thought of. (*problem solving*)
 6.* If I use a calculator to solve a problem, I can be sure it will always give me the right answer. (*calculator use*)
 11. Anyone who works hard enough can be good at math. (*effort*)
 16. It's okay if I solve a math problem differently than my classmates do. (*problem solving*)
 20.* Mathematics is not related to any of my other school subjects. (*connection to other school subjects*)
 27.* Understanding why an answer is right is not as important as getting the right answer. (*understanding vs. answer*)
 28.* Mathematics is more difficult to understand than other subjects. (*connection to other school subjects*)

* Reverse-scored due to wording of question.

Table 2.15

Student Attitude Inventory General Perceptions Gain Scores for Students in Grade 8, District 1, in 1999-2000, continued

School-Class	37					38					39					44				
	Prior (N)	Mean	End of Year (N)	Mean	Gain Score*	Prior (N)	Mean	End of Year (N)	Mean	Gain Score*	Prior (N)	Mean	End of Year (N)	Mean	Gain Score*	Prior (N)	Mean	End of Year (N)	Mean	Gain Score*
Von Humboldt-Reichers	53	2.94	32	2.72	0.22	53	1.62	32	1.53	0.09	53	2.13	32	2.03	0.10	52	2.79	32	2.81	-0.02
—MiC—																				
Fernwood-Dunn	25	2.80	15	2.73	0.07	26	1.54	15	1.67	-0.13	26	2.12	15	2.53	-0.42	26	3.08	15	2.80	0.28
Von Humboldt-Waters	34	2.97	19	3.11	-0.13	33	1.58	19	1.89	-0.32	34	2.00	19	2.16	-0.16	34	2.76	19	3.05	-0.29
—Conventional—																				
Addams-Wolfe	48	2.81				48	1.40				48	1.63				48	2.92			
Fernwood-Pimm	5	2.00	3	2.67	-0.67	5	1.40	3	1.67	-0.27	5	2.20	3	1.67	0.53	5	3.40	3	2.67	0.73
School-Class	45					49					53					55				
	Prior (N)	Mean	End of Year (N)	Mean	Gain Score*	Prior (N)	Mean	End of Year (N)	Mean	Gain Score*	Prior (N)	Mean	End of Year (N)	Mean	Gain Score*	Prior (N)	Mean	End of Year (N)	Mean	Gain Score*
Von Humboldt-Reichers	53	2.45	32	2.44	0.02	51	1.78	32	1.91	-0.12	53	1.83	31	1.55	0.28	46	2.41	32	2.50	-0.09
—MiC (Conventional)—																				
Fernwood-Dunn	26	3.04	15	3.00	0.04	26	1.85	15	1.80	0.05	26	1.42	15	2.07	-0.64	26	2.88	15	2.87	0.02
Von Humboldt-Waters	34	2.24	19	2.74	-0.50	34	1.88	19	2.26	-0.38	34	1.88	16	2.06	-0.18	25	2.28	19	2.84	-0.56
—Conventional—																				
Addams-Wolfe	48	2.25				48	1.56				48	1.38				48	2.75			
Fernwood-Pimm	5	3.20	3	2.00	1.20	5	1.40	3	1.00	0.40	5	1.80	3	1.67	0.13	5	2.20	3	3.00	-0.80

* Positive scores indicate more positive attitudes and negative scores indicate more negative attitudes

Key

- 37.* No matter how hard a person works, some people are just naturally good at math and some are just not. (*effort*)
 38.* Answering questions correctly in math means only giving a number. (*process vs. answer*)
 39.* Each new math topic I study is not related to ones I have learned before. (*connection among mathematics topics*)
 44.* When my teacher asks a question I will get it right if I have memorized the correct rule or fact. (*mathematics as facts or rules*)
 45.* If you have to use a calculator to solve a problem, you don't really understand how to do the problem. (*calculator use*)
 49.* It really doesn't matter if you understand a math problem or how you get an answer as long as the answer you get is right. (*understanding vs. answer*)
 53. Knowing how to solve a problem is as important as getting the answer. (*process vs. answer*)
 55.* Mathematics is mostly learned by memorizing facts and rules. (*mathematics as facts or rules*)

* Reverse-scored due to wording of question.

Table 2.16

Student Attitude Inventory General Perceptions Gain Scores for Students in Grade 8, District 2, in 1999-2000

