

Report on the  
2000-2001  
Administration  
of the Illinois  
Consumer  
Education Proficiency  
Test

ILLINOIS STATE BOARD OF EDUCATION  
ASSESSMENT DIVISION

## School Participation in the 2000-2001 ICEPT Test Cycle<sup>1</sup>

The Illinois Consumer Education Proficiency Test (ICEPT) was administered twice during the 2000-2001 school year: October 3-4, 2000 and January 30-31, 2001. In response to order forms sent to all Illinois public secondary schools announcing the two ICEPT test dates, a total of 29,681 test booklets, 22,459 answer sheets, and related test materials were distributed at no cost to participating schools. Although students are permitted to take the examination only once during each school year, different forms were prepared for the Fall and Winter administration dates in order to maintain the highest possible level of test security.

Table 1 summarizes school participation in the 2000-2001 test cycle.<sup>2</sup> As Table 1 shows, 182 of 659 schools (28%) tested students during both administration periods, 256 (39%) tested students during one of the two administration periods, and 55 (8%) ordered materials for one or both administration periods but did not test any students. A total of 166 schools (25%) did not order materials for either test date.

### Description and Demographic Comparisons of Students Participating in Each Test Administration

Table 2 presents descriptive data for a sample of the total population of students participating in the 2000-2001 ICEPT test cycle ( $n = 12,445$ ). The sample ( $N = 7,206$ )<sup>3</sup> includes only students who

---

<sup>1</sup> This document was prepared by MetriTech, Inc., Champaign, Illinois, under contract to the Illinois State Board of Education. John C. Craig, Ph.D., Assessment Consultant, Assessment Division, directed the project during this period. April 2001.

<sup>2</sup> For convenience, all of the tables and figures are presented together following the text.

<sup>3</sup> Because some students do not code all demographic information used in the subsequent analy-

used MetriTech-supplied answer sheets. Since the only information that all schools are required to report is the number of students tested and the number passing, it is not possible to determine how demographically representative this sample is of the total test population. However, with respect to the passing rate, it is important to note that the rate for the total 2000-2001 test population obtained from school reports is 16.2% ( $2,016/12,445$ ) while the rate obtained for the sample described in this report is 13.2%.

Table 2 presents a breakdown of the ICEPT examinee population with respect to ethnicity, gender, current grade in school, and self-reported cumulative GPA. A series of analyses were conducted to compare the Fall test population with the Winter test population. The purpose in doing so was to better understand differences in the composition of the groups that might lead to different passing rates for the two test dates, 15.6% for Fall, 16.9% for the Winter. Tables 3 through 6 present a series of comparisons between the two groups. Each table is organized in the same way. The first column shows data for the Fall testing. The second column shows data for the Winter testing. Each cell in the table contains three entries. The first entry shows the number of students in that category ( $N$ ), and the second entry shows the percentage of students in that category (%). The third entry shows the difference between the actual cell frequency and the cell frequency expected on the basis of the row and column totals ( $z_d$ ) expressed in standard score form. This number can be interpreted as representing the cell's contribution to an overall chi-square test of independence. That is, the higher this statistic in absolute value, the greater the departure of the cell from expectation, the larger the resulting  $\chi^2$  and the higher

---

ses, the sample sizes vary from table to table ( $n = 6,332-7,206$ ).

the probability that the two groups differ with respect to the classification variable.

There are statistically significant differences in the composition of the two groups with respect to ethnicity ( $\chi^2 = 88.32$ ,  $df = 5$ ,  $p < .000$ ), gender ( $\chi^2 = 7.45$ ,  $df = 1$ ,  $p = .006$ ), and current grade in school ( $\chi^2 = 443.86$ ,  $df = 3$ ,  $p < .000$ ). Freshmen and sophomores are more likely to test in the Spring, and seniors are more likely to test in the Fall. There is also a statistically significant difference between the groups based on self-reported GPA ( $\chi^2 = 31.00$ ,  $df = 9$ ,  $p < .000$ ).

