



UNIVERSITY OF CENTRAL FLORIDA

Florida Report Year 2

**Prepared by the University of Central Florida
Morgridge International Reading Center
Istation Research Project (2015-2016)**

Florida Report 2015-2016

Istation

Note: 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 2015 through May 2016. The report provides descriptive data and statistics of Florida students' use of the Istation curriculum. 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, 2016, 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 UCF, all options are being explored to inform the practice and methods of reading instruction. All data is collected in accordance with UCF IRB # SBE-14-10450.

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Introduction

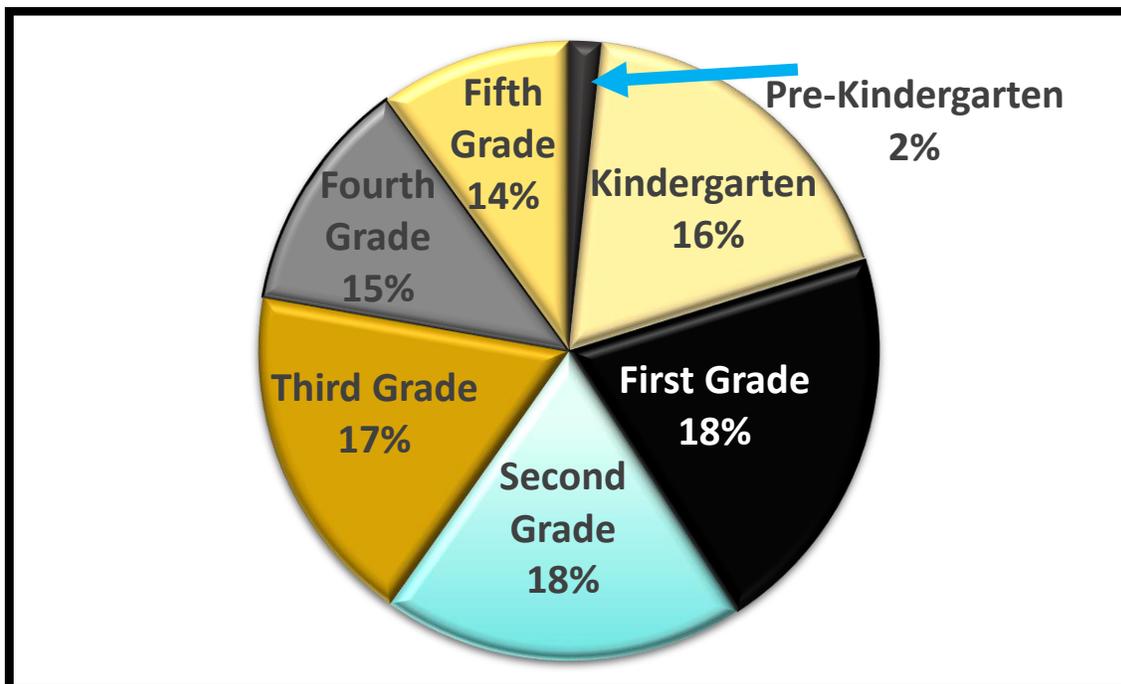
The following report provides an annual analysis of the enrollment of students in the state of Florida in the Istation Reading program. All Florida elementary schools, public and charter, and school districts are invited to take part in the Istation Research program through the Morgridge International Reading Center at the University of Central Florida. The Istation research project provides Florida public and charter schools access to the Istation’s interactive multimedia reading program at no cost to the schools or families. Students in the state of Florida have access to the Istation reading curriculum at school and at home.

I. Florida Students

Numbers

During the 2015-16 academic year, the total number of students who were enrolled in the Istation Reading program in grades PK-5 for the state of Florida was 480,515.

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



Seventy-one percent of the students enrolled in the Istation reading program were in pivotal “learning to read” grades (Pre-Kindergarten through Third Grade). In these grades, the reading instructional foci include building skills necessary to learn to read. The importance of this additional instruction is reinforced by research which indicates that those students who are on reading level by third grade are more likely to exhibit academic success in the future, including attending college (Lesnick, Smithgall, & Chapin Hall, 2010).

Table 1- Enrolled and Research Participants

Grade	Enrolled Students by Grade	Research Participants by Grade
Pre-Kindergarten	18,810	6,052
Kindergarten	72,614	45,688
First	78,236	49,601
Second	80,843	50,273
Third	78,887	45,944
Fourth	76,002	41,091
Fifth	75,141	39,102

Note* For research purposes, students called research participants (RP) included those who completed at least one assessment. The total for this group was 277,751. Some students may not have been active due to time of enrollment, after the school year began, or due to district implementation practices.

Locales

The students’ geographical category 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 RP in the Istation Reading project represented most geographic locales with the largest number of RP attending schools in large suburban areas (defined as outside a principal city and inside an urbanized area with population of 250,000 or more). The fewest number of RP in the Istation Reading project attended schools in town fringe locations (defined as a territory inside an urban cluster that is fewer than or equal to 10 miles from an urbanized area; NCES, 2016). Generally, there were fewer students from town and rural locales than city and suburb locales which were expected due to smaller populations in these areas.

