



University of Central Florida Florida Report Year 3 (2016-2017)



Florida Report 2016-2017

Note: The following report has been prepared for the State of Florida regarding the use of Istation in Public and Charter Schools in the state of Florida during the time period of August/September 2016 through May 2017. The report provides descriptive data and statistics of students' use of the Istation curriculum in the state of Florida. Included in this report are charts, tables, and figures demonstrating the reading growth trends of students in the state of Florida. The data in this report does not identify counties, school districts, schools, or students. All data analyzed in the report was received from Istation on June 6, 2017, and it is inferred to be accurate to the best of our knowledge. As the enterprise of collecting and analyzing the data between Istation and the University of Central Florida (UCF), all options are being explored to affect and inform the practice and methods of reading instruction. All data is collected in accordance with UCF IRB # SBE-14-10450 - *An investigation of the effects of the Istation Reading program on the reading performance of elementary school students in the state of Florida.*

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Introduction

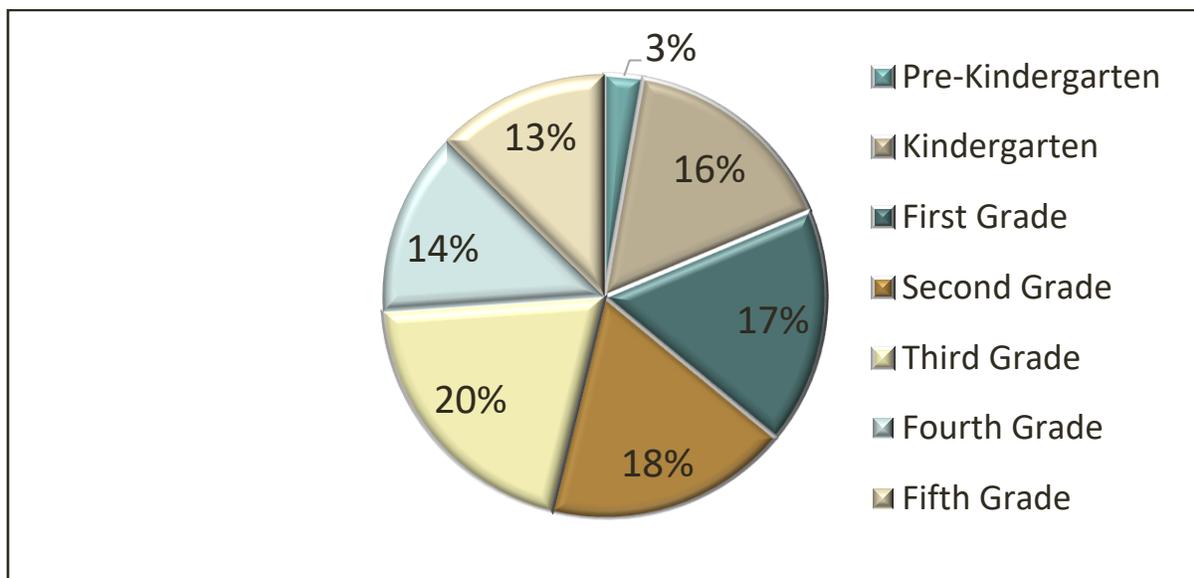
The following report provides the annual analysis of students enrolled in the Istation Reading Project - Year 3 in the state of Florida. All schools and school districts in the state of Florida were invited to take part in the Istation Research program through the Morgridge International Reading Center at the University of Central Florida (UCF). The Istation research project provided public and charter schools in the state of Florida access to the Istation’s interactive multimedia reading program at no cost to the schools or families. Students in the state of Florida had access to the Istation reading curriculum at school and at home. The program was funded under a state appropriation that was terminated in May of 2017.

I. Students in the State of Florida

Year 3 Numbers

The total number of students who were enrolled in the Istation Reading program in grades PK-5 for the state of Florida included 536,085 students. For research purposes, the number of students who completed at least one assessment was 215,681; they are known as active students (AS). Some students may not have been active due to the time of enrollment, or due to district implementation practices.

Figure 1. Representation of Active Enrollments by Grade and Percentage.



While a greater number of active students (AS) utilized the Istation Reading program, completing at least 1 assessment and/or curriculum, the focus of the report is on those students who have completed at least 4 assessments and a minimum of 200 curriculum minutes or more. These students are designated as research participant (RP) or research participants (RPs). The RPs' assessments and usage were the basis of the growth analysis by grade and tier.

Table 1- Enrolled and Research Participants

Grade	Enrolled Students by Grade	Active Students by Grade	Research Participants by Grade
Pre-Kindergarten	22,939	5,986	1,795
Kindergarten	81,952	34,209	22,977
First	85,359	37,301	25,909
Second	87,761	38,501	26,031
Third	94,868	43,379	22,516
Fourth	80,985	29,203	16,596
Fifth	82,231	27,102	15,179
Total	536,085	215,681	131,003

Locales

The students' geographical location was determined by information obtained from *the National Center for Education Statistics* (NCES). Schools were identified by the new urban-centric locale codes (Appendix A). The AS and RPs in the Istation Reading project represented most geographic locales with the largest number of RPs attending schools in large suburban areas (defined outside a principal city and inside an urbanized area with population of 250,000 or more). The fewest number of RPs in the Istation Reading project attended schools in rural remote and town fringe locations (defined as a territory inside an urban cluster that is less than or equal to 10 miles from an urbanized area; NCES, 2016). There were fewer students from town and rural locales than city and suburb locales.

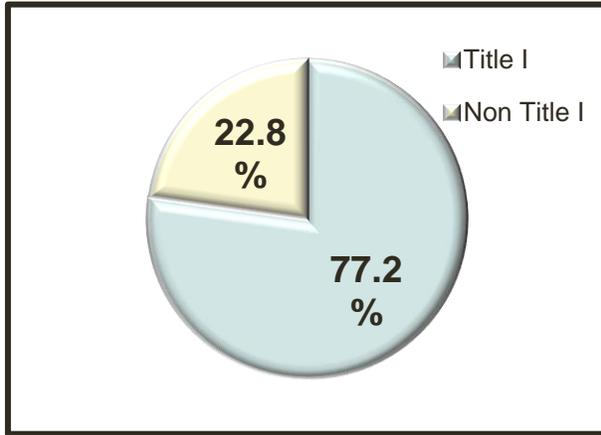
Table 2. Active Participants by Locale

Locale Category and Percentage* by Category	Specific Locale	Number of Active Students	Percentage* of Active Students by Locale
Urban (City) 27.44%	City: Large (11)	18,076	8.42
	City: Midsize (12)	27,142	12.64
	City: Small (13)	13,680	6.37
Rural 6.19%	Rural: Distant (42)	1,421	.66
	Rural: Fringe (41)	11,444	5.33
	Rural: Remote (43)	413	.19
Suburban 63.85%	Suburb: Large (21)	130,323	60.71
	Suburb: Midsize (22)	6,768	3.15
Town (Urbanized Clusters) 2.52%	Town: Distant (32)	1,536	.72
	Town: Fringe (31)	644	.30
	Town: Remote (33)	3,234	1.51

* Percentages were rounded to the nearest hundredth.

