
# Florida Report

**Prepared by the University of Central Florida**

**Morgridge International Reading Center**

**Istation Research Project (2014-2015)**

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# Florida Report 2014-2015

# Istation

The following report has been prepared for the State of Florida regarding the use of Istation in Florida Public and Charter Schools during the time period of September 2014 through May 2015. The report provides descriptive data and statistics of Florida students' use of the Istation curriculum. Included in this reports are charts, tables, and figures demonstrating the reading growth trends of Florida's students. 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, 2015 and it is inferred to be accurate to the best of our knowledge. As the new enterprise of collecting and analyzing the data is formed between Istation and UCF, all options are being explored to effect and inform the practice and methods of reading instruction.

## Research Project Title:

An investigation of the effects of the Istation Reading program on the reading performance of elementary school students in the state of Florida.

## University of Central Florida Research Team Members:

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# I. Florida Students

## Numbers

The total number of students who were enrolled in the Istation Reading program in grades PK-5 for the State of Florida included 353,441 students. For research purposes, the number of students who completed at least one assessment was 250,853 and for this report they will be called research participant (RP) or research participants (RPs). Some students may not have been active due to time of enrollment, after the school year began, or due district implementation practices (See Line Graph 1).

**Figure 1 – Representation of Active Enrollments by Grade and Percentage**

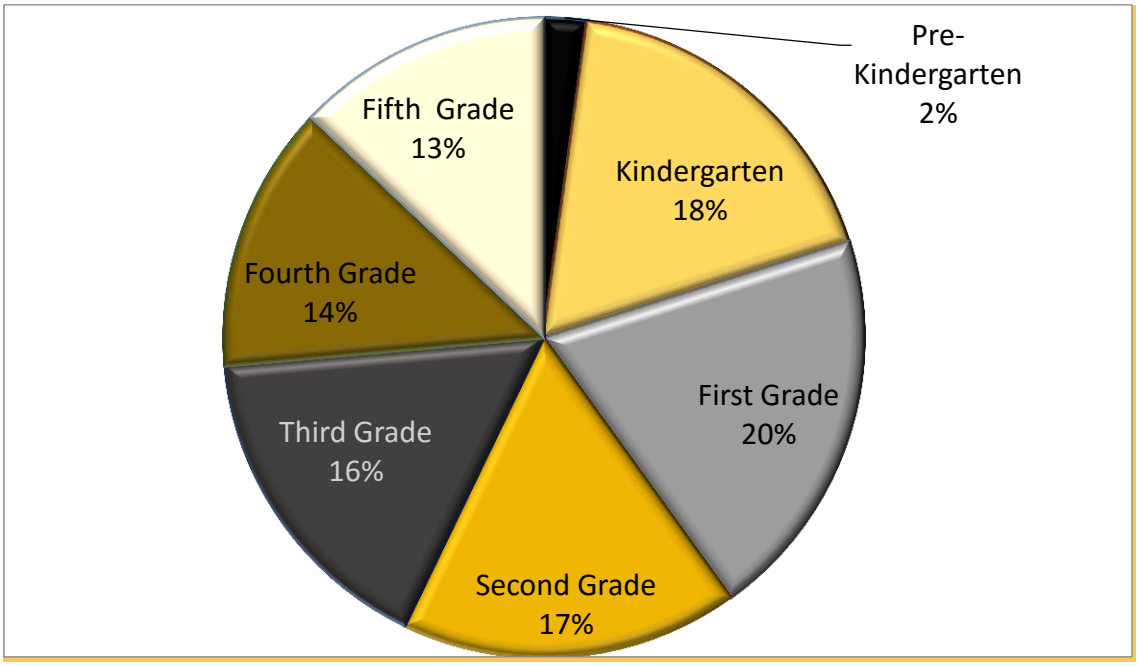



**Table 1 – Enrolled and Research Participants**

| Grade | Enrolled Students by Grade | Research Participants by Grade |
|---|---|---|
| **Pre- Kindergarten** | 13,988 | 5,453 |
| **Kindergarten** | 58,168 | 45,021 |
| **First** | 62,405 | 50,050 |
| **Second** | 55,435 | 42,827 |
| **Third** | 56,739 | 41,282 |
| **Fourth** | 50,285 | 33,826 |
| **Fifth** | 56,421 | 32,394 |

## 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 (See Appendix A). The 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 distant locations (meaning more than 5 miles but fewer than or equal to 25 miles from an urbanized area, as well as rural territory that is more than 2.5 miles but fewer than or equal to 10 miles from an urban cluster; NCES, 2015). Generally, there were fewer students from rural locales than urban and suburban locales.

**Table 2 – Research Participants by Locale**

| Locale Category and Percentage by Category | Specific Locale | Number of Research Participants | Percentage of RP by Locale |
|---|---|---|---|
| Urban (City) 24% | City: Large (11) | 16,057 | 6% |
| | City: Midsize (12) | 27,244 | 11% |
| | City: Small (13) | 17,202 | 7% |
| Rural 13% | Rural: Distant (42) | 2,055 | 1% |
| | Rural: Fringe (41) | 30,430 | 12% |
| Suburban 60% | Suburb: Large (21) | 139,806 | 55% |
| | Suburb: Midsize (22) | 4,927 | 2% |
| | Suburb: Small (23) | 7,170 | 3% |
| (Urbanized Clusters) Town 4% | Town: Distant (32) | 5,069 | 2% |
| | Town: Fringe (31) | 1,879 | 1% |
| | Town: Remote (33) | 3,366 | 1% |

## Title 1 Status

Schools qualify for a Title 1 school designation and receive federal funding if over 40% of the students receive free and reduced lunch at a school. The criteria are often used as an indicator of students from a low-income household. Title 1 status for schools was determined by information obtained from NCES, schools' database. **79% of the students enrolled in the Istation Reading program attended Title 1 schools.**

## Academic Tier Level

Research participants were classified by their initial academic levels based on the first assessment 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 are at some risk (between the 20th-40th percentile and are moderately below grade level and need intervention). Students in Tier 3 are at risk and are performing below the 20th percentile and need intensive intervention (Istation Technical Manual, version 4). According to the distribution of the academic levels, **58% of the RP students** in the Istation Reading program needed **intensive** intervention.