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) 29%	City: Large (11)	21,845	8%
	City: Midsize (12)	36,027	13%
	City: Small (13)	21,664	8%
Rural 5.7%	Rural: Distant (42)	1,256	.5%
	Rural: Fringe (41)	15,165	5%
	Rural: Remote (43)	605	.2%
Suburban 63%	Suburb: Large (21)	167,383	60%
	Suburb: Midsize (22)	7,490	3%
(Urbanized Clusters) Town 2.3%	Town: Distant (32)	2,344	1%
	Town: Fringe (31)	702	.3%
	Town: Remote (33)	3,156	1%

Title I Status

Schools qualify for a Title I 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 I status for schools was determined by information obtained from the NCES schools' database. Seventy-nine percent of the 277,637 RP (n = 217,917) in the Istation Reading Program attended Title I schools.

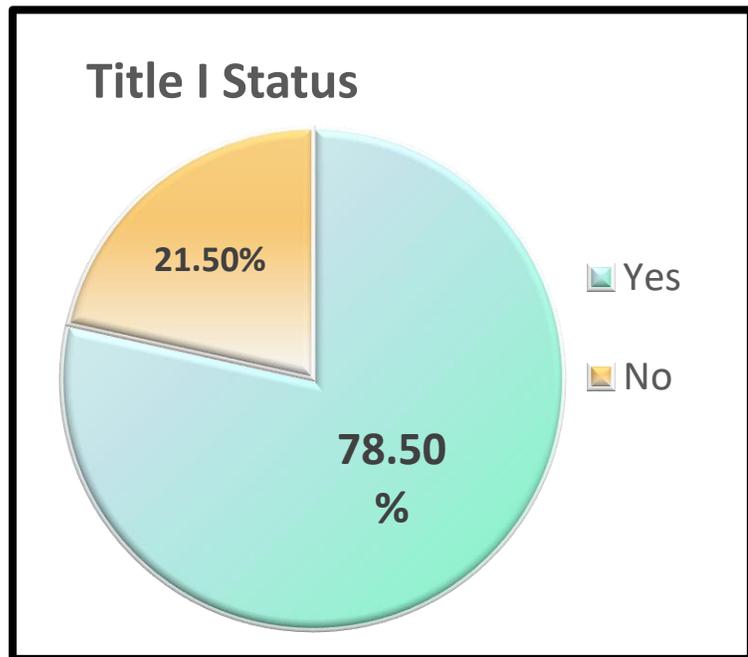


Figure 2. Title I Status of Students Enrolled in the Istation Reading Program.

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 are performing at grade level. Tier 2 students are at "some risk" (between the 20th – 40th percentiles), are moderately below grade level, and need intervention. Students in Tier 3 are "at risk", are performing below the 20th percentile, and need intensive intervention (Istation Technical Manual, version 4). According to the distribution of the academic levels, 37.3% of RP in the Istation Reading program performed at grade level, 22.5% of RP were classified as Tier 2 students, and 40.2% of RP were classified as in need of the intensive interventions provided in Tier 3.

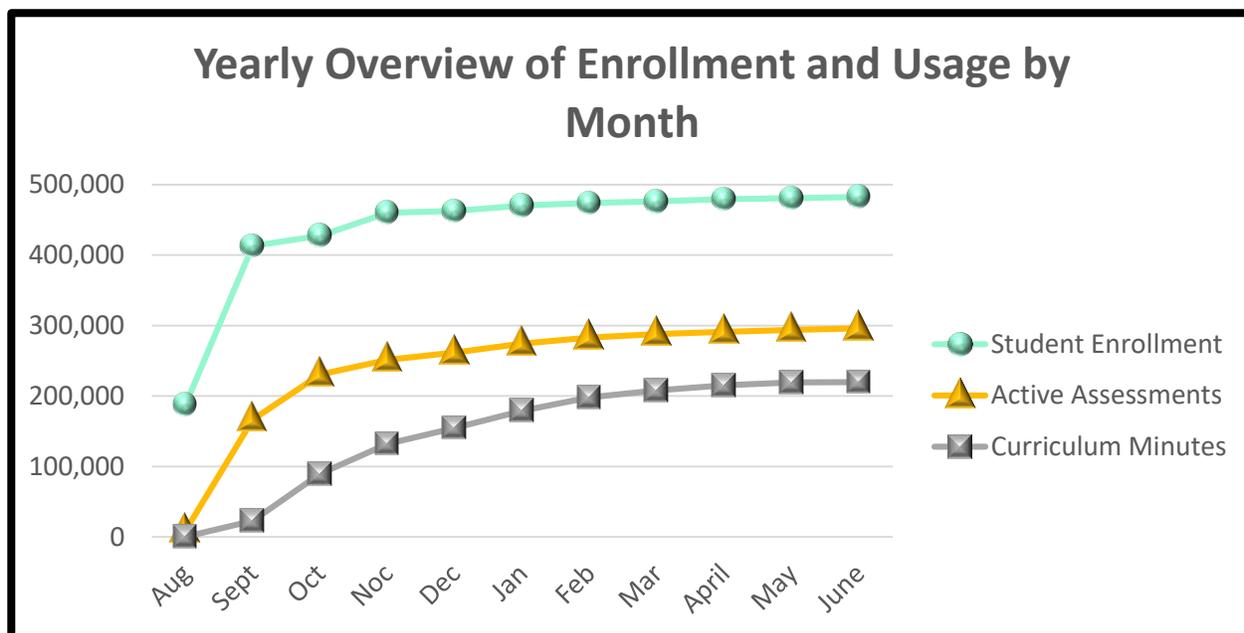
Table 3. Florida RP by Academic Level.