Title I Status

Figure 2. Title I Status of Students Enrolled in Istation Reading Program in the state of Florida.



Schools qualify for a Title I school designation and receive federal funding when over 40% of the students receive free and reduced lunch at a school. The Title I criteria are often used as an indicator of students from a low-income household. Title I status for schools was determined by information obtained from the NCES, schools database. During the 2016-2017 school year, approximately **77%** of the 215,681 AS ($n = 164,379$) were students from Title I schools. In comparison, approximately 58% of the students in the state of Florida are economically disadvantaged (FLDOE, 2018).

Academic Tier Level

For the purpose of this study, RPs were classified throughout the study by their initial academic levels determined from the first assessment of the school year within the Istation Reading program. Academic tier levels indicate the instructional level of a student. Tier 1 students are at "no risk" (above the 40th percentile) and performing at grade level. Tier 2 students are at "some risk" (between the 20th - 40th percentiles) and are moderately below grade level and have been identified as in need of reading intervention. Students in Tier 3 are "at risk" and are performing below the 20th percentile and have been identified as in need of intensive intervention (Istation Technical Manual, version 4).

According to the distribution of the academic levels, 43.2% of RPs in the Istation Reading program performed at grade level, 21.7% of RPs were classified as Tier 2 students, and 35.1% of RPs were classified as in need of the intensive interventions provided in Tier 3. RPs may have moved from one Academic Tier level to another based on their progress.

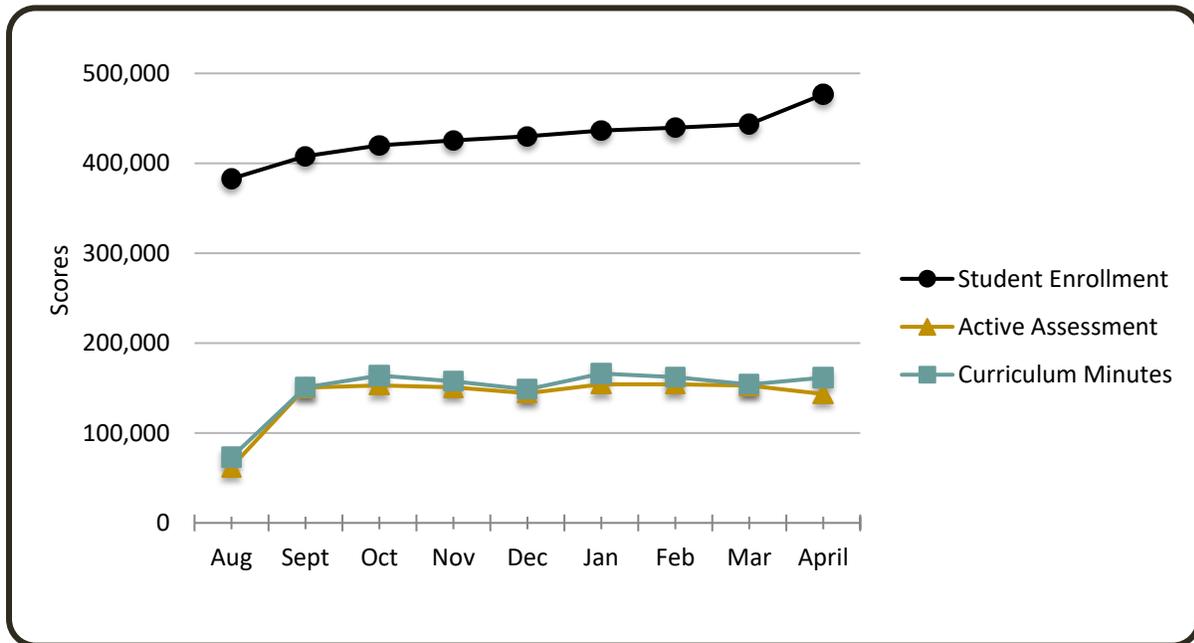
Table 3. Students by Academic Level in the state of Florida.

Academic Level	Number of RPs	Risk Level	Percentage of RPs by Level
1	56,584	No Risk	43.2%
2	28,395	Some Risk	21.7%
3	46,024	At Risk	35.1%

Yearly Overview of Student Usage and Enrollment by Month

Student enrollment, assessments, and curriculum minutes over the course of the 2016-2017 school year indicated that there was a steady increase in student enrollment throughout the school year. Typically, there is less participant school and home usage in December due to students being out of school for approximately two weeks. In March, fewer students use Istation as this is an FSA testing window.

Figure 3. Enrollment and Usage by Month.