#### Technical Characteristics of the Test Forms

Although two different ICEPT forms were administered during the 2000-2001 test cycle, results were pooled for purposes of analyzing student performance on ICEPT in relationship to certain demographic variables. The two test forms were designed to be equivalent in content and calibrated to produce equivalent passing scores. Table 7 presents a summary of certain statistical characteristics of the two test forms used in the 2000-2001 test cycle. Students who obtained scores below the chance level were excluded from this analysis. For this reason the sample size is slightly lower than that used in other analyses reported here. As Table 7 shows, the reliabilities of the test forms used in the 2000-2001 test cycle are very high. The raw score means, standard deviations, and standard errors of measurement are very similar.

A preliminary one-way analysis of variance (ANOVA) in which raw score was the dependent variable and test form the independent variable revealed that the difference in means was statistically significant. As noted in the previous section, there were also statistically significant differences between the Fall and Winter examinee groups with respect to some

demographic characteristics. On the assumption that group differences might explain a portion of these mean differences between the two forms, a second analysis of variance was conducted in which demographic variables (grade, ethnicity, and self-reported GPA) were treated as covariates. That is, this analysis tested the difference between means for significance when the effects of these three variables were held constant for the two examinee groups. These results are reported in Table 8. As this table shows, both GPA and grade contribute significantly to explaining form differences. Although ethnicity contributes significantly as well, its role is substantially less than the other two. When grade and GPA are held constant, there is a significant reduction in form variance.

#### Analysis of Passing Rate

Table 9 summarizes the ICEPT passing rates by various demographic characteristics. Values in the table show the percentage of students in each category that obtained a passing score on one of the two examinations. For example, the overall passing rate for the 7,206 students on which we have data is 13.2%. The passing rate is 30.9% for Asian males, 23.9% for Asian females, and 27.9% for Asians as a group. As previously noted, these data are based only on those students who used MetriTech-supplied answer sheets.

To examine certain trends suggested by the data in Table 9, a series of analyses of variance were computed. Table 10 presents these results. As the table shows, with passing rate as the dependent variable, gender, GPA, ethnicity, and grade in school all show statistically significant effects. GPA appears to be the most important factor, and ethnicity appears to be the least important factor. As would be expected, students who report having higher overall grade point averages passed at much higher

rates than students who report lower overall grade point averages. For example, 35% of students who reported an overall grade point average of A+ passed the test. Less than 2% of the students who reported an overall GPA of D or lower passed the test. Students at higher grade levels passed at higher rates than students at lower grade levels.

### Historical Analysis of Passing Rate

Since its introduction in the 1986-87 school year, the ICEPT passing rate has shifted. There are probably several reasons for these shifts. As the data in Table 11 show, there was a significant decrease in the number of students tested each year from the beginning of the program until 1993-94. Since then the number of students has declined, but much more slowly. Because of these large differences in the number of test takers over the years, the composition of the group applying to take the test has undoubtedly shifted during this time. In terms of overall secondary student enrollment, the actual number of students passing the test has remained relatively stable over the years, varying only between .3% and .8%.

### Analysis of Student Performance by Topic Area

The specifications for the Illinois Consumer Education Proficiency Test define coverage for a set of 10 primary topic areas and 5 secondary topic areas. Each of the primary topic areas—Money Management, Credit, The Economy, The Marketplace, Saving/Investing, Insurance, Taxes, Transportation, Housing, and Food—are assessed in each new ICEPT form by a range of 10 to 14 items. The secondary topic areas—Consumer Services, Clothing, Health Care, Recreation, and Home Furnishing—are assessed by a range of 3 to 5 items. Statistical studies of the primary topic area scales show

that the scales are sufficiently reliable from form to form to permit comparisons of group performance across topic areas and across time. The secondary topic areas are not sufficiently reliable to permit such comparisons.

Because the number of items allocated to each topic area varies slightly from form to form, the number correct or raw scores are not directly comparable across areas. In 1993, a new reporting scale was developed that permits direct comparisons across areas and facilitates interpretation of group differences. On this scale, scores may range between 1 and 100. A scale score of 70 corresponds to a passing score on the test.