Academic Level	Number of RP	Risk Level	Percentage of RP by Level
1	94,742	No Risk	37.3%
2	57,259	Some Risk	22.5%
3	101,984	At Risk	40.2%

Yearly Overview of Student Usage and Enrollment by Month

Student enrollment, assessments, and curriculum minutes over the course of the 2015-2016 school year indicate that most students were enrolled during the first quarter of the school year; however, there was a steady increase throughout the year in the number of students that met the assessment and curriculum usage criteria.

Figure 3. Enrollment and Usage by Month.

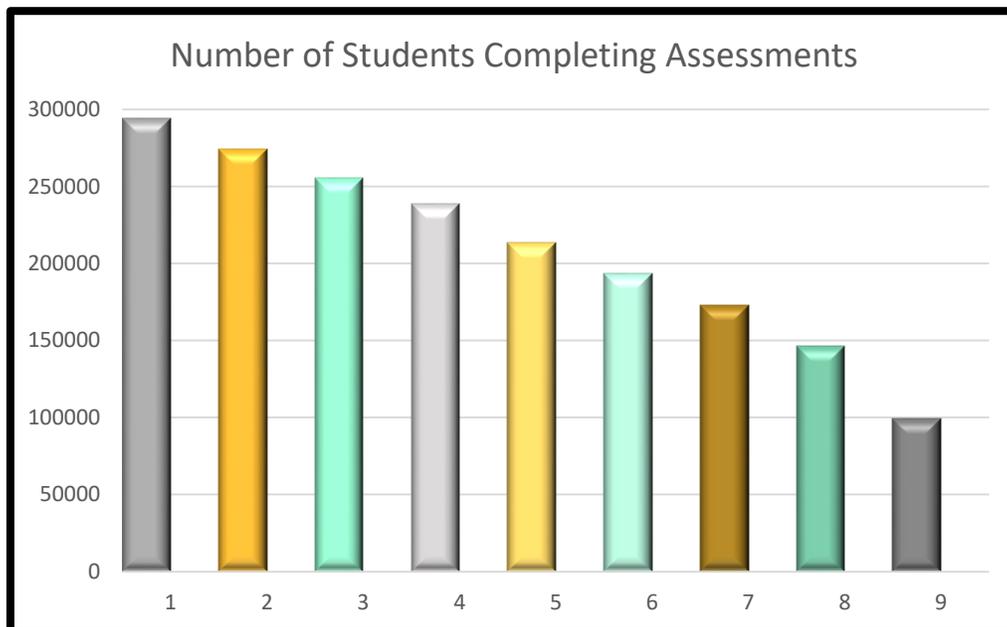


Note*. Some students may not have been active due to time of enrollment, after the school year began, or due to district implementation practices

II. INDICATORS OF PROGRESS ASSESSMENTS

Figure 4 demonstrates those RP that completed either the Istation Indicators of Progress Early Reading (ISIP-ER) or Istation Indicators of Progress Advanced Reading (ISIP-AR) curriculum-based measure for nine 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, as schools implement Istation on their campus according to student needs and scheduling considerations. For example, there may have been a break between semesters or during state standardized testing windows.

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 immediately have access to an instructional report identifying the students' strengths and weaknesses and offering recommendations for differentiated 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. 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 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, which 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, and Connected Text Fluency