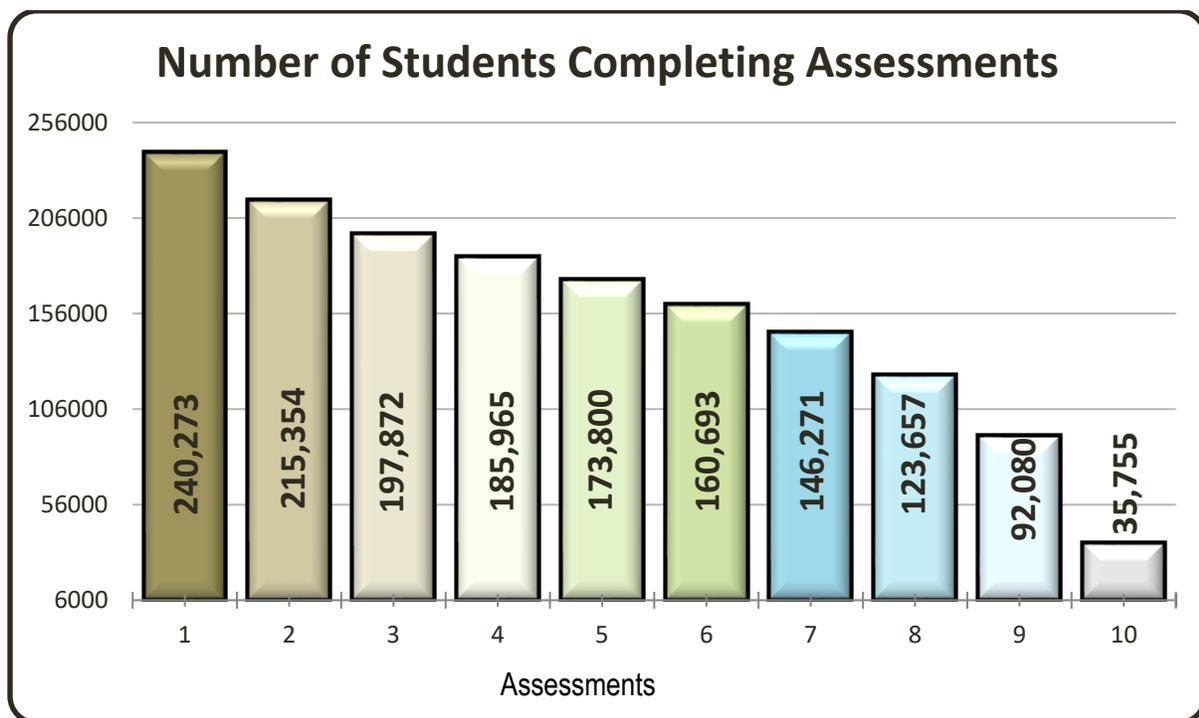


*Note. Assessments scores in May were not represented as there was a significant decline in usage of the Istation reading program. It is assumed that after testing, there is less focus on benchmarking students' progress.

II. Students' Usage in the State of Florida

More RPs completed 1-4 administrations of the ISIP-ER and ISIP-AR assessment than completed 5-10 administrations (See Figure 4). The administrations of the computer-adaptive curriculum-based measure occur at the beginning of each month or at the time a student first uses the Istation Reading Program for that month. The assessments may or may not represent consecutive monthly assessments of students depending on how schools implemented Istation on their campus. The frequent assessment of students' reading progress supports students' reading as teachers can adjust curricula, based on the students' assessed needs.

Figure 4. Students Usage by Assessment



ISIP-ER and ISIP-AR assessments help teachers make informed data-based decisions to support students' continuous learning based on the results of the assessment. Teachers have the option of assigning an Istation assessment at any time during the school year to guide instruction, meaning that the teacher does not need to wait a month to ascertain student progress and can use the process to expedite assistance on an individual basis.

Teachers have immediate access to an instructional report identifying the students' strengths and weaknesses, along with recommendations for differentiated instruction. Teachers can choose an embedded lesson plan to address students' specific needs. In addition, teachers have the capacity and means to document subsequent interventions that reinforce reading instruction.

III. Measurement Early Reading (ER)

Istation Indicators of Progress Early Reading—(ISIP-ER)

ISIP-ER is a web-delivered computer adaptive testing system for continuous progress monitoring of reading appropriate for students in grades Pre-Kindergarten through Third Grade. Typically, students take the assessment at the beginning or first session of the month; however, teachers can assign the ISIP-ER to any student at any time. ISIP-ER measures phonemic awareness, alphabetic knowledge and skills, fluency, vocabulary, and comprehension. Specifically, each grade level includes grade and skills appropriate subtests that are presented in Table 4.

Table 4. ISIP-ER Subtests by Grade Level.

Grade	Subtest
Pre-Kindergarten	Letter Knowledge and Vocabulary
Kindergarten	Listening Comprehension, Phonemic Awareness, Letter Knowledge, and Vocabulary
First Grade	Phonemic Awareness, Letter Knowledge, Vocabulary, Alphabetic Decoding, Comprehension, and Spelling
Second and Third Grade	Vocabulary, Comprehension, Spelling, and Connected Text Fluency

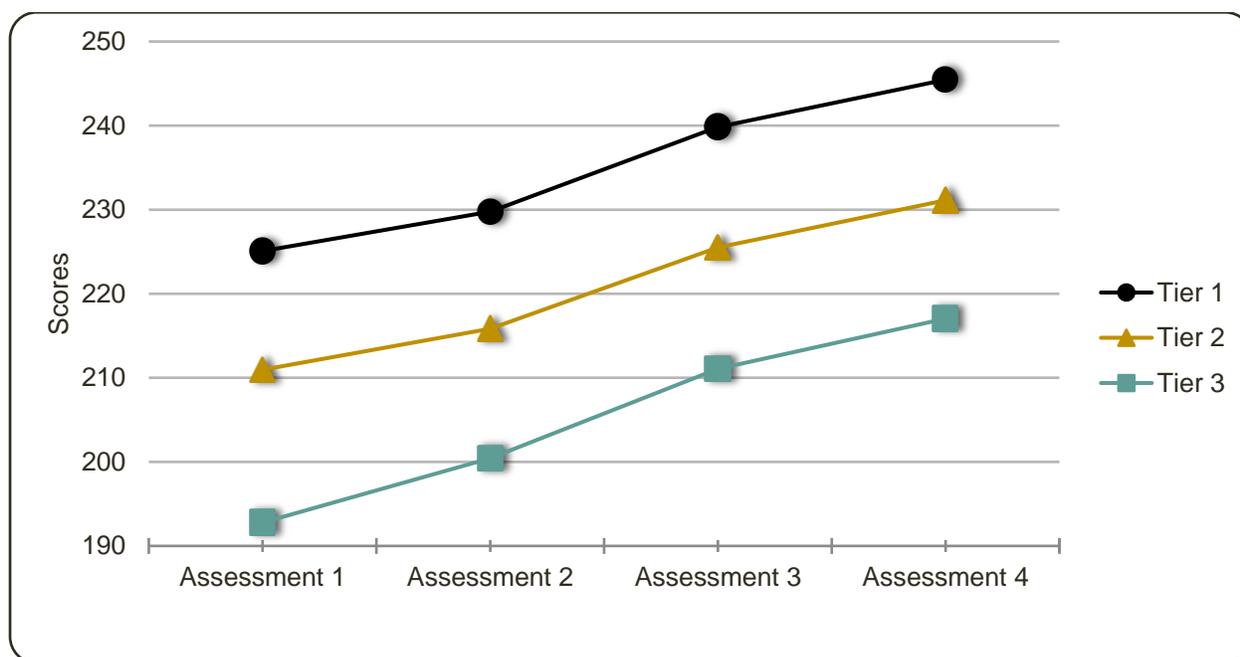
ISIP-ER has strong evidence of concurrent validity to other norm—referenced reading measures, including the *Test of Preschool Early Literacy* (TOPEL), *English Language Skills Assessment* (ELSA), *Developmental Reading Assessment* (DRA2), *Peabody Picture Vocabulary Test* (PPVT-4), *Stanford Achievement Test 10* (SAT 10) reading, the *Florida Standards Assessments*, and *Florida Comprehensive Achievement Test* (FCAT) 2.0 (Campbell, Lambie, Sutter, Bickham, & Pulse, 2018; Gaghin, 2011; Hoesle, 2012; ISIP-ER Technical Manual, 2016;).