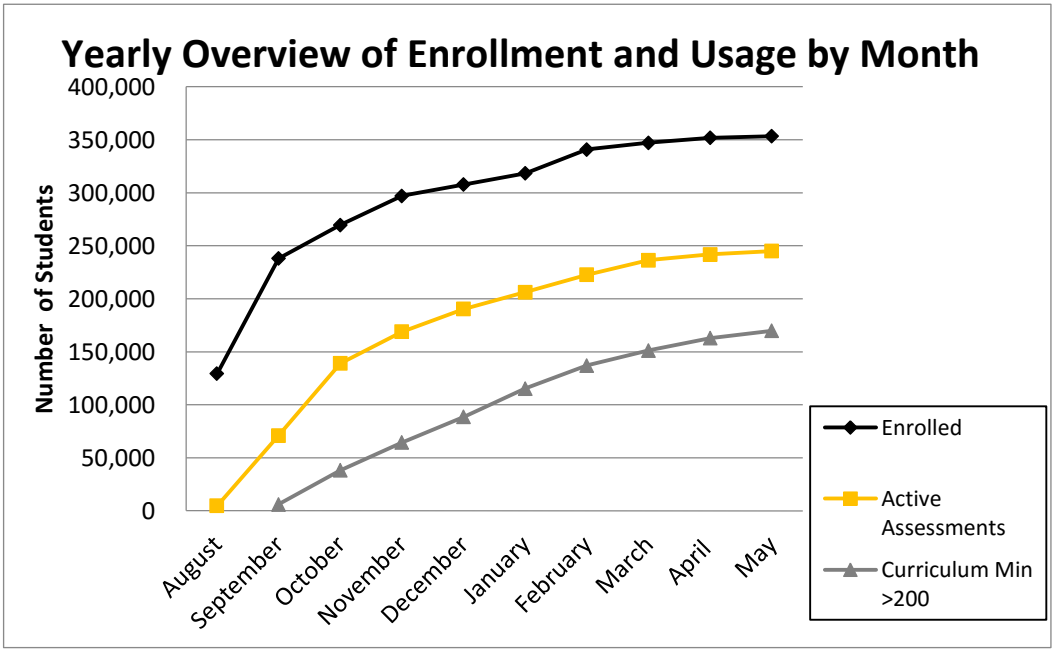
**Table 3 – Florida Students by Academic Level**

| Academic Level | Number of RPs | Risk Level | Percentage of RPs by Level |
|---|---|---|---|
| 1 | 46,968 | No Risk | 19% |
| 2 | 57,577 | Some Risk | 23% |
| 3 | 146,308 | At Risk | 58% |

## Yearly Overview of Student Usage and Enrollment by Month

The line graph below provides a timeline of the number of the students enrolled in the Istation program by month, the number of students actively assessed, and the cumulative number of students that met an initial 200 minutes of curriculum. The black line in the figure below demonstrates how enrollment occurred from August through May. As students enrolled, assessment and curriculum usage began. The chart demonstrates an increase of participants and their usage throughout the school year.

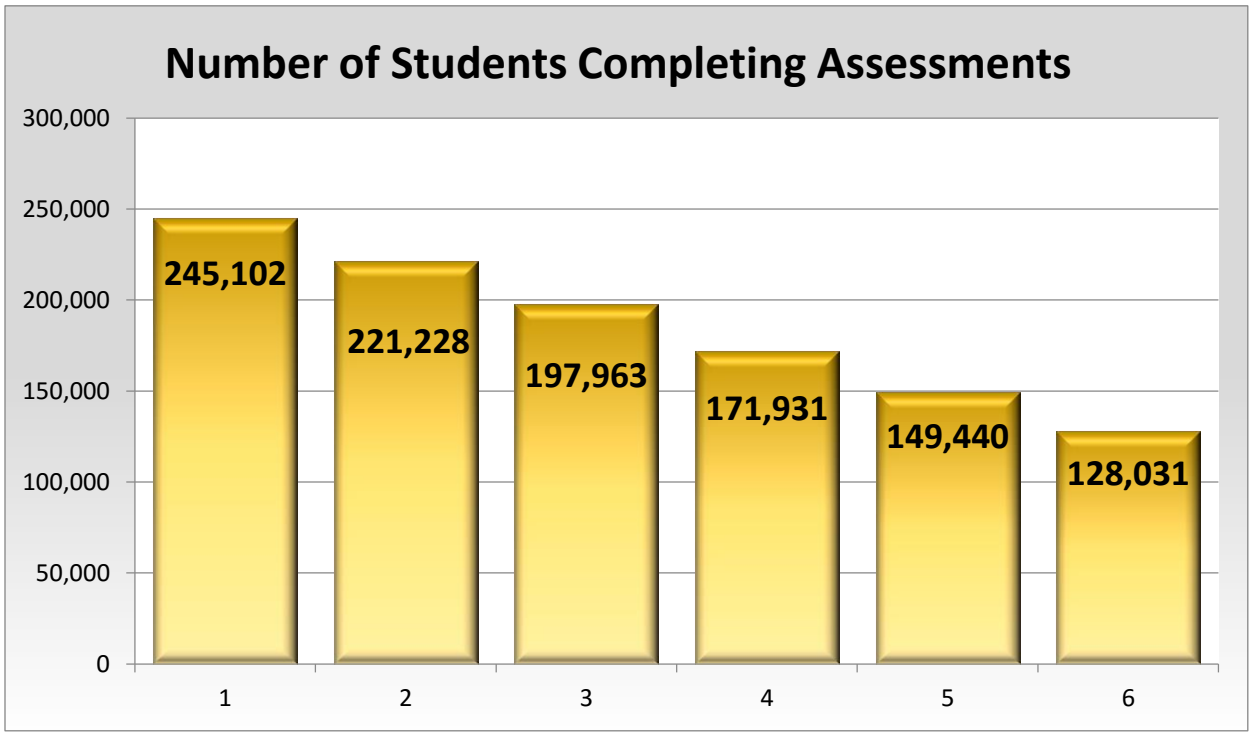
**Graph 1 – Enrollment and Usage by Month**