Table 12 shows how the 2000-2001 test population scored in each of the ten primary topic areas. The scores have been arranged from highest to lowest. For each area, the table shows the mean scale score. As Table 12 shows, student performance is highest in The Marketplace and lowest in Housing. Results of statistical tests for differences between mean scores across area are indicated by spaces between areas. For example, student performance in The Marketplace, Food, and Insurance is significantly higher than in any other area. Figure 1 presents the results reported in Table 12 in graphic form for ease of interpretation.

Two other comparisons at the area level are shown in Figures 2 and 3. Figure 2 compares the performance of males and females across the ten primary topic areas. Statistical tests indicate that there are significant gender differences in all areas except The Marketplace, Insurance, and Food. Two differences—Money Management and Credit—favor females. The others favor males.

Figure 3 compares student performance in each area across grades. As would be expected, performance in each area is highest for 12<sup>th</sup>-grade students and lowest for 9<sup>th</sup>-grade students. For the 2000-2001 test population, student per-

formance improved most from 11<sup>th</sup> to 12<sup>th</sup> grade (4.5 scale score points) and least from 10<sup>th</sup> grade to 11<sup>th</sup> grade (2.5 scale score points). The change from 9<sup>th</sup> to 10<sup>th</sup> grade [2.8 scale score points] is much lower than it has been in the past. Usually, that difference has been found to nearly match or exceed the 11<sup>th</sup> to 12<sup>th</sup> grade difference

One of the advantages of using the scale score system is that results can be studied across years. These results are shown in Table 13. For each topic area, the table shows scale score values for each of the past five examinee populations. Section A of the table shows results for the total population. Section B provides a breakout by gender, and Sec-

tion C provides a breakout by year in school.

As Table 13 shows, the pattern of change across years differs across areas. For example, Saving/Investing shows a general, but slight increase over time. A cyclical pattern is more evident for most areas (e.g., The Marketplace, The Economy).

As Sections B and C of Table 13 show, there are some interesting variations within various groups. For example, women have regularly scored as high or higher than men in Food, and differences between men and women in The Marketplace are generally negligible. Taxes and Food generally remain among the highest areas across grade in school, and Money Management is often the lowest.

**Table 1**  
**Summary of School Participation in the 2000-2001 ICEPT Test Cycle**

Description	Number
Schools Testing Students During Both Administration Cycles	182
Schools Testing Students During the Fall Administration Period Only	156
Schools Testing Students During the Winter Administration Period Only	100
Schools Ordering Materials for One or Both Administration Period, but Not Testing Any Students	55
Schools That Did Not Order Materials for Either Administration Period	166

**Table 2**  
**Demographic Composition of the 2000-2001 ICEPT Examinee Population**

	Frequency	Percent
Ethnicity		
Asian	215	3.2
Black	116	1.7
Hispanic	139	2.0
Native American	23	.3
White	6220	91.6
Other	78	1.1

**Table 2 (continued)**

	Frequency	Percent
Gender		
Male	3347	48.6
Female	3539	51.4
Grade in School		
9	571	8.5
10	1696	25.2
11	3620	53.8
12	843	12.5
GPA (self-report)		
A +	629	9.9
A	1500	23.7
A-	950	15.0
B+	864	13.6
B	1050	16.6
B-	475	7.5
C +	373	5.9
C	319	5.0
C-	110	1.7
< = D	62	1.0

**Table 3**

**Comparison of Students Participating in the Fall and Winter ICEPT Administration Periods on the Basis of Ethnicity**

		Fall	Winter	Total
Asian	N	50	165	215
	%	1.4%	5.1%	3.2%
	Z <sub>d</sub>	-5.9	6.2	
Black	N	50	66	116
	%	1.4%	2.0%	1.7%
	Z <sub>d</sub>	-1.4	1.5	
Hispanic	N	83	56	139
	%	2.3%	1.7%	2.0%
	Z <sub>d</sub>	1.2	-1.2	
Native American	N	15	8	23
	%	.4%	.2%	.3%
	Z <sub>d</sub>	.8	-.9	
White	N	3332	2888	6220
	%	93.5%	89.5%	91.6%
	Z <sub>d</sub>	1.2	-1.3	
Other	N	33	45	78
	%	.9%	1.4%	1.1%
	Z <sub>d</sub>	-1.2	1.3	
TOTAL	N	3563	3228	6791
	%	100.0%	100.0%	100.0%