IV. Usage Analysis (Pre-Kindergarten through Third Grade)

Analysis by Grade and Academic Tier Level—(ISIP-ER)

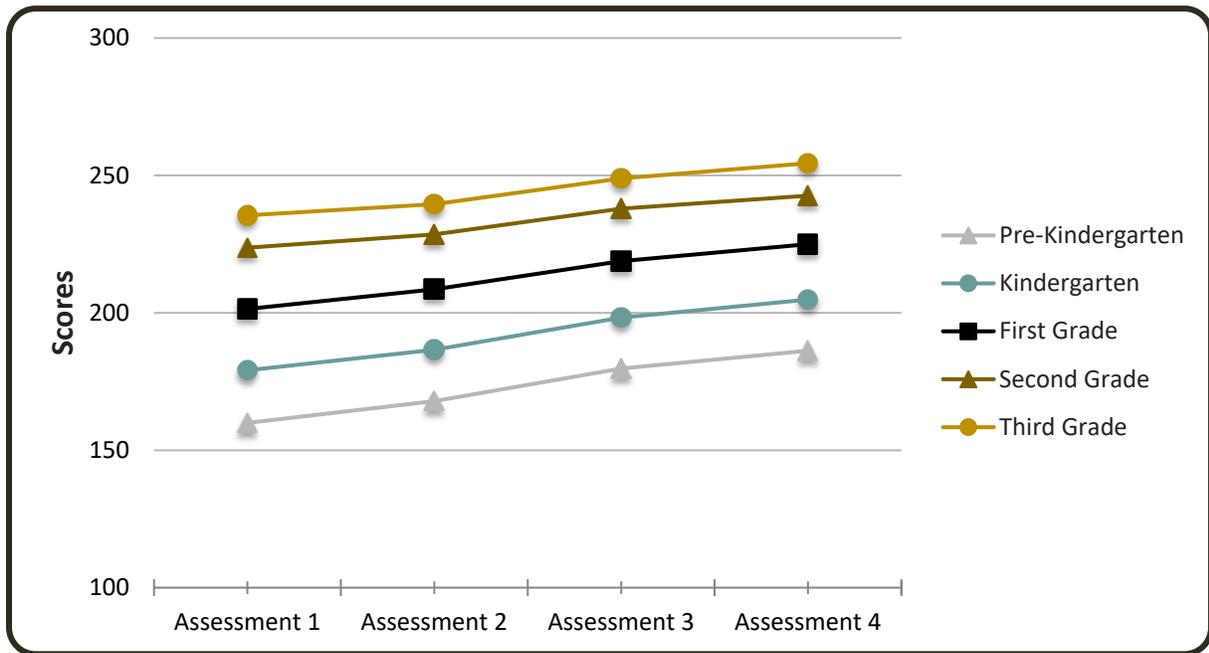
For the initial year of the Istation research project, growth trends were examined by academic tier level, grade level, geographical locale, and Title I status. Growth was evaluated based on the RPs who completed four assessments throughout the school year, including: (a) Assessment 1, August/September/October; (b) Assessment 2, November/December; (c) Assessment 3, January/February; and (d) Assessment 4, March/April/May. Statistically, the growth difference was significant for the four assessments taken from August 2016 through May 2017 by Academic Level, Grade, Locale, and Title 1 status (See Appendix B).

Figure 5. Growth for Students Taking the ISIP-ER by Academic Level.



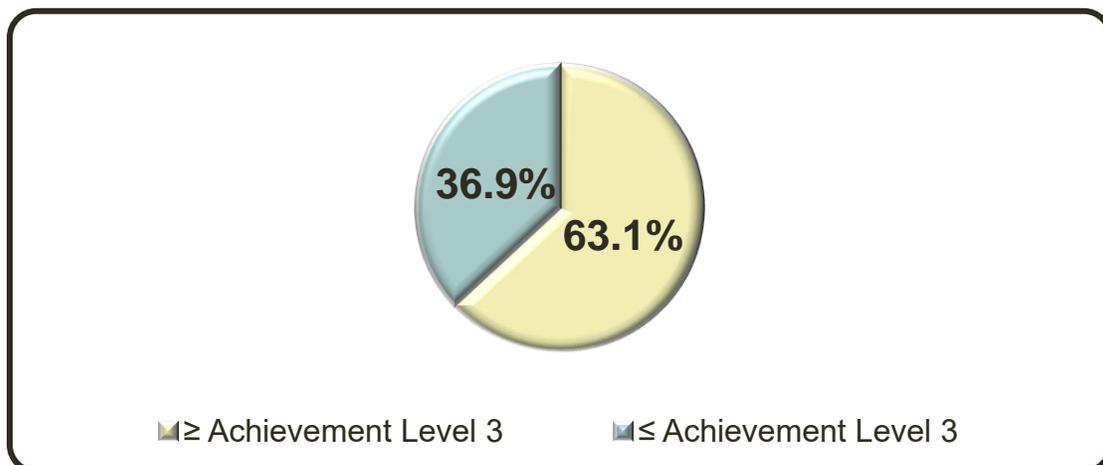
The graphs demonstrate changes in ISIP-ER scores between each administration of the assessment. **These growth results are statistically significant for both within subject and between subject effects.** Students from Pre-Kindergarten to Grade 3 had the largest changes between Assessment 2 (November/December) and Assessment 3 (January/February) (See Figure 6). As anticipated, students in upper grades scored higher than students in lower grades. Students in Tier 1 scored higher than students in Tiers 2 and 3. Students in Tier 3 had the ISIP-ER lowest scores and are in the most need for reading support and remediation.

Figure 6. Growth for Students Taking the ISIP-ER by Grade Level.



As an example, the ISIP-ER Overall Reading Ability range score for third grade to pass FSA-ELA Achievement Level 3 is 248-259 (Campbell, Lambie, Sutter, Bickham, & Pulse, 2018). In other words, third grade students who score equal to or higher than 248 on the ISIP-ER Overall Reading Ability will almost certainly ($p. < 05$) achieve FSA-ELA Achievement Level 3. Among the third graders of the present sample that completed the assessment in May, Score 4, ($N = 35,973$), 63.1% score higher than 248 and would consequently achieve FSA-ELA Achievement Level 3 or higher.