## II. Florida Students' Usage

Figure 2 demonstrates those RPs that completed either the Istation Indicators of Progress Early Reading (ISIP-ER) or Istation Indicators of Progress (ISIP-AR) curriculum-based measure for 6 administrations. The computer adaptive curriculum based measure is available 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. Thus, there may have been a break between semesters or around state standardized testing windows.

**Figure 2 – 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 immediately have access to an instructional report identifying the students' strengths and weaknesses, offering recommendations for differentiating instruction. Teachers can choose an embedded lesson plan to address students' specific needs. In addition, the teacher has the capacity and means to document subsequent interventions that reinforce reading instruction.

# III. Measurement

## 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**

| 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, Connected Text Fluency |

ISIP-ER has strong 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, and *Florida Comprehensive Achievement Test* (FCAT) 2.0 (Gaughin, 2011; Hoezle, 2012; ISIP-ER Technical Manual, 2015).

## Istation Indicators of Progress Advanced Reading – (ISIP-AR)

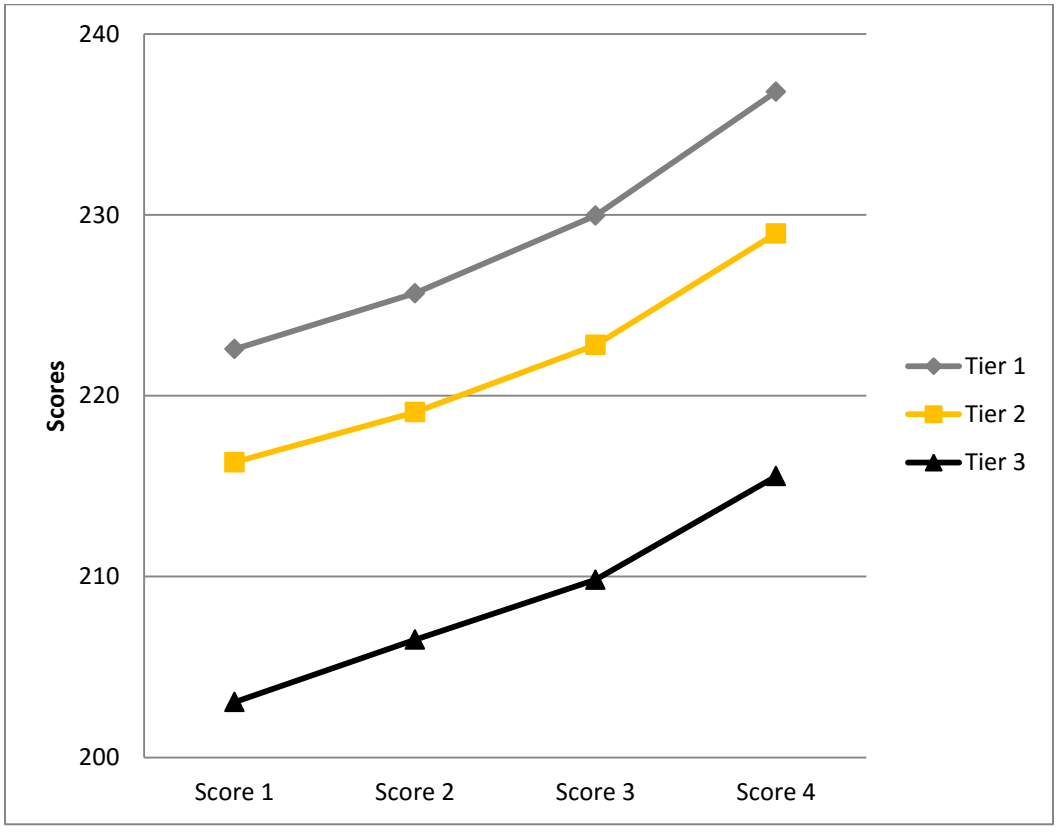
ISIP-AR is a web-delivered computer adaptive testing system for continuous progress monitoring of reading appropriate for students in grades four through eight. Like its ER counterpart, students typically take the 20 minute ISIP-AR assessment at the beginning of the month or during their first session of the month. ISIP-AR is appropriate for students in fourth through eighth grade. ISIP-AR measures Word Analysis, Text Fluency, Vocabulary, and Comprehension. ISIP-AR has strong 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).