**Table 4****Comparison of Students Participating in the Fall and Winter ICEPT Administration Periods on the Basis of Gender**

		Fall	Winter	Total
Male	N	1703	1644	3347
	%	47.0%	50.3%	48.6%
	Z <sub>d</sub>	-1.3	1.4	
Female	N	1917	1622	3539
	%	53.0%	49.7%	51.4%
	Z <sub>d</sub>	1.3	-1.4	
TOTAL	N	3620	3266	6886
	%	100.0%	100.0%	100.0%

**Table 5****Comparison of Students Participating in the Fall and Winter ICEPT Administration Periods on the Basis of Current Grade in School**

		Fall	Winter	Total
9	N	259	312	571
	%	7.3%	9.8%	8.5%
	Z <sub>d</sub>	-2.4	2.5	
10	N	726	970	1696
	%	20.5%	30.4%	25.2%
	Z <sub>d</sub>	-5.6	5.8	
11	N	1835	1785	3620
	%	51.9%	55.9%	53.8%
	Z <sub>d</sub>	-1.6	1.7	
12	N	719	124	843
	%	20.3%	3.9%	12.5%
	Z <sub>d</sub>	13.1	-13.8	
TOTAL	N	3539	3191	6730
	%	100.0%	100.0%	100.0%

**Table 6****Comparison of Students Participating in the Fall and Winter ICEPT Administration Periods on the Basis of GPA (Self-Report)**

		Fall	Winter	Total
A +	N	275	354	629
	%	8.3%	11.7%	9.9%
	Z <sub>d</sub>	-3.0	3.1	
A	N	780	720	1500
	%	23.6%	23.8%	23.7%
	Z <sub>d</sub>	-.1	.2	
A-	N	513	437	950
	%	15.5%	14.5%	15.0%
	Z <sub>d</sub>	.7	-.8	
B +	N	465	399	864
	%	14.0%	13.2%	13.6%
	Z <sub>d</sub>	.6	-.7	
B	N	583	467	1050
	%	17.6%	15.5%	16.6%
	Z <sub>d</sub>	1.5	-1.5	
B-	N	255	220	475
	%	7.7%	7.3%	7.5%
	Z <sub>d</sub>	.4	-.4	
C +	N	199	174	373
	%	6.0%	5.8%	5.9%
	Z <sub>d</sub>	.3	-.3	
C	N	158	161	319
	%	4.8%	5.3%	5.0%
	Z <sub>d</sub>	-.7	.7	
C-	N	58	52	110
	%	1.8%	1.7%	1.7%
	Z <sub>d</sub>	.1	-.1	
< = D	N	24	38	62
	%	.7%	1.3%	1.0%
	Z <sub>d</sub>	-1.5	1.5	
TOTAL	N	3310	3022	6332
	%	100.0%	100.0%	100.0%

**Table 7**  
**Statistical Summary of Test Forms Used in the 2000-2001 Test Cycle**

	Fall	Winter
Number of Items	140	140
Number of Scores	3759	3355
Low Scores Excluded	91	45
Mean	78.409	79.860
Lowest Score	35	35
Highest Score	140	128
Standard Deviation	17.059	16.476
Standard Error of Mean	.278	.284
Reliability	.901	.899
Standard Error of Measurement	5.371	5.240

**Table 8**  
**Analysis of Raw Score Mean Differences Between Fall and Winter Test Administrations**

Analysis of Variance Summary Table

Covariates		SS	df	MS	F	Sig.
	GPA	410631	1	410631	382.99	0.000
	Grade	183676	1	183676	171.31	0.000
	Ethnicity	55921	4	13980	13.04	0.000
Main Effects	Form	18685	1	18685	17.43	0.000
Residual		6554269	6113	1072		
Total		7210930	6120	1178		