School-Class	3					4					6					11				
	Prior (N)	Mean	End of Year (N)	Mean	Gain Score*	Prior (N)	Mean	End of Year (N)	Mean	Gain Score*	Prior (N)	Mean	End of Year (N)	Mean	Gain Score*	Prior (N)	Mean	End of Year (N)	Mean	Gain Score*
—MiC—																				
Guggenheim-Dillard	16	1.63	4	2.25	-0.63	16	2.13	5	2.00	0.13	16	2.56	5	2.60	-0.04	16	1.25	5	1.40	-0.15
Weir-Gallardo	21	1.43				21	1.43				21	2.29				21	1.19			
—MiC (Conventional)—																				
Guggenheim-Carlson	52	1.62	16	1.81	-0.20	52	1.63	17	2.06	-0.42	52	2.31	16	2.44	-0.13	52	1.38	17	1.82	-0.44
Weir-Shepard	14	1.29				14	1.21				14	2.64				14	1.21			
—Conventional—																				
(none)																				
School-Class	16					20					27					28				
	Prior (N)	Mean	End of Year (N)	Mean	Gain Score*	Prior (N)	Mean	End of Year (N)	Mean	Gain Score*	Prior (N)	Mean	End of Year (N)	Mean	Gain Score*	Prior (N)	Mean	End of Year (N)	Mean	Gain Score*
—MiC—																				
Guggenheim-Dillard	16	1.31	5	1.20	0.11	16	1.50	5	2.20	-0.70	16	2.00	5	2.80	-0.80	16	2.50	5	2.60	-0.10
Weir-Gallardo	21	1.57				20	1.55				19	2.37				20	2.30			
—MiC (Conventional)—																				
Guggenheim-Carlson	52	1.38	17	1.82	-0.44	50	1.90	17	2.18	-0.28	51	2.49	17	2.35	0.14	52	2.54	17	2.65	-0.11
Weir-Shepard	15	1.13				14	2.00				15	2.20				15	2.73			
—Conventional—																				
(none)																				

* Positive scores indicate more positive attitudes and negative scores indicate more negative attitudes

Key

3. I feel sure that I am able to learn new ideas in math class. (*confidence in ability to learn mathematics*)
4. In mathematics, you can discover new ways of solving problems that the teacher or your classmates may not have thought of. (*problem solving*)
- 6.* If I use a calculator to solve a problem, I can be sure it will always give me the right answer. (*calculator use*)
11. Anyone who works hard enough can be good at math. (*effort*)
16. It's okay if I solve a math problem differently than my classmates do. (*problem solving*)
- 20.* Mathematics is not related to any of my other school subjects. (*connection to other school subjects*)
- 27.* Understanding why an answer is right is not as important as getting the right answer. (*understanding vs. answer*)
- 28.* Mathematics is more difficult to understand than other subjects. (*connection to other school subjects*)

* Reverse-scored due to wording of question.

Table 2.16

Student Attitude Inventory General Perceptions Gain Scores for Students in Grade 8, District 2, in 1999-2000, continued

School-Class	37					38					39					44				
	Prior (N)	Mean	End of Year (N)	Mean	Gain Score*	Prior (N)	Mean	End of Year (N)	Mean	Gain Score*	Prior (N)	Mean	End of Year (N)	Mean	Gain Score*	Prior (N)	Mean	End of Year (N)	Mean	Gain Score*
—MiC—																				
Guggenheim-Dillard	16	3.19	5	2.00	1.19	16	1.69	5	2.00	-0.31	16	1.75	5	2.40	-0.65	16	3.13	5	2.80	0.33
Weir-Gallardo	20	2.55				20	1.85				20	2.60				19	3.21			
—MiC (Conventional)—																				
Guggenheim-Carlson	52	2.79	17	2.18	0.61	52	1.81	17	2.18	-0.37	52	2.42	17	2.59	-0.17	52	3.13	17	2.94	0.19
Weir-Shepard	14	2.71				14	1.86				14	2.43				14	3.50			
—Conventional—																				
(none)																				
School-Class	45					49					53					55				
	Prior (N)	Mean	End of Year (N)	Mean	Gain Score*	Prior (N)	Mean	End of Year (N)	Mean	Gain Score*	Prior (N)	Mean	End of Year (N)	Mean	Gain Score*	Prior (N)	Mean	End of Year (N)	Mean	Gain Score*
—MiC—																				
Guggenheim-Dillard	16	2.31	5	2.20	0.11	16	2.00	5	2.20	-0.20	16	1.75	5	2.00	-0.25	19	2.95	5	3.00	-0.05
Weir-Gallardo	19	2.53				19	2.16				19	1.42				16	3.25			
—MiC (Conventional)—																				
Guggenheim-Carlson	51	2.86	17	2.18	0.69	52	1.87	17	2.29	-0.43	52	1.50	17	1.82	-0.32	50	2.92	17	2.76	0.16
Weir-Shepard	14	2.50				14	1.50				14	1.36				12	2.90			
—Conventional—																				
(none)																				

* Positive scores indicate more positive attitudes and negative scores indicate more negative attitudes

Key

- 37.* No matter how hard a person works, some people are just naturally good at math and some are just not. (*effort*)
 38.* Answering questions correctly in math means only giving a number. (*process vs. answer*)
 39.* Each new math topic I study is not related to ones I have learned before. (*connection among mathematics topics*)
 44.* When my teacher asks a question I will get it right if I have memorized the correct rule or fact. (*mathematics as facts or rules*)
 45.* If you have to use a calculator to solve a problem, you don't really understand how to do the problem. (*calculator use*)
 49.* It really doesn't matter if you understand a math problem or how you get an answer as long as the answer you get is right. (*understanding vs. answer*)
 53. Knowing how to solve a problem is as important as getting the answer. (*process vs. answer*)
 55.* Mathematics is mostly learned by memorizing facts and rules. (*mathematics as facts or rules*)

* Reverse-scored due to wording of question.