# IV. Florida Students Istation Reading Program 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 grade level, academic tier level, geographical locale, and Title 1 status. Growth was evaluated based on the RPs who completed four assessments throughout the school year which include: (a) Assessment 1, September/October; (b) Assessment 2, November/December; (c) Assessment 3, January/February; and (d) Assessment 4, March/May**.** Statistically, the growth difference was significant for the four assessments taken from September 2014 through May 2015 by Grade, Academic Level, Locale, and Title 1 status.*(See Appendix B)

**Figure 3 – Growth for Students taking the ISIP-ER by Academic Level**

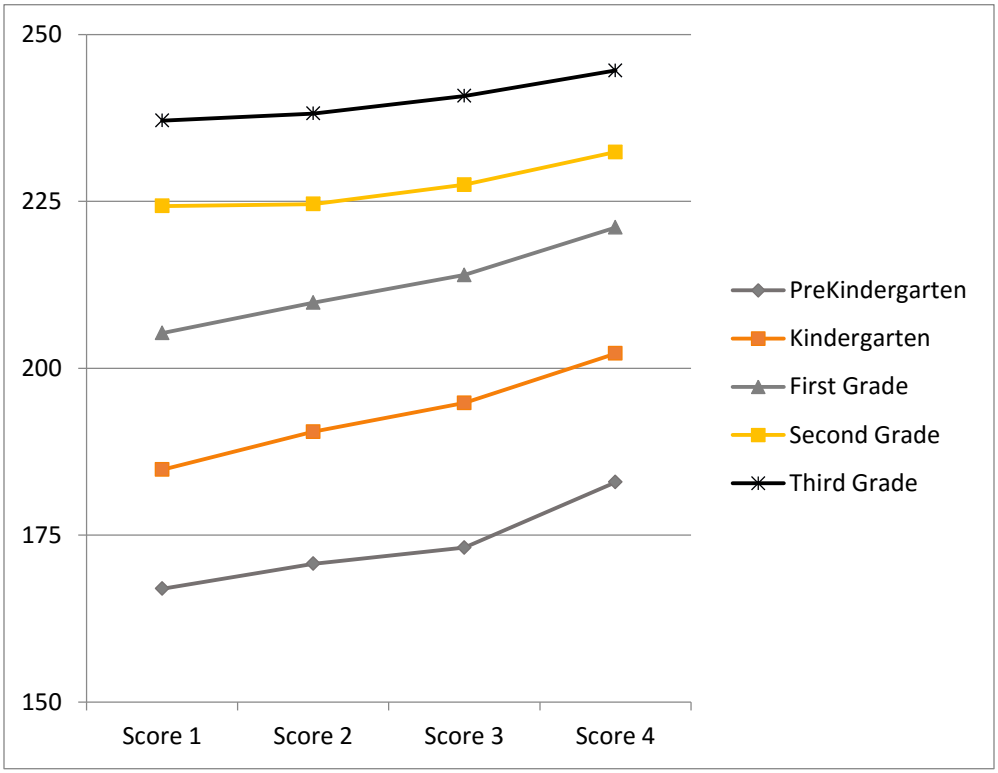



* Note: In this first year of the project, implementation was contingent on the completion of regulations (e. g. Institutional Review Board and district procedures). Thus, start times for districts and schools varied.

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 in Kindergarten had the largest changes between Assessment 3 (January/February) and Assessment 4 (March/May). However, there was no significant change for Grade 2 between Assessment 1 (September/October) and Assessment 2 (November/December). 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.

**Figure 4 – Growth for Students taking the ISIP-ER by Grade Level**

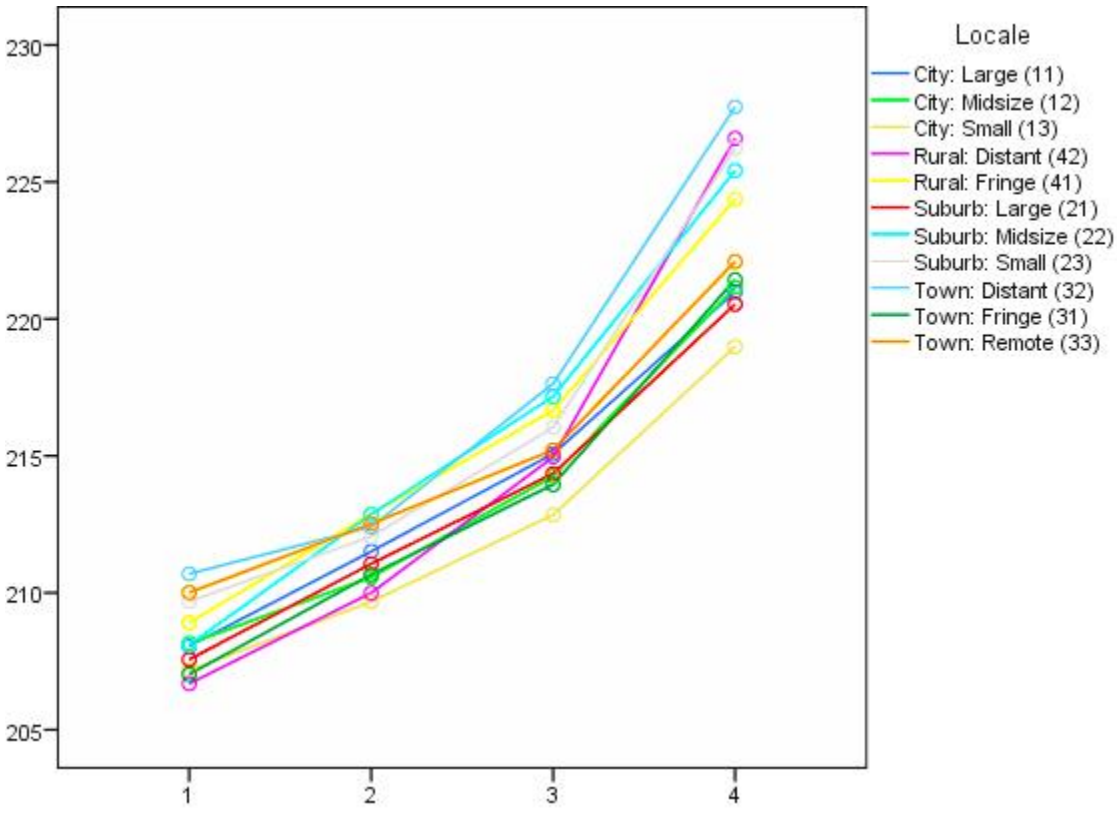



## Analysis by Locale and Title 1 Status – (ISIP-ER)

There are 13 geographical locales as designated NCES (See Appendix A) of which 12 are represented in the study. Only rural remote was not represented in the data set due to the low number of schools that are classified as Rural: Remote in the state (See Appendix C). An examination of figure 5 indicated that RPs from Rural: Distant locales, started with the lowest beginning ISIP-ER scores but ended with the second highest scores. These RP's scores indicated the largest amount of growth. Students from Town: Distant locales after the second ISIP-ER assessment scored the highest among students from other locales. Students from City: Small scored the lowest ISIP-ER scores in comparison to students from other areas.