**Table 9**  
**Summary of ICEPT Passing Rates**

Group	% of Students Obtaining a Passing Score
Overall	13.2
Ethnicity/Gender	
Asian Male	30.9
Asian Female	23.9
Asian Total	27.9
Black Male	5.9
Black Female	1.5
Black Total	3.4
Hispanic Male	7.7
Hispanic Female	2.7
Hispanic Total	5.0
Native American Male	9.1
Native American Female	9.1
Native American Total	9.1
White Male	15.1
White Female	11.2
White Total	13.1
Other Male	8.9
Other Female	9.4
Other Total	9.1
Gender	
Male	15.3
Female	11.1
Grade in School	
9	6.5
10	8.9
11	13.1
12	26.5
GPA (self-report)	
A +	35.3
A	21.1
A-	12.8
B +	10.8
B	6.0
B-	4.2
C +	2.7
C	4.0
C-	1.8
< = D	1.6

**Table 10**  
**ANOVA Tests for the Impact of Demographic Characteristics on the ICEPT Passing Score**

Summary Table for Ethnicity					
	SS	df	MS	F	Sig.
Between Groups	68540.654	5	13708.131	12.083	.000
Within Groups	7685280.880	6774	1134.526		
Total	7753821.534	6779			

Summary Table for Gender					
	SS	df	MS	F	Sig.
Between Groups	31055.250	1	31055.250	27.356	.000
Within Groups	7814789.943	6884	1135.211		
Total	7845845.193	6885			

Summary Table for Grade in School					
	SS	df	MS	F	Sig.
Between Groups	205173.445	3	68391.148	61.368	.000
Within Groups	7495779.007	6726	1114.448		
Total	7700952.452	6729			

Summary Table for GPA					
	SS	df	MS	F	Sig.
Between Groups	587264.264	9	65251.585	60.141	.000
Within Groups	6859261.321	6322	1084.983		
Total	7446525.584	6331			

**Table 11**  
**ICEPT Results 1986-2000**

Test Year	Number Ordered	Number Tested	Number Passing	Secondary School Enrollment	%
1986-87		38,905	4,510	575,845	0.8
1987-88	47,673	24,441	3,129	560,529	0.6
1988-89	54,545	24,961	3,063	536,448	0.6
1989-90	42,839	19,403	3,255	518,798	0.6
1990-91	40,517	19,101	3,300	516,515	0.6
1991-92	41,400	18,083	1,505	522,167	0.3
1992-93	37,329	15,215	1,938	530,286	0.4
1993-94	36,358	14,899	2,554	537,187	0.5
1994-95	34,977	15,771	3,592	550,296	0.7
1995-96	35,778	15,968	1,414	555,463	0.3
1996-97	33,728	13,699	2,779	563,369	0.5
1997-98	33,077	14,222	1,653	562,905	0.3
1998-99	31,334	12,565	2,401	562,298	0.4
1999-00	31,923	12,187	2,315	567,674	0.4
2000-01	29,681	12,445	2,016	577,432	0.3

**Table 12**  
**ICEPT Area Scores for the Total 2000-2001 Test Population**

Area	Mean
The Marketplace	59
Food	58
Insurance	58
The Economy	56
Taxes	56
Saving/ Investing	54
Money Management	53
Credit	53
Transportation	51
Housing	51

**Table 13**  
**ICEPT Area Scores 1996-2000**

A. Total Test Population

Area	96	97	98	99	00
Money Management	54	49	51	52	53
Credit	54	50	52	53	53
The Economy	55	52	55	52	56
The Marketplace	59	51	59	56	59
Saving/Investing	51	50	54	53	54
Insurance	55	51	57	55	58
Taxes	55	52	54	62	56
Transportation	51	53	51	52	51
Housing	57	50	53	55	51
Food	58	54	55	58	58