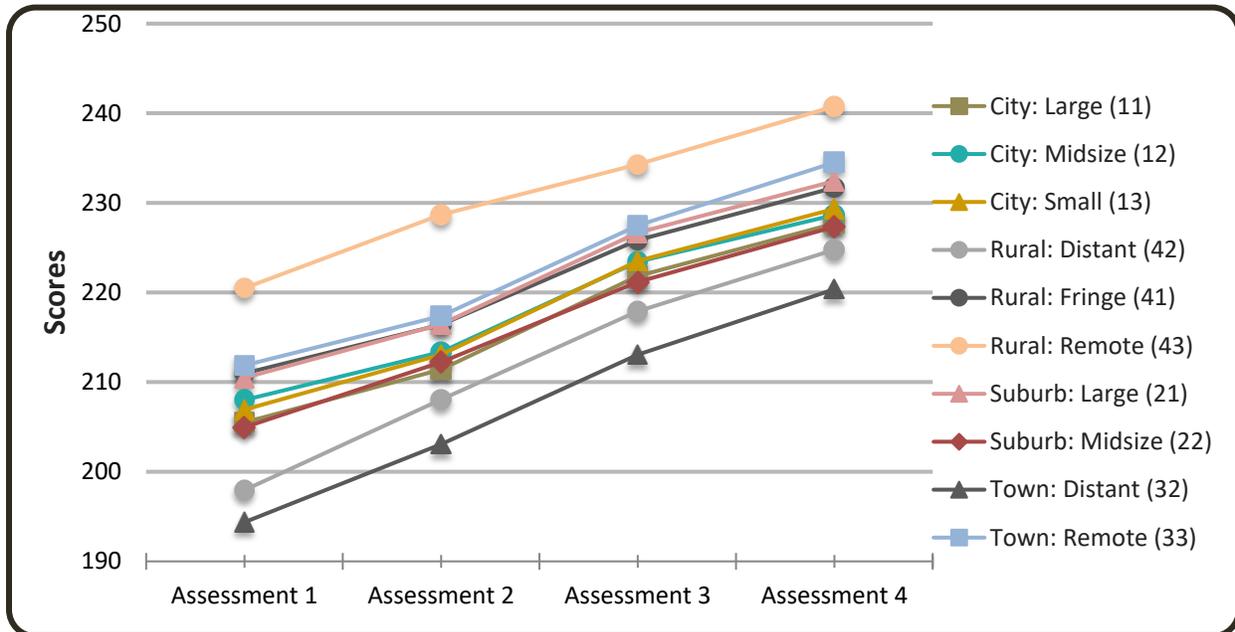
Figure 7. FSA Predictability for Third Grade



Analysis by Locale and Title 1 Status—(ISIP-ER)

There are 12 geographical locales as designated by NCES (See Appendix A) of which 11 are represented in the study although only 10 are illustrated (due to a small sample size) in Figure 8. Only Suburb: Small was not represented in the data set. Town: Distant and Rural Distant indicated the largest amount of overall yearly reading growth.

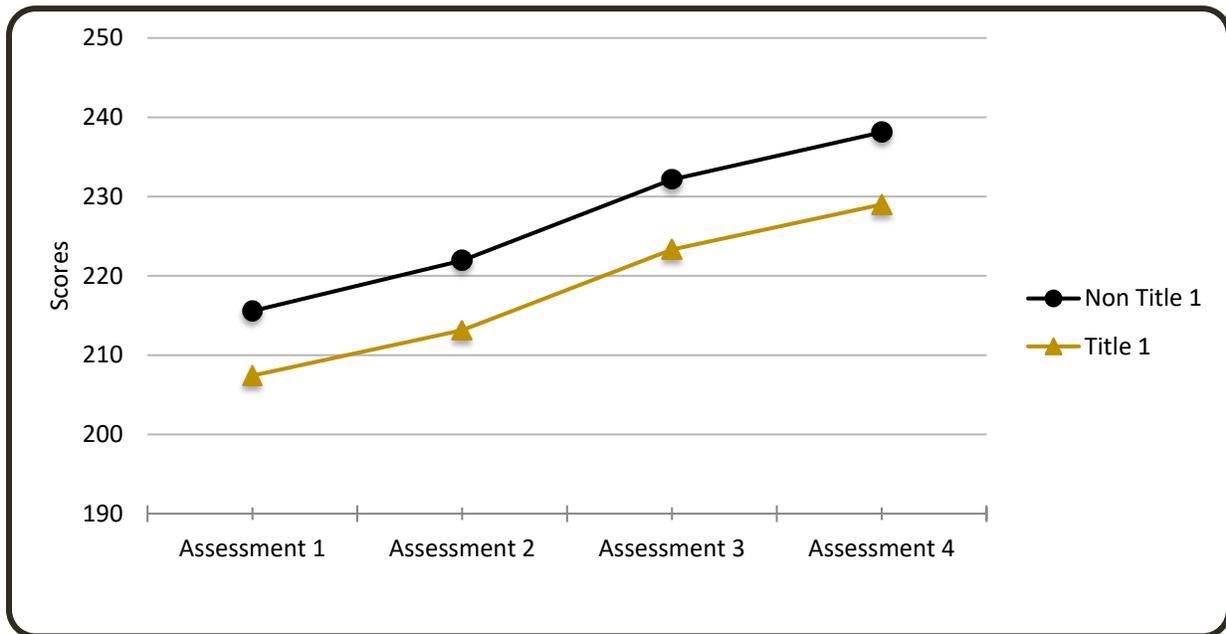
Figure 8. Analysis by Geographical Locale (ISIP-ER).



* Note. Town: Fringe, started with the lowest beginning ISIP-ER score and ended with the lowest scores. Please note that this subsample consisted of 37 students that met the research criteria and they do not appear on the graph.

RPs who attended a Title I school scored lower on the ISIP-ER than those who attended a non-Title I. Students in Title I schools test scores indicated that the RP gained the most reading knowledge during the second semester of the school year (See Figure 9). These Title I and non-Title I results included the combined overall test results of all grade levels in ISIP-ER (Pre-Kindergarten, First, Second, and Third grades) and all Academic levels.

Figure 9. Title I Status (ISIP-ER).