RPs at every academic level and every grade in every geographical locale who attended a Title I school scored lower on the ISIP-ER than those who attended a non-Title 1 for the same academic level, grade, and geographical locale.

**Figure 5 – Analysis by Geographical Locale (ISIP-ER)**

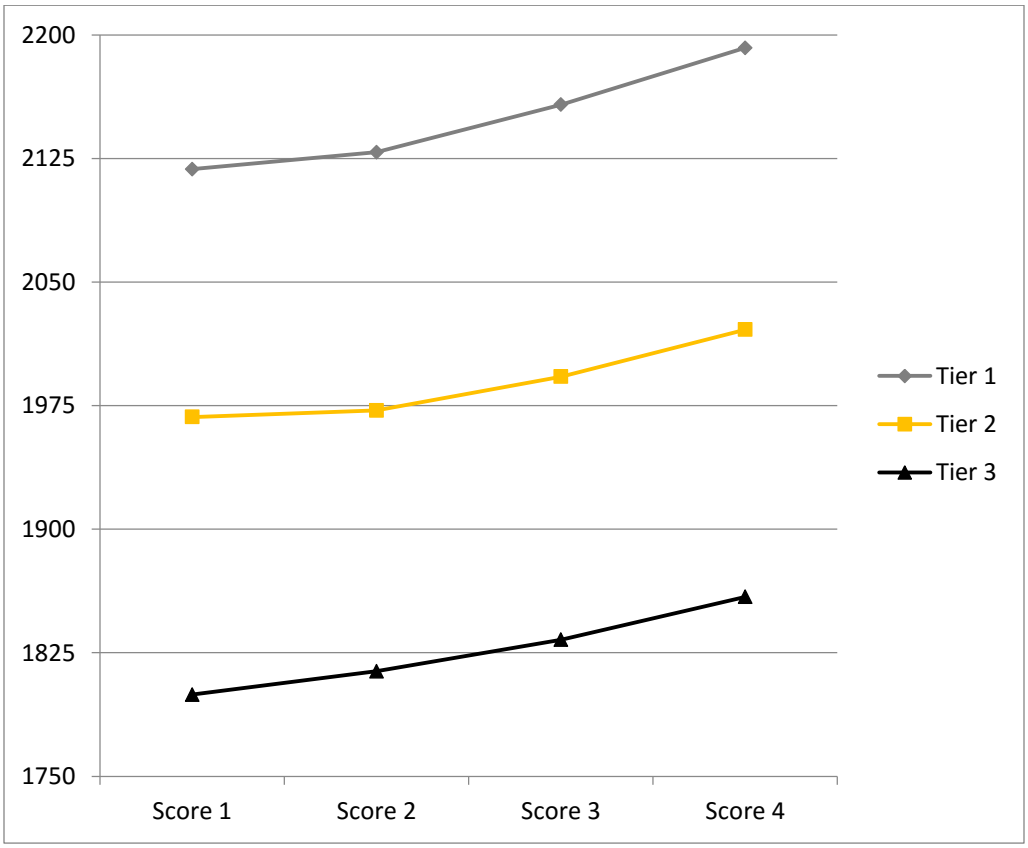


# V. Florida Students Usage Analysis (Fourth through Eighth Grade)

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

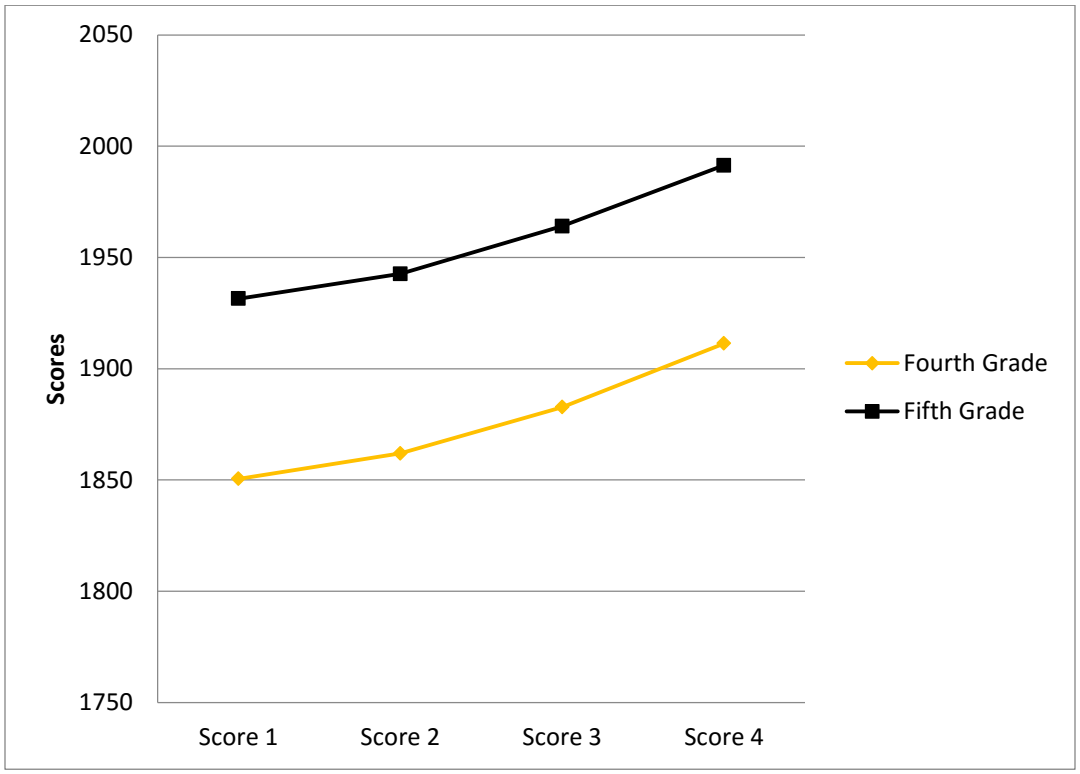
For the initial year of the research project, growth trends in ISIP-AR scores were examined by (a) grade level, (b) Academic tier level, (c) geographical locale, and (d) Title 1 status. Growth was examined by four ISIP-AR assessments taken throughout the school year. As anticipated**,** students in fifth grade scored higher than students in fourth grades by Tier. Students in Tier 1 (those above the 40$^{th}$ percentile) scored higher on the ISIP-AR than students in Tiers 2 and 3. Students in Tier 3 (those in the 20$^{th}$ percentile or lower) had the lowest ISIP-AR scores.