B: Gender Comparisons

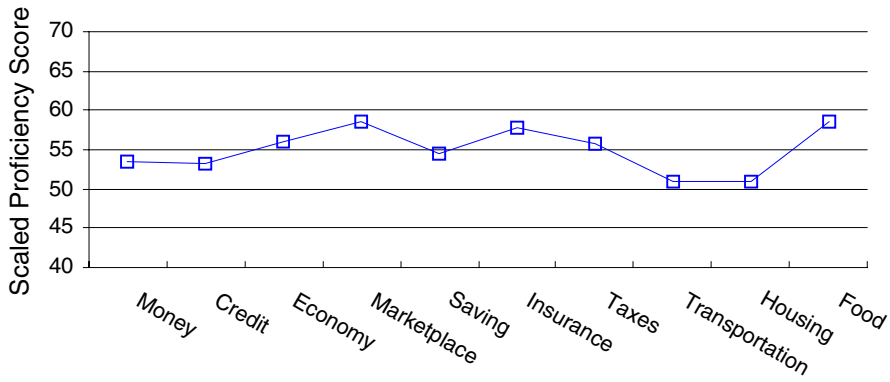
Area	Males					Females				
	96	97	98	99	00	96	97	98	99	95
Money Management	54	52	51	54	53	55	48	51	51	54
Credit	55	50	53	53	52	53	50	53	52	54
The Economy	58	50	57	55	57	54	50	57	49	55
The Marketplace	59	54	60	56	58	59	50	60	56	59
Saving/Investing	54	53	57	54	56	49	48	57	51	53
Insurance	58	54	59	55	58	53	51	59	55	58
Taxes	56	52	55	62	57	54	52	55	61	55
Transportation	53	53	54	55	52	49	51	54	49	50
Housing	58	55	55	56	53	56	49	55	55	49
Food	57	52	55	58	59	59	54	55	58	58

C. Comparisons by Year in School

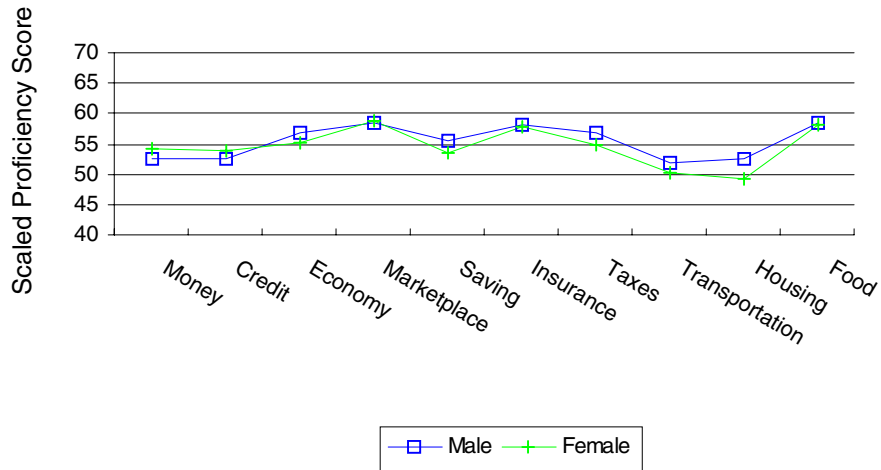
Area	9th Grade					10th Grade				
	96	97	98	99	00	96	97	98	99	00
Money Management	49	43	45	45	48	52	48	50	50	52
Credit	45	45	44	45	47	50	49	49	51	50
The Economy	48	45	48	45	51	53	50	54	50	54
The Marketplace	54	47	53	48	53	58	50	59	54	57
Saving/Investing	45	46	47	44	50	49	49	52	51	52
Insurance	43	45	49	48	53	51	50	55	53	57
Taxes	48	47	47	53	52	53	50	52	59	54
Transportation	44	46	44	45	45	49	51	50	50	49
Housing	51	44	45	46	47	55	49	51	53	48
Food	53	48	50	50	55	56	53	55	56	58

Area	11th Grade					12th Grade				
	96	97	98	99	00	96	97	98	99	00
Money Management	55	50	53	53	54	61	53	56	59	58
Credit	56	51	54	54	54	63	55	58	58	62
The Economy	56	52	57	53	56	65	59	62	58	62
The Marketplace	60	52	61	56	60	64	56	65	63	64
Saving/Investing	52	51	55	53	55	58	56	61	58	60
Insurance	58	53	59	56	58	65	57	63	60	62
Taxes	56	53	55	63	57	62	59	60	68	61
Transportation	52	54	53	53	52	58	57	57	57	56
Housing	58	51	54	57	52	64	57	62	61	55
Food	59	55	57	59	59	62	59	59	62	60

**Figure 1**  
**Results Across Topic Areas**



**Figure 2**  
**Topic Area Gender Comparisons**



**Figure 3**  
**Topic Area Grade Comparisons**