V. Measurement Advanced Reading (AR)

Istation Indicators of Progress Advance Reading—(ISIP-AR)

ISIP-AR is a web-delivered computer-adaptive testing system for continuous progress monitoring of reading appropriate for students in grades four through eight. Like its ER counterpart, students typically take the 20-minute ISIP-AR assessment at the beginning of the month or during their first session using the program for that month. ISIP-AR is appropriate for students in fourth through eighth grade. ISIP-AR measures (a) Word Analysis, (b) Text Fluency, (c) Vocabulary, and (d) Comprehension. ISIP-AR has strong evidence of concurrent validity to other norm-referenced measures, including the *Gray Oral Reading Test-4* (GORT – 4), *Woodcock-Johnson-3* (WJ-III), *Wechsler Individual Achievement Test-II* (WIAT-II; spelling, decoding, and word recognition) and the *Peabody Picture Vocabulary Test-IV* (PPVT-IV; Matthes, 2012; 2014).

The ISIP-AR overall score referenced in this report combines the adaptive ISIP-AR subtest scores of Comprehension, Vocabulary, and Word Analysis. Students are prompted to take the assessment at the beginning of the month before they engage in the multimedia curriculum. The results of each subtest direct teachers to face-to-face lesson plans that will support students' learning. The computer curriculum lessons are adapted to scaffold student progress in reading.

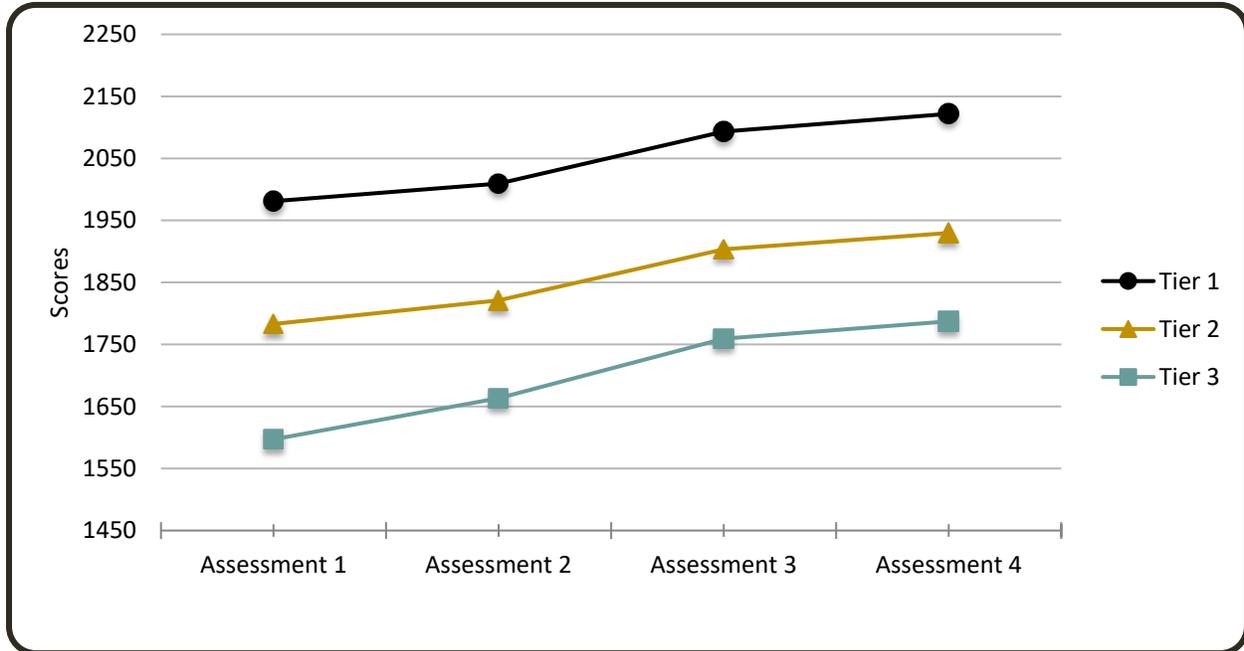
VI. Students' Usage Analysis (ISIP-AR) in the state of Florida

Analysis by Grade and Academic Tier Level—(ISIP-AR)

For the 2016 – 2017 school year, growth trends in ISIP-AR scores were examined by (a) academic tier level, (b) grade level, (c) geographical locale, and (d) Title I status. Growth was examined by four ISIP-AR assessments taken throughout the school year.

As anticipated, students in Tier 1 (those above the 40th percentile) scored higher on the ISIP-AR than students in Tiers 2 and 3. Students in Tier 3 (those in the 20th percentile or lower) had the lowest ISIP-AR scores (See Figure 10). These ISIP-AR score growth results are statistically significant both within subjects, but not between subjects (when accounting for Grade, Locale and Title 1). Students of all tiers experienced the greatest growth between assessment 2 and 3. Growth was greatest for students of Tier 3 meaning that students that have the greatest need for growth exhibited the greatest growth even though there is still an achievement gap.

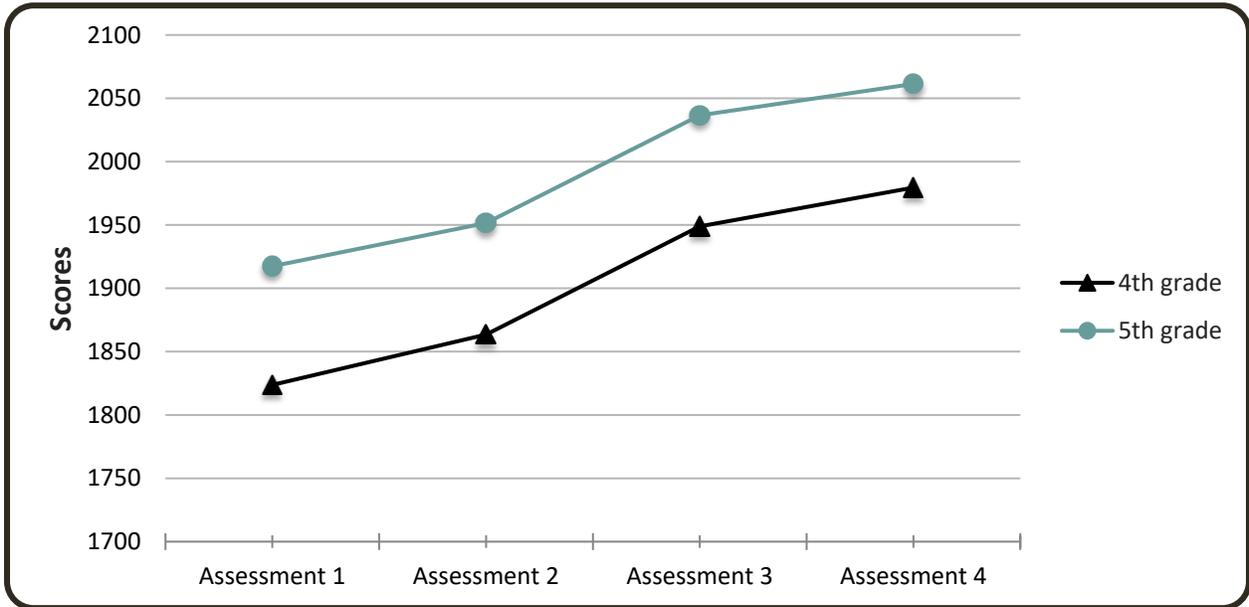
Figure 10. Growth for Students Taking the ISIP-AR by Academic Level.