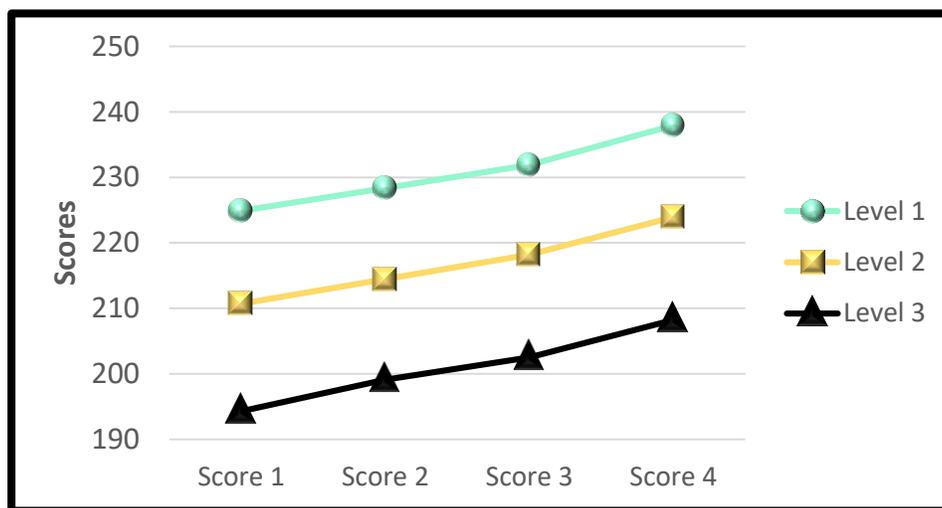
ISIP-ER has strong concurrent validity as compared with other norm-referenced reading measures, including the Test of Preschool Early Literacy (TOPEL), English Language Skills Assessment (ELSA), Developmental Reading Assessment (DRA2), Peabody Picture Vocabulary Test (PPVT-4), Stanford Achievement Test 10 (SAT 10) reading, and Florida Comprehensive Achievement Test (FCAT) 2.0 (Gaughin, 2011; Hoesle, 2012; ISIP-ER Technical Manual, 2015).

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 grade level, academic tier level, geographical locale, and Title 1 status. Growth was evaluated based on the RP who completed four assessments throughout the school year, including: (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 2015 through June 2016 by Grade, Academic Level, Locale, and Title 1 status* (See Appendix B).

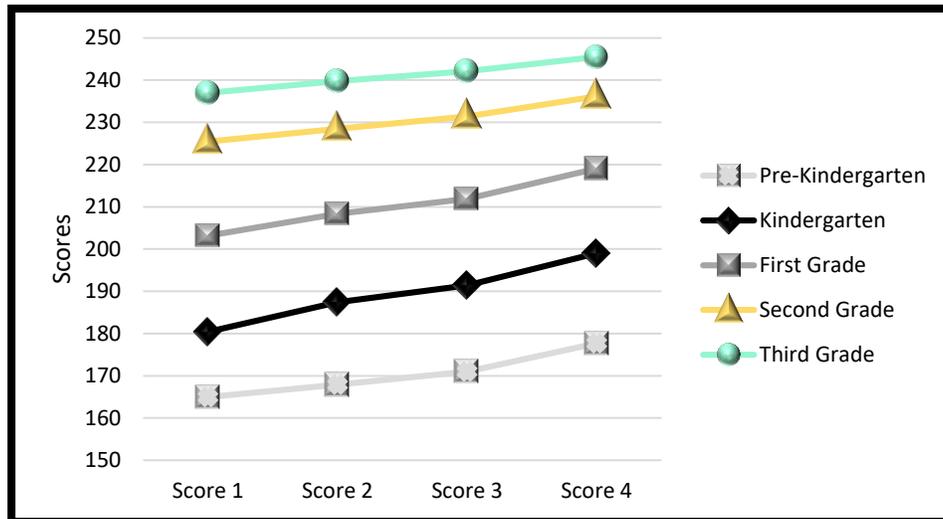
Figure 5. Growth for Students Taking the ISIP-ER by Academic Level.



The graphs demonstrate the degree of change 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 and First Grade had the largest changes between Assessment 3 (January/February) and Assessment 4 (March/May). As anticipated, students in grades 4 scored higher than students in PK through grade 3. Students in academic

level 1 scored higher than students in academic levels 2 and 3. Students in Tier 3 earned the lowest ISIP-ER scores.