**Figure 6 – Growth for Students taking the ISIP-AR by Academic Level**




These ISIP-AR score growth results are statistically significant both within subject and between subjects. Students in Tiers 1 and 3 evidenced the greatest ISIP-AR score growth. Students in Tier 2 experienced growth in ISIP-AR scores but not at the same rate as the other two tiers. The students in Tier 3 ISIP-AR scores evidenced a consistent growth trajectory; however, for students in Tiers 1 and 2, the ISIP-AR scores growth patterns began to accelerate after the second assessment.

**Figure 7 – Growth for Students taking the ISIP-AR by Grade Level**




RPs in 4th grade evidenced slightly greater growth on their ISIP-AR scores over the course of the school year than the 5th grade RPs. However, the results of multivariate testing did not indicate significance in growth based on the grade students (See Appendix B).

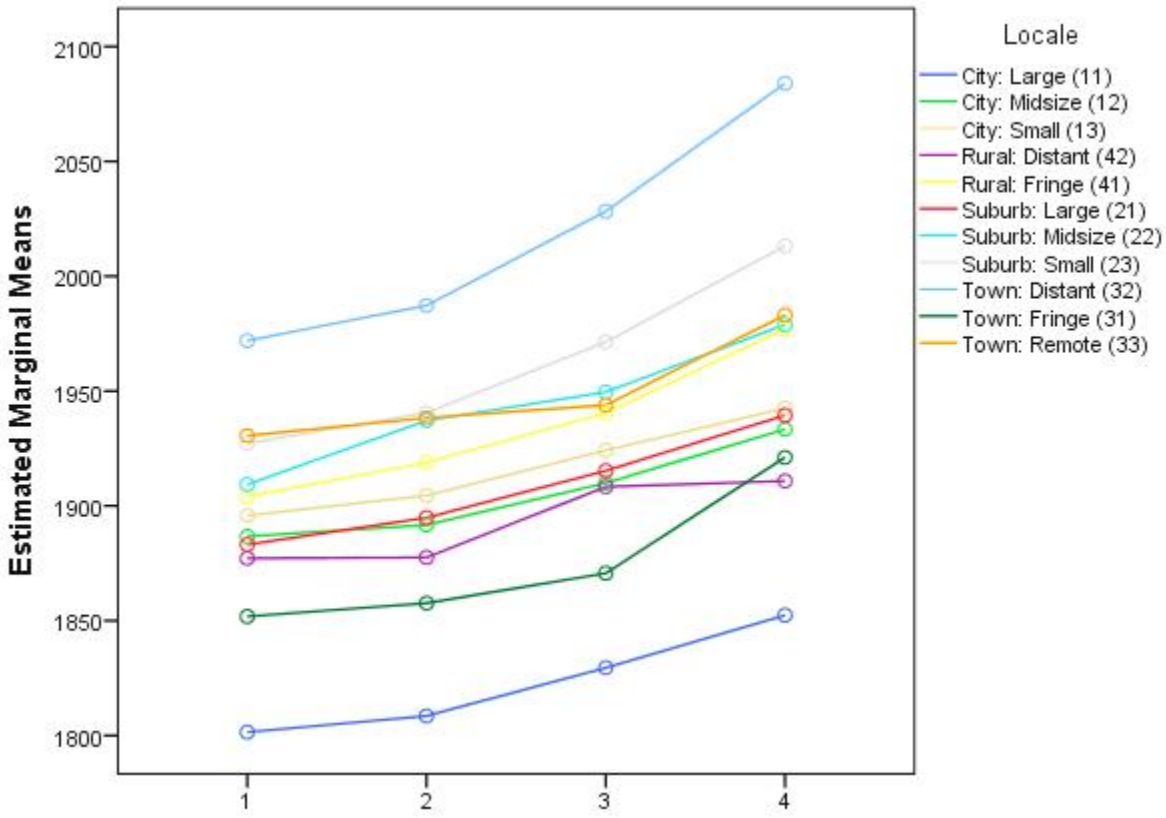
## Analysis by Locale and Title 1 Status – (ISIP-AR)

RPs from the NCES designation (see Appendix A), Town: Distant, had the highest ISIP-AR mean scores at the end of the school year. RPs from City: Small had the greatest amount of growth. Students from Rural: Distant, City: Midsize, and Suburban: Small had the least amount of gain in reading as indicated by their ISIP-AR scores. RPs from the City: Large locale started out with the lowest mean scores on the ISIP-AR, experienced moderate growth in comparison to other locale groups, but still did not reach the beginning of the year score for most other locale groups on the ISIP-AR.