Students in fifth grade scored higher than students in fourth grades (See Figure 11). Students evidenced the greatest ISIP-AR score growth between the second and third assessment. Even though RPs in fourth grade evidenced slightly greater growth on their ISIP-AR scores over the

course of the school year than the fifth grade RPs, there was no significant difference in the growth between the two grades (See Appendix B). The level of growth between grades may relate to the Academic Levels represented in the grade.

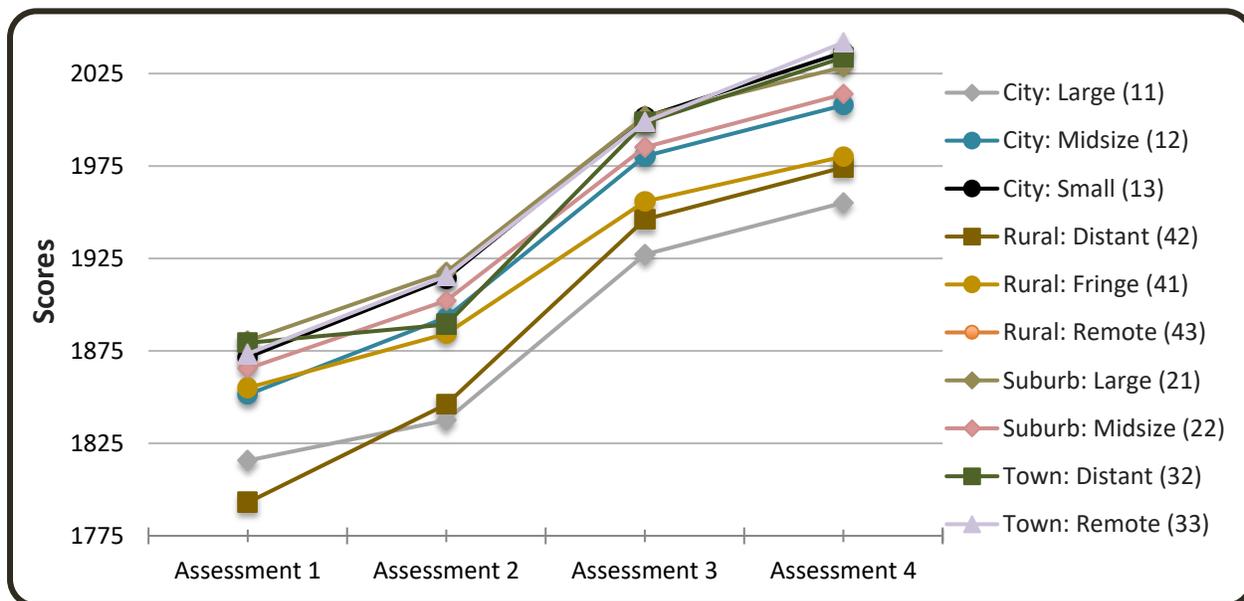
Figure 11. Growth for Students Taking the ISIP-AR by Grade Level.



Analysis by Locale and Title I Status—(ISIP-AR)

RPs from Town: Remote areas within the state of Florida had the highest ISIP-AR mean scores at the end of the school year (See Figure 12). RPs from Suburb: Large had the greatest amount of growth from score 1 to score 4. Students from Suburb: Midsize had the least amount of gain in reading as indicated by their ISIP-AR scores although growth was still noted.

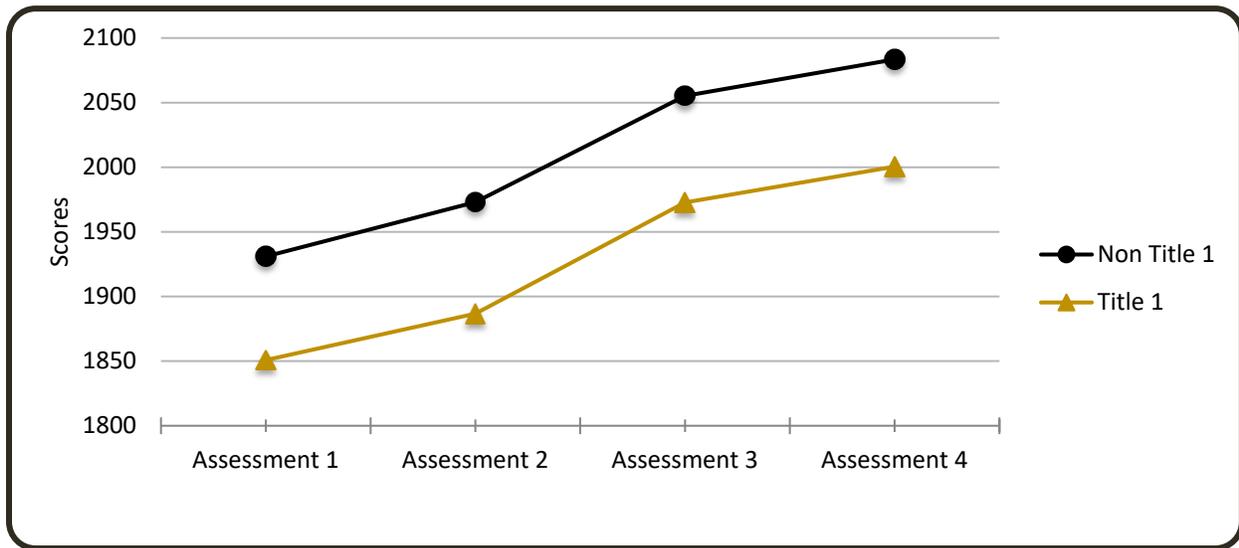
Figure 12. Analysis by Geographical Locale (ISIP-AR).