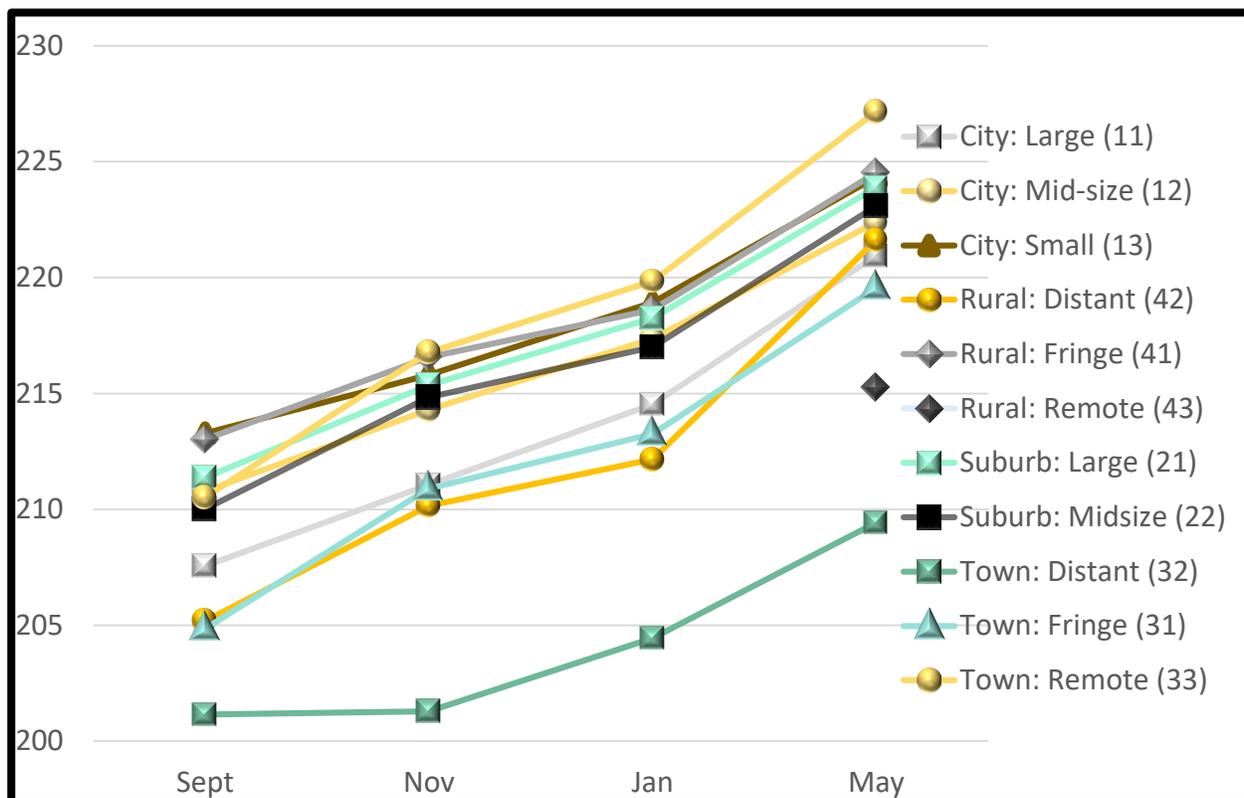
Figure 6. Growth for Students Taking the ISIP-ER by Grade Level.



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

There are 13 geographical locales as designated by 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. Consequently, Town: Distant started with the lowest beginning ISIP-ER scores and ended with the lowest scores. RP from Rural: Distant scores indicated the largest amount of growth. After the second ISIP-ER assessment, RP from Town: Remote locales scored the highest among students from all locales and ultimately scored the highest overall. Students' from City: Small and Rural: Fringe scores indicated the least amount of growth on their ISIP-ER scores in comparison to students from other areas.

Figure 7. Analysis by Geographical Locale (ISIP-ER).

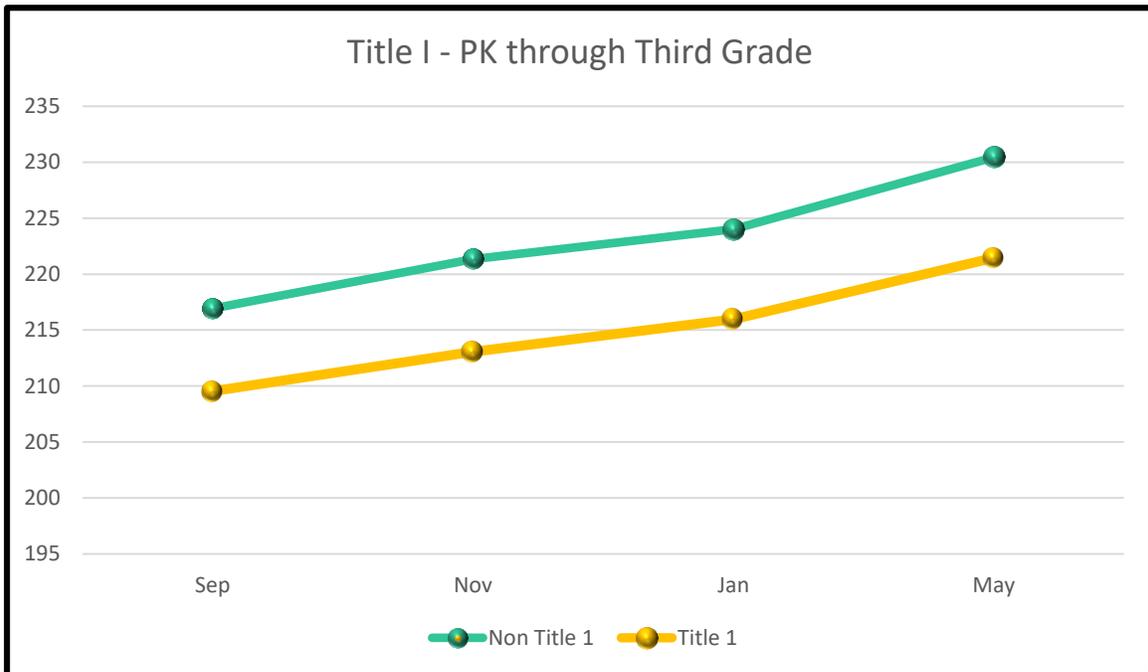


RP who attended a Title I school scored lower on the ISIP-ER than those who attended a non-Title I school. On average, RP from Title I schools ended the school year at approximately where the non-Title I students scored at the end of the first semester. Test scores of students in Title I schools indicated that the RP gained the most reading knowledge during the second semester of the school year (See Figure 8). These Title I/non-Title I results include the combined overall test results of all grade levels in ISIP-ER (Pre-Kindergarten, First, Second, and Third grades) and all academic levels.

