

**Report on the  
2001-2002  
Administration  
of the Illinois  
Consumer  
Education Proficiency  
Test**

ILLINOIS STATE BOARD OF EDUCATION  
ASSESSMENT DIVISION

## **School Participation in the 2001-2002 ICEPT Test Cycle<sup>1</sup>**

The Illinois Consumer Education Proficiency Test (ICEPT) was administered twice during the 2001-2002 school year: October 3-4, 2001 and January 29-30, 2002. In response to order forms sent to all Illinois public secondary schools announcing the two ICEPT test dates, a total of 30,693 test booklets, 25,450 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 2001-2002 test cycle.<sup>2</sup> As Table 1 shows, 187 of 656 schools (29%) tested students during both administration periods, 242 (37%) tested students during one of the two administration periods, and 50 (8%) ordered materials for one or both administration periods but did not test any students. A total of 177 schools (26%) 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 2001-2002 ICEPT test cycle ( $n = 11,434$ ). The sample

( $N = 6,780$ )<sup>3</sup> includes only students who 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 2001-2002 test population obtained from school reports is 15.5% (1,772/11,434) while the rate obtained for the sample described in this report is 10.5%. Because of the large discrepancy between these values, results reported here should be interpreted cautiously.

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, 15.9% for Fall, 15.1% 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

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<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 .

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

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<sup>3</sup> Because some students do not code all demographic information used in the subsequent analyses, the sample sizes vary from table to table.

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 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 ( $\chi^2 = 63.65$ ,  $df = 5$ ,  $p < .000$ ) and current grade in school ( $\chi^2 = 296.22$ ,  $df = 3$ ,  $p < .000$ ). 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 ( $\chi^2 = 22.73$ ,  $df = 9$ ,  $p = .007$ ).

### **Technical Characteristics of the Test Forms**

Although two different ICEPT forms were administered during the 2001-2002 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 2001-2002 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 2001-2002 test cycle are very high. The raw score means, standard deviations, and standard errors of measurement are very similar.

A 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 not statistically

significant. These results are reported in Table 8.

### **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 6,780 students on which we have data is 10.5%. The passing rate is 16.7% for Asian males, 12.7% for Asian females, and 24.9% 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, ethnicity, gender, grade in school, and GPA all show statistically significant effects. Gender and grade in school appear to be the most important factors, 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, 26% 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 generally 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 2001-2002 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 Food and lowest in The Marketplace. Results of statistical tests for differences between mean scores across area are indicated by spaces between areas. For example, student performance in Food is significantly higher than in Housing, which, in turn, is significantly higher than in Saving/Investing. Performance in The Economy and Taxes are not significantly different. 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 Insurance and Food. The differences 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 2001-2002 test population, student performance improved most from 11<sup>th</sup> to 12<sup>th</sup> grade (5.4 scale score points) and least from 10<sup>th</sup> grade to 11<sup>th</sup> grade (2.1 scale score points). The change from 9<sup>th</sup> to 10<sup>th</sup> grade [4.2 scale score points] is in line with what has been found previously.

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 Section C provides a breakout by year in school.

As Table 13 shows, the pattern of change over years differs across areas. For example, Food and Housing generally increase during this five-year period. Taxes, Money Management, and Housing peaked during the middle of the period. Economy, The Marketplace, and Insurance have a recurrent cycle of improvement followed by decline. Credit and Savings/Investing stayed about the same during the five-year period, while Transportation generally decreased.

As Sections B and C of Table 13 show, there are some interesting variations across 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. Food generally remains among the highest areas across grade in school, and Money Management is often the lowest.