Students at every academic level and every grade in every geographical locale represented in the dataset who attend a Title I school scored lower on the ISIP-AR than those students who attended a non-Title 1 for the same academic level, grade, and geographical locale. In comparison, for RPs from Title 1 schools' the end of the year mean ISIP-AR score was equivalent

to the beginning mean score of RPs from non-Title 1 schools; however, both groups evidenced growth. Statistical results indicated a statistically significant differences in assessments over time by Locale and Title I status at .05 (See Appendix B).

**Figure 8 – Analysis by Geographical Locale (ISIP-AR)**



# VI. 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 students. 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 that **used** the *Home Component* of Istation demonstrated **greater reading growth** than those students that did ***not*** use the *Home Component.*

For the September 2014 through May 2015 time period, RPs in the state of Florida recorded **9,919,301 minutes** on the Istation program or **165,322 hours** of home curriculum which is equivalent to **20,665 eight hour** school days or **4,133 weeks** of school.

**Table 5 – Home Component Usage by Student**

| Grade | Number of Students that used the Home Component of Istation | 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** | 1,230 | 84 | 1:24 | 23% |
| **Kindergarten** | 7,775 | 234 | 3:54 | 17% |
| **First Grade** | 9,166 | 254 | 4:14 | 18% |
| **Second Grade** | 7,431 | 244 | 4:04 | 17% |
| **Third Grade** | 6,953 | 239 | 3:59 | 17% |
| **Fourth Grade** | 5,371 | 212 | 3:32 | 17% |
| **Fifth Grade** | 4,576 | 207 | 3:27 | 15% |
| **Total** | 42,502 | 231 | 3:51 | 17% |

Students in Pre-Kindergarten have the greatest percentage of students using the Istation program *Home Component*. However, students in First grade had the highest number of users of the Istation program *Home Component* with Kindergarten having the second most. Students in First and Second Grade had the greatest number of hours and minutes per student for the Istation program *Home Component*. Overall, 17% or 42,502 students in the state of Florida used the *Home Component* for an average of 3 hours and 51 minutes per student. Florida students

have online access to Istation's *Home Reading Component* through various types of mobile devices including laptops, Chromebooks, and iPads.

## VII. 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 2014-2015 school year. Teachers overwhelmingly indicated that they found the professional development sessions beneficial and of immediate use in their classrooms. Follow-up comments from teachers included: "I learned how to use reports to group students by skills and levels to differentiate instruction"; and "I learned about reports that I can use to help my students make big gains."

## VIII. Future Research, Benefits, and Conclusion

Future research for the Istation Research Team will include a longitudinal examination of the use of the Istation Reading program and of the establishment of protocols for effective implementation of the Istation program to inform school districts, schools, and teachers of best practices. Additionally, the Istation Research Team plans to examine the correlation between the Istation Reading program assessment scores (ISIP-ER and ISIP-AR) and other standardized state assessments. Finally, additional benefits of the research included: (a) **increased high quality** scholarly research; and (b) **greater opportunity** for faculty members' involvement in analyzing large datasets to **advise educators and policymakers** on the efficacy of reading intervention programs. In conclusion, we have provided a data-based summary of the first year of implementation of the Istation reading program in the state of Florida.

**Respectfully Submitted,**

The University of Central Florida
Istation Research Team (2014-2015)

# Appendix A

**New Urban-Centric Locale Codes**

Obtained from http://nces.ed.gov/ccd/commonfiles/localedescription.asp

| | |
|---|---|
| 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

**Table 1. Statistical Results of Multivariate Tests for Students in Grades Pre-Kindergarten through Grade 3 (ISIP - ER)**

| Effect | | Value | F | Hypothesis df | Error df | Sig. | Partial Eta Squared |
|---|---|---|---|---|---|---|---|
| Assessments over time | Wilks' Lambda | .919 | 2497.606[a] | 3.000 | 85101.000 | .000 | .081 |
| Assessments over time * INITIAL_TIER | Wilks' Lambda | .997 | 40.049[a] | 6.000 | 170202.000 | .000 | .001 |
| 1 | Wilks' Lambda | .912 | 663.393 | 12.000 | 225156.374 | .000 | .030 |
| Assessments over time * Title_I | Wilks' Lambda | .996 | 113.925[a] | 3.000 | 85101.000 | .000 | .004 |
| Assessments over time * Locale | Wilks' Lambda | .985 | 42.320 | 30.000 | 249788.922 | .000 | .005 |

Note: a. Exact statistic; p<.001

**Table 2. Statistical Results of Multivariate Tests for Students in Grades 4 and 5 (ISIP-AR)**

| Effect | | Value | F | Hypothesis df | Error df | Sig. | Partial Eta Squared |
|---|---|---|---|---|---|---|---|
| Assessments over time | Wilks' Lambda | .940 | 510.703[a] | 3.000 | 23808.000 | .000 | .060 |
| Assessments over time * Academic Tiers | Wilks' Lambda | .995 | 19.842[a] | 6.000 | 47616.000 | .000 | .002 |
| Assessments over time * GRADE | Wilks' Lambda | 1.000 | .535[a] | 3.000 | 23808.000 | .658 | .000 |
| Assessments over time * Title_I status | Wilks' Lambda | .999 | 11.543[a] | 3.000 | 23808.000 | .000 | .001 |
| Assessments over time * Locale | Wilks' Lambda | .983 | 13.689 | 30.000 | 69881.859 | .000 | .006 |