Generally, from November to January, all RP had the least amount of growth compared to other times during the school year. It is possible that this phenomenon can be attributed to holiday school breaks; however, RP in Title I schools earned overall reading scores that showed

improvement at a greater rate between the November and January time period as compared with the overall scores of RP from non-Title I schools.

Figure 8. 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 those who complete 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

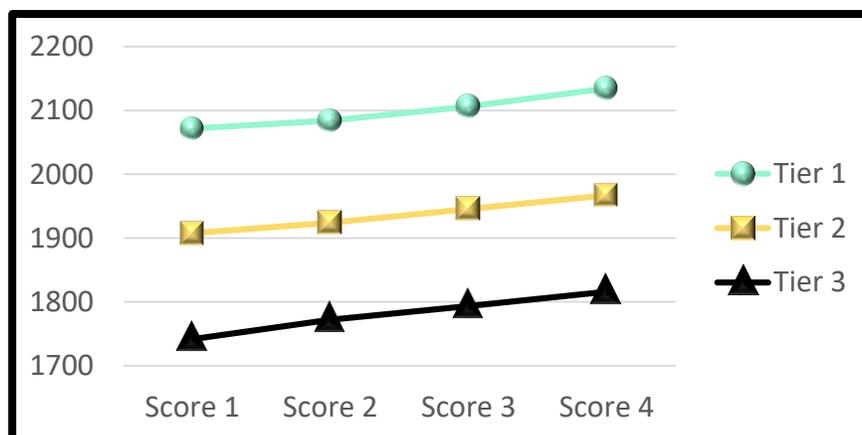
(WJ-III), Wechsler Individual Achievement Test-II (WIAT-II; spelling, decoding, and word recognition), and the Peabody Picture Vocabulary Test-IV (PPVT-IV; Matthes, 2012; 2014). The ISIP-AR overall score referenced in this report combines the adaptive ISIP-AR subtest scores of Comprehension, Vocabulary, 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 the subtests provide teachers with face-to-face lesson plans to choose from to support students' learning. The computer lessons are then adapted to foster student progress in reading.

VI. Students in the State of Florida Usage Analysis (ISIP-AR) Grades 4 and 5

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

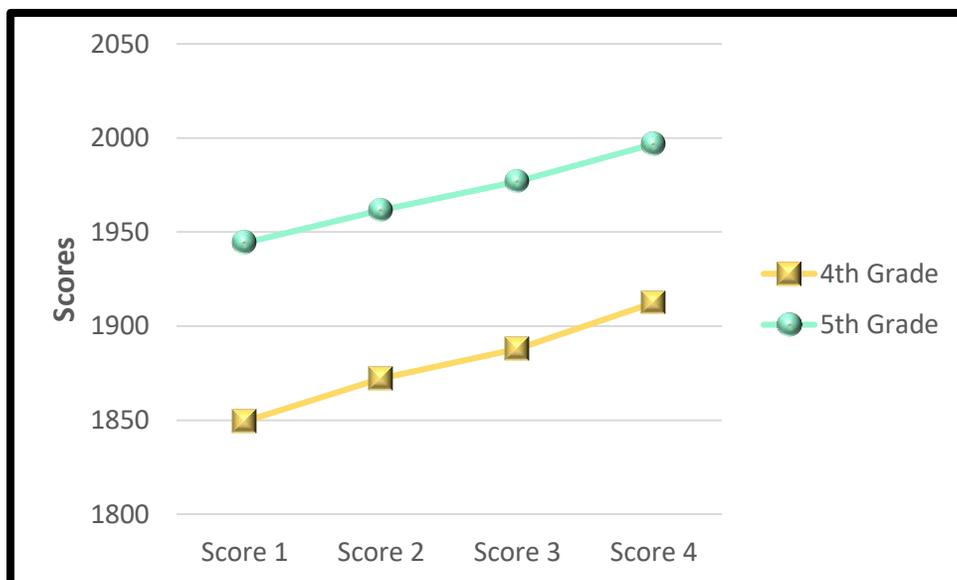
For the 2015 – 2016 school year, growth trends in ISIP-AR scores were examined by (a) grade level, (b) academic tier level, (c) geographical locale, and (d) Title I status. Growth was examined by four ISIP-AR assessments taken throughout the school year. As anticipated, students in fifth grade scored higher than students in fourth grade by Tier. 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 9).

Figure 9. Growth for Students Taking the ISIP-AR by Academic Level.



These ISIP-AR score growth results are statistically significant both within subjects 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 earned ISIP-AR scores that evidenced a consistent growth trajectory. Students in Tiers 1 and 2 exhibited ISIP-AR scores whose growth patterns began to accelerate after the second assessment.