**Table 1**  
**Summary of School Participation in the 2001-2002 ICEPT Test Cycle**

Description	Number
Schools Testing Students During Both Administration Cycles	187
Schools Testing Students During the Fall Administration Period Only	145
Schools Testing Students During the Winter Administration Period Only	97
Schools Ordering Materials for One or Both Administration Period, but Not Testing Any Students	50
Schools That Did Not Order Materials for Either Administration Period	177

**Table 2**  
**Demographic Composition of the 2001-2002 ICEPT Examinee Population**

	Frequency	Percent
Ethnicity		
Asian	121	1.9
Black	192	3.0
Hispanic	194	3.0
Native American	15	.2
White	5861	91.0
Other	61	.9

**Table 2 (continued)**

	Frequency	Percent
<b>Gender</b>		
Male	3069	47.2
Female	3439	52.8
<b>Grade in School</b>		
9	494	7.8
10	1463	23.0
11	3528	55.4
12	880	13.8
<b>GPA (self-report)</b>		
A +	630	10.4
A	1467	24.3
A-	923	15.3
B+	804	13.3
B	937	15.5
B-	430	7.1
C +	345	5.7
C	359	5.9
C-	108	1.8
< = D	46	.8

**Table 3**

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

		Fall	Winter	Total
Asian	N	71	50	121
	%	2.0%	1.7%	1.9%
	Z <sub>d</sub>	.6	-.7	
Black	N	65	127	192
	%	1.8%	4.3%	3.0%
	Z <sub>d</sub>	-3.9	4.3	
Hispanic	N	75	119	194
	%	2.1%	4.1%	3.0%
	Z <sub>d</sub>	-3.0	3.3	
Native American	N	10	5	15
	%	.3%	.2%	.2%
	Z <sub>d</sub>	.6	-.7	
White	N	3278	2583	5861
	%	93.0%	88.5%	91.0%
	Z <sub>d</sub>	1.3	-1.4	
Other	N	25	36	61
	%	.7%	1.2%	.9%
	Z <sub>d</sub>	-1.4	1.6	
TOTAL	N	3524	2920	6444
	%	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	1681	1388	3069
	%	47.4%	46.9%	47.2%
	Z <sub>d</sub>	.2	-.2	
Female	N	1865	1574	3439
	%	52.6%	53.1%	52.8%
	Z <sub>d</sub>	-.2	.2	
TOTAL	N	3546	2962	6508
	%	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	177	317	494
	%	5.1%	10.9%	7.8%
	Z <sub>d</sub>	-5.6	6.1	
10	N	694	769	1463
	%	20.0%	26.5%	23.0%
	Z <sub>d</sub>	-3.6	4.0	
11	N	1906	1622	3528
	%	55.0%	55.9%	55.4%
	Z <sub>d</sub>	-.3	.3	
12	N	687	193	880
	%	19.8%	6.7%	13.8%
	Z <sub>d</sub>	9.5	-10.4	
TOTAL	N	3464	2901	6365
	%	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	310	320	630
	%	9.5%	11.5%	10.4%
	Z <sub>d</sub>	-1.7	1.8	
A	N	786	681	1467
	%	24.0%	24.6%	24.3%
	Z <sub>d</sub>	-.3	.3	
A-	N	521	402	923
	%	15.9%	14.5%	15.3%
	Z <sub>d</sub>	.9	-1.0	
B +	N	466	338	804
	%	14.2%	12.2%	13.3%
	Z <sub>d</sub>	1.5	-1.6	
B	N	538	399	937
	%	16.4%	14.4%	15.5%
	Z <sub>d</sub>	1.3	-1.5	
B-	N	218	212	430
	%	6.7%	7.7%	7.1%
	Z <sub>d</sub>	-1.0	1.1	
C +	N	172	173	345
	%	5.2%	6.2%	5.7%
	Z <sub>d</sub>	-1.1	1.2	
C	N	187	172	359
	%	5.7%	6.2%	5.9%
	Z <sub>d</sub>	-.5	.6	
C-	N	57	51	108
	%	1.7%	1.8%	1.8%
	Z <sub>d</sub>	-.2	.2	
< = D	N	23	23	46
	%	.7%	.8%	.8%
	Z <sub>d</sub>	-.4	.4	
TOTAL	N	3278	2771	6049
	%	100.0%	100.0%	100.0%

**Table 7**  
**Statistical Summary of Test Forms Used in the 2001-2002 Test Cycle**

	Fall	Winter
Number of Items	140	140
Number of Scores	3690	3040
Low Scores Excluded	60	23
Mean	75.888	76.513
Lowest Score	35	35
Highest Score	122	121
Standard Deviation	17.526	16.926
Standard Error of Mean	.290	.307
Reliability	.907	.901
Standard Error of Measurement	5.352	5.330