Note: a. Exact statistic; p<.001

# Appendix C

**Figure 1. Schools by Locale in Florida**

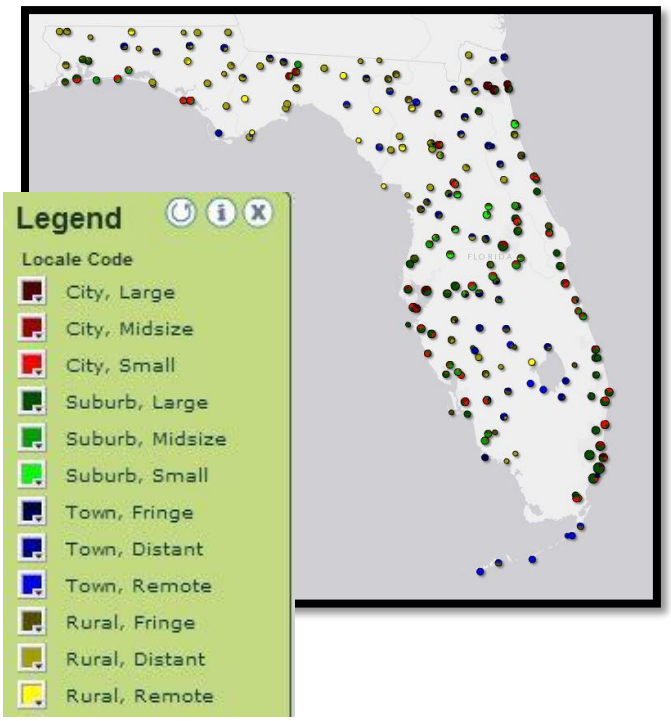



**Figure 2. Schools by Locale City (Urban)**

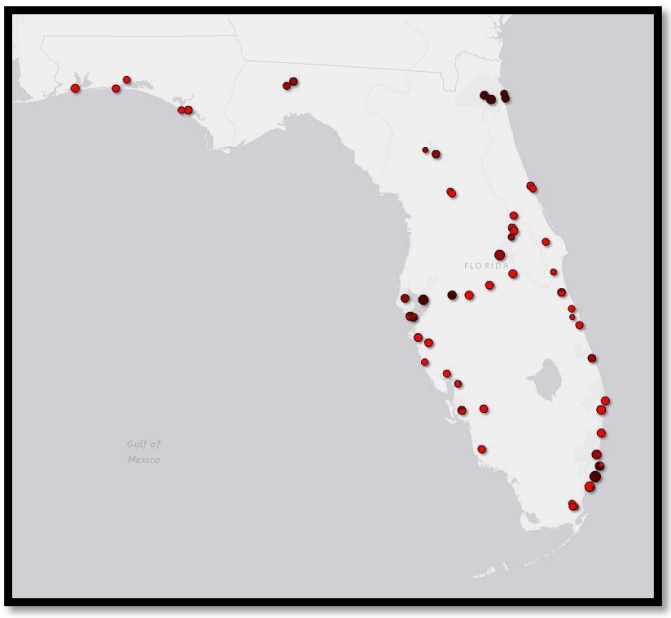


**Figure 3. Schools by Locale Suburban**

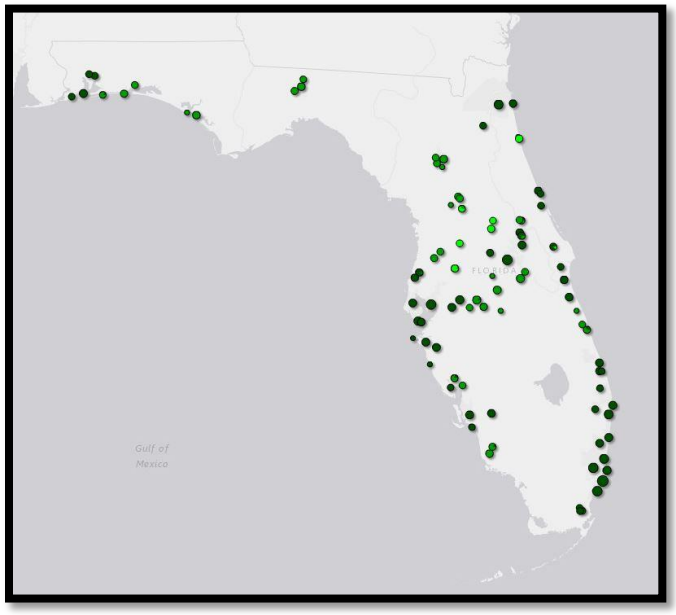
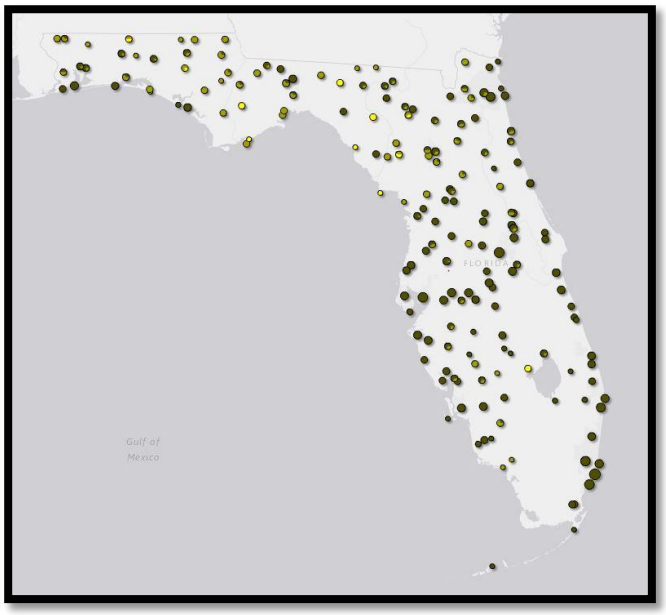


**Figure 4. Schools by Locale Rural Schools**



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