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



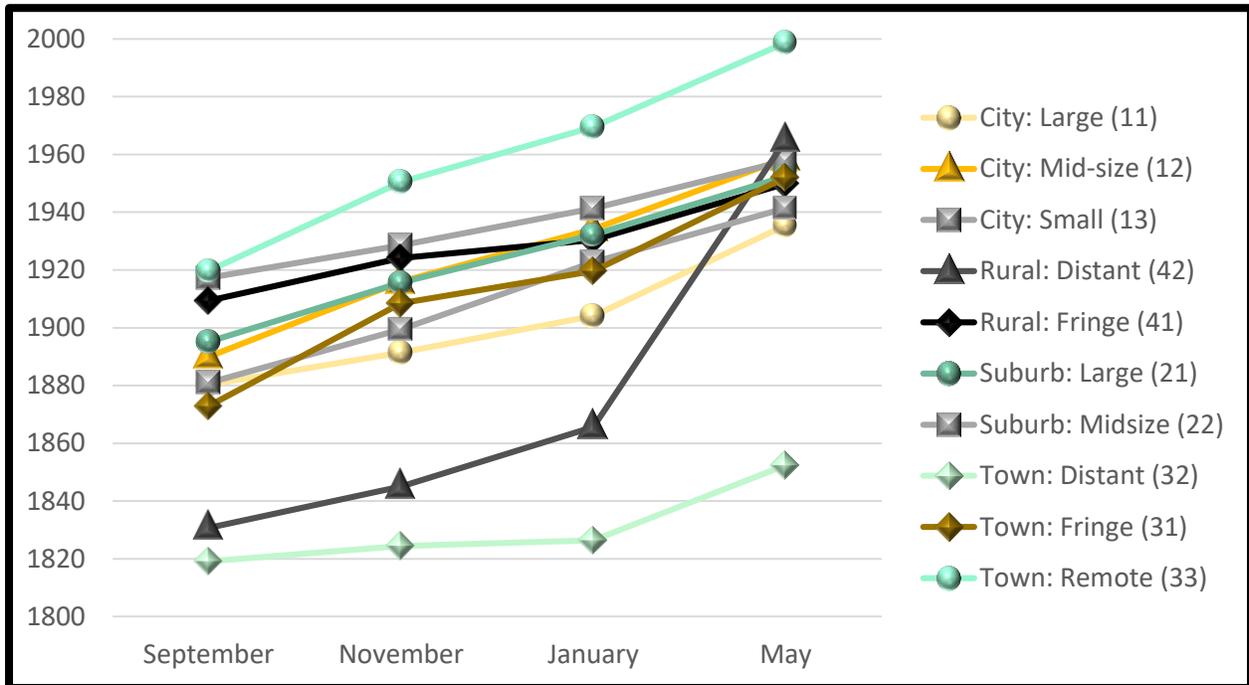
RP in fourth grade evidenced slightly greater growth on their ISIP-AR scores over the course of the school year than the fifth grade RP. The level of growth between grades may relate to the Academic Levels represented in the grade. The results of multivariate testing indicated significance in growth based on the students' grades (See Appendix B).

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

RP from the NCES designation (see Appendix A), Town: Remote, had the highest ISIP-AR mean scores at the end of the school year. RP from Rural: Distant had the greatest amount of growth. Students from Town: Distant, City: Midsize, and City: Small had the least amount of gains in reading as indicated by their ISIP-AR scores. An examination of Figure 11 indicated that RP from

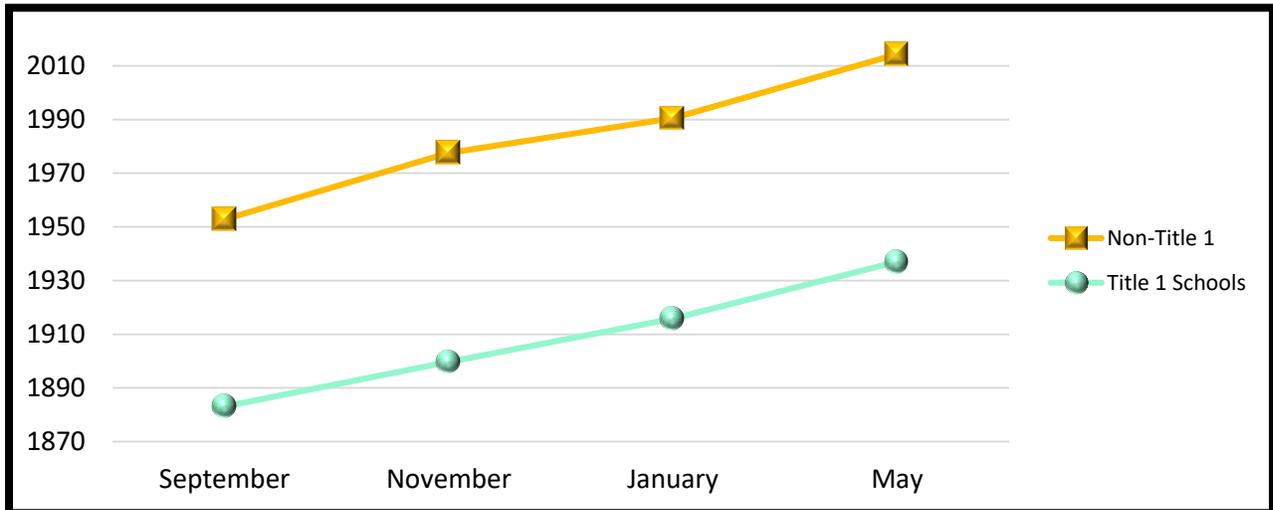
City: Midsize locales started with the fifth lowest beginning ISIP-AR scores but ended with one of the highest scores. RP from the Town: Distant locale started out with the lowest mean scores on the ISIP-AR, experienced moderate growth in comparison to other locale groups, but still did not reach the beginning of the year score for most other locale groups on the ISIP-AR (See Figure 10).