Note: Rural: Remote started with the lowest beginning ISIP-ER scored and ended with the lowest scores. However, Rural: Remote only included 2 students that met the criteria of 4 completed assessments and are therefore not represented in this figure.

Students at every academic level and every grade in every geographical locale represented in the dataset who attended Title I schools scored lower on the ISIP-AR than those who attended a Non-Title I school for the same academic level, grade, and geographical local. Students enrolled in Title I and Non-Title I schools both evidenced growth over the school year with the greatest growth between assessments 2 (November 2016) and 3 (January 2017).

Figure 13. Title 1 Status (ISIP-AR).



VII. Home Minute Usage

Istation offers a Home Use Component for student and parent/primary caregiver access. Students are able to practice all aspects of the reading program in the comfort of their homes, at a library, or community center; however, home access to Istation does not include access to assessments. All Istation program assessments are completed at the students' school which is an important control element for research data collection. The Parent Portal provides parents/primary caregivers a way to view reports on students' progress and to suggest books and resources for their children. The Home Use Component and the Parent Portal of Istation contribute to a school district/county and family partnership with the mission of educating all students. Students can access the Home component using various devices and applications including but not limited to laptops, desktops, tablets, Androids, Chromebooks, and iPads.

Students that **used** the Home Component of Istation demonstrated **greater reading growth** than those students that did **not** use the Home Component. For the August 2016 through May 2017 time period, RPs in the state of Florida recorded 14,674,964 **minutes** on the Istation program or 244,583 **hours** of home curriculum which is equivalent to 30,573 **eight-hour** school days or 6,115 **weeks** of school (See Table 5).

Table 5. Home Component Usage by Student.

Grade	Number of students that used the Home Component of Istation	Average Number of Minutes per student per grade	Average Number of Hours and minutes per student per grade	Percentage of curriculum users using the Home Component by Grade
Pre-Kindergarten	665	256.69	4:17	11%
Kindergarten	8,940	376.48	6:16	23%
First Grade	9,634	323.56	5:24	23%
Second Grade	8,422	325.70	5:26	20%
Third Grade	8,497	308.54	5:09	18%
Fourth Grade	5,430	258.51	4:19	17%
Fifth Grade	4,671	259.29	4:19	16%
Total	46,259	301.25	5:01	18%

Kindergarten, First, and Second Grade classes have the greatest percentage of students using the Istation program Home Component. Students in First grade had the highest number of users of the Istation program Home Component with students in Kindergarten having the second highest number of users. It is expected that in grades where students are learning to read students would practice reading more outside of the classroom through the support of parents and caregivers. Students in Kindergarten, First, and Second Grade had the greatest number of hours and minutes per student for the Istation program Home Component. Overall, 18% of students in the state of Florida used the Home Component for an average of 5 hours and 1 minute per research participant (RP). Florida students have online access to Istation’s Home Reading Component through various types of mobile devices including laptops, Chromebooks, and iPads.

VIII. Professional Development

Our partnerships with school districts in the state of Florida resulted in the offering of 20 face-to-face and multiple synchronous online webinars conducted and sponsored by Istation personnel on how to use Istation’s reading program. At these sessions, teachers had the opportunity to build their capacity for teaching reading and interpreting Istation reports specific to students in their classrooms. The face-to-face professional development sessions were offered throughout the state of Florida during the 2016-2017 school year. A separate report related to teachers’ perceptions will be available in Summer 2018.

IX. Conclusion

Finally, we have provided a data-based summary of the third year of implementation of the Istation reading program in the state of Florida. A longitudinal report of all three years will be completed during the summer of 2018.

Respectfully Submitted,

The University of Central Florida
Istation Research Team (2016-2017)

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Appendix A

11 - City, Large	Territory inside an urbanized area and inside a principal city with population of 250,000 or more.
12 - City, Midsize	Territory inside an urbanized area and inside a principal city with population less than 250,000 and greater than or equal to 100,000.
13 - City, Small	Territory inside an urbanized area and inside a principal city with population less than 100,000.
21 - Suburb, Large	Territory outside a principal city and inside an urbanized area with population of 250,000 or more.
22 - Suburb, Midsize	Territory outside a principal city and inside an urbanized area with population less than 250,000 and greater than or equal to 100,000.
23 - Suburb, Small	Territory outside a principal city and inside an urbanized area with population less than 100,000.
31 - Town, Fringe	Territory inside an urban cluster that is less than or equal to 10 miles from an urbanized area.
32 - Town, Distant	Territory inside an urban cluster that is more than 10 miles and less than or equal to 35 miles from an urbanized area.
33 - Town, Remote	Territory inside an urban cluster that is more than 35 miles from an urbanized area.
41 - Rural, Fringe	Census-defined rural territory that is less than or equal to 5 miles from an urbanized area, as well as rural territory that is less than or equal to 2.5 miles from an urban cluster.
42 - Rural, Distant	Census-defined rural territory that is more than 5 miles but less than or equal to 25 miles from an urbanized area, as well as rural territory that is more than 2.5 miles but less than or equal to 10 miles from an urban cluster.
43 - Rural, Remote	Census-defined rural territory that is more than 25 miles from an urbanized area and is also more than 10 miles from an urban cluster.

Appendix B

ISIP-ER Testing Overall

Multivariate Tests							
Effect		Value	F	Hypothesis df	Error df	Sig.	Partial Eta Squared
Time	Wilks'	.972	926.148	3.000	98,043.000	.000	.028
	Lambda						
Time * Locale_recode	Wilks'	.998	5.594	30.000	287,776.249	.000	.001
	Lambda						
Time * Title_I	Wilks'	1.000	11.056	3.000	98,043.000	.000	.000
	Lambda						
Time * GRADE	Wilks'	.997	27.681	12.000	259,397.687	.000	.001
	Lambda						
Time * INITIAL_TIER	Wilks'	.998	34.591	6.000	196,086.000	.000	.001
	Lambda						

ISIP-AR Testing Overall

Multivariate Tests							
Effect		Value	F	Hypothesis df	Error df	Sig.	Partia Eta Squared
Time	Wilks'	.953	519.934	3.000	31,359.000	.000	.047
	Lambda						
Time * Locale_recode	Wilks'	.994	7.263	27.000	91,585.093	.000	.002
	Lambda						
Time * Title_I	Wilks'	1.000	5.033	3.000	31,359.000	.002	.000
	Lambda						
Time * GRADE	Wilks'	1.000	.226	3.000	31,359.000	.878	.000
	Lambda						
Time * INITIAL_TIER	Wilks'	.996	20.704	6.000	62,718.000	.000	.002
	Lambda						