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

Analysis of Variance Summary Table

Source	SS	df	MS	F	Sig.
Between Forms	343.73	1	343.73	1.09	.298
Within Forms	2147992.21	6778	316.916		
Total	2148335.94	6779			

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

Group		% of Students Obtaining a Passing Score
Overall		10.5
Ethnicity/Gender		
Asian	Male	16.7
	Female	12.7
	Total	14.9
Black	Male	6.6
	Female	3.8
	Total	4.7
Hispanic	Male	4.0
	Female	3.2
	Total	3.6
Native American	Male	12.5
	Female	.0
	Total	7.1
White	Male	13.8
	Female	8.0
	Total	10.8
Other	Male	19.2
	Female	2.9
	Total	9.8
Gender		
	Male	13.6
	Female	7.7
Grade in School		
	9	2.8
	10	6.2
	11	10.9
	12	20.3
GPA (self-report)		
	A +	26.3
	A	16.0
	A-	10.4
	B+	7.6
	B	5.9
	B-	6.5
	C+	3.8
	C	1.4
	C-	4.6
	< = D	2.2

**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	18547.417	5	3709.483	3.982	.001	
Within Groups	5992212.018	6433	931.480			
Total	6010759.435	6438				

Summary Table for Gender						
	SS	df	MS	F	Sig.	
Between Groups	54867.940	1	54867.940	59.154	.000	
Within Groups	6034621.918	6506	927.547			
Total	6089489.859	6507				

Summary Table for Grade in School						
	SS	df	MS	F	Sig.	
Between Groups	141573.023	3	47191.008	51.424	.000	
Within Groups	5837368.061	6361	917.681			
Total	5978941.084	6364				

Summary Table for GPA						
	SS	df	MS	F	Sig.	
Between Groups	286547.159	9	31838.573	34.184	.000	
Within Groups	5624578.647	6039	931.376			
Total	5911125.806	6048				

**Table 11**  
**ICEPT Results 1986-2002**

Test Year	Number Ordered	Number Tested	Number Passing	Secondary School Enrollment	%
1986-90 <sup>a</sup>	48,352	26,928	3,489	547,905	0.6
1991-95 <sup>a</sup>	38,116	16,614	2,578	531,290	0.5
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
2001-02	30,693	11,434	1,772	588,169	0.3

<sup>a</sup> Average values are shown for five-year periods.

**Table 12**  
**ICEPT Area Scores for the Total 2001-2002 Test Population**

Area	Mean
Food	58
Housing	57
Saving/Investing	54
Credit	53
The Economy	52
Taxes	52
Transportation	49
Insurance	48
Money Management	48
The Marketplace	48

**Table 13**  
**ICEPT Area Scores 1997-2002**

A. Total Test Population

Area	97-98	98-99	99-00	00-01	01-02
Money Management	49	51	52	53	48
Credit	50	52	53	53	53
The Economy	52	55	52	56	52
The Marketplace	51	59	56	59	48
Saving/Investing	50	54	53	54	54
Insurance	51	57	55	58	48
Taxes	52	54	62	56	52
Transportation	53	51	52	51	49
Housing	50	53	55	51	57
Food	54	55	58	58	57