Figure 11. Analysis by Geographical Locale (ISIP-AR).



Students at every academic level and every grade in every geographical locale represented in the dataset who attended a Title I school scored lower on the ISIP-AR (see Figure 11) than those students who attended a non-Title I school for the same academic level, grade, and geographical locale. In comparison, RP from Title I schools earned end of the year mean ISIP-AR scores lower than the beginning mean score of RP from non-Title I schools; however, both groups evidenced growth. Statistical results indicated a statistically significant difference in assessments over time by Locale and Title I status at an alpha level of .05 (See Appendix B).

Figure 12. Title I 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 receive suggestions of 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 that used the Home Component of Istation demonstrated greater reading growth than students that did not use the Home Component. For the August 2015 through May 2016 time period, RP in the state of Florida recorded 19,658,943 minutes on the Istation program or

327,649 hours of home curriculum which is equivalent to 40,956 eight-hour school days or 8,191 weeks of school (See Table 5).

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	629	694.4	11:34	31%
Kindergarten	11,278	1,089.32	18:09	64%
First Grade	13,236	1,566.28	26:06	64%
Second Grade	12,222	1,052.35	17:32	64%
Third Grade	11,264	985.93	16:25	60%
Fourth Grade	9,037	864.20	14:24	55%
Fifth Grade	7,550	705.68	11:46	53%
Total	65,216	1,052.90	17:33	59%

Kindergarten, First, and Second Grade classes had 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 Second Grade having the second most. 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 First Grade and Kindergarten had the greatest number of hours and minutes per student for the Istation program Home Component. Overall, 59% of students (n = 282,766) participating in the state of Florida project used the Home Component for an average of 17 hours and 33 minutes per research participant. 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

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 2015-2016 school year. According to survey data, over 95% of the teachers indicated that they found the professional development sessions beneficial and of immediate use in their classrooms.

IX. Future Research, Benefits, and Conclusion

Other studies conducted during the (2015-2016) school year include qualitative pilot studies of teachers' perspectives of using a personalized reading program with students in the state of Florida and teachers' use of Istation. 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 has begun and will continue to focus on effective implementations.

As further investigations continue, the benefits of the research may include: (a) strategies for K-8th grade teachers to implement a personalized learning literacy program as a supplement to face-to-face instruction; (b) increased high quality scholarly research; (c) greater opportunity for faculty members' involvement in analyzing large datasets to advise educators and policymakers on the efficacy of personalized learning reading intervention programs; and (d) evidence to inform parents and caregivers regarding benefits and opportunities associated with the home component of Istation, a personalized learning reading intervention program. In summary, this report documented a data-based summary of the second year implementation of the Istation reading program in the state of Florida.

Respectfully Submitted,

The University of Central Florida
Istation Research Team (2015-2016)

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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

*ER Testing Overall Score**

Multivariate Tests							
Effect		Value	<i>F</i>	Hypothesis <i>df</i>	Error <i>df</i>	Sig.	Partial Eta Squared
Time	Wilks'	.882	5423.065	3.000	121065.000	.000	.118
	Lambda						
Time *	Wilks'	.996	18.394	27.000	353572.872	.000	.001
Locale_recode	Lambda						
Time * Title_I	Wilks'	.997	132.468	3.000	121065.000	.000	.003
	Lambda						
Time * GRADE	Wilks'	.921	846.717	12.000	320308.174	.000	.027
	Lambda						
Time *	Wilks'	.995	109.625	6.000	242130.000	.000	.003
INITIAL_TIER	Lambda						

Note: * Overall score (see page 9)

*AR Testing Overall Score**

Multivariate Tests							
Effect		Value	<i>F</i>	Hypothesis <i>df</i>	Error <i>df</i>	Sig.	Partial Eta Squared
Time	Wilks'	.950	682.994 ^c	3.000	38735.000	.000	.050
	Lambda						
Time * Locale_recode	Wilks'	.993	9.459	27.000	113126.817	.000	.002
	Lambda						
Time * Title_I	Wilks'	.998	28.085 ^c	3.000	38735.000	.000	.002
	Lambda						
Time * GRADE	Wilks'	.998	25.262 ^c	3.000	38735.000	.000	.002
	Lambda						
Time * INITIAL_TIER	Wilks'	.995	33.064 ^c	6.000	77470.000	.000	.003
	Lambda						

Note: * Overall score (see page 12)