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Net Texts

Qualitative Evaluation: Final Report

SUBMITTED TO:

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1. Introduction to Net Texts