B: Gender Comparisons

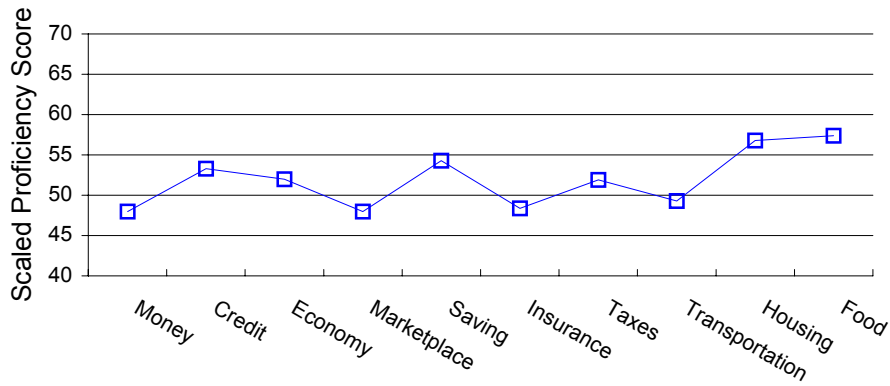
Area	Males					Females				
	97-98	98-99	99-00	00-01	01-02	97-98	98-99	99-00	00-01	01-02
Money Management	52	51	54	53	50	48	51	51	54	46
Credit	50	53	53	52	55	50	53	52	54	51
The Economy	50	57	55	57	53	50	57	49	55	51
The Marketplace	54	60	56	58	49	50	60	56	59	47
Saving/Investing	53	57	54	56	55	48	57	51	53	53
Insurance	54	59	55	58	49	51	59	55	58	48
Taxes	52	55	62	57	54	52	55	61	55	50
Transportation	53	54	55	52	51	51	54	49	50	48
Housing	55	55	56	53	58	49	55	55	49	56
Food	52	55	58	59	58	54	55	58	58	57

C. Comparisons by Year in School

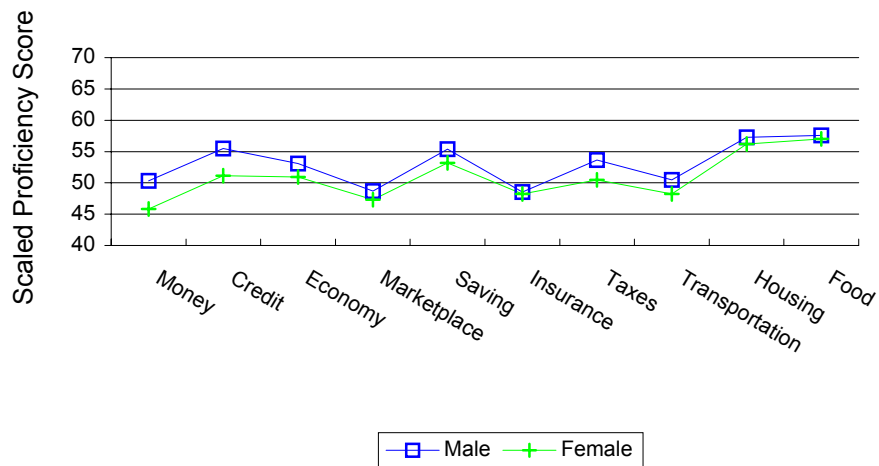
Area	9th Grade					10th Grade				
	97-98	98-99	99-00	00-01	01-02	97-98	98-99	99-00	00-01	01-02
Money Management	43	45	45	48	43	48	50	50	52	47
Credit	45	44	45	47	46	49	49	51	50	50
The Economy	45	48	45	51	47	50	54	50	54	50
The Marketplace	47	53	48	53	42	50	59	54	57	47
Saving/Investing	46	47	44	50	47	49	52	51	52	52
Insurance	45	49	48	53	45	50	55	53	57	47
Taxes	47	47	53	52	45	50	52	59	54	51
Transportation	46	44	45	45	45	51	50	50	49	47
Housing	44	45	46	47	51	49	51	53	48	55
Food	48	50	50	55	50	53	55	56	58	56

Area	11th Grade					12th Grade				
	97-98	98-99	99-00	00-01	01-02	97-98	98-99	99-00	00-01	01-02
Money Management	50	53	53	54	48	53	56	59	58	53
Credit	51	54	54	54	53	55	58	58	62	63
The Economy	52	57	53	56	52	59	62	58	62	58
The Marketplace	52	61	56	60	48	56	65	63	64	55
Saving/Investing	51	55	53	55	55	56	61	58	60	60
Insurance	53	59	56	58	48	57	63	60	62	53
Taxes	53	55	63	57	53	59	60	68	61	56
Transportation	54	53	53	52	50	57	57	57	56	55
Housing	51	54	57	52	57	57	62	61	55	61
Food	55	57	59	59	58	59	59	62	60	63

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



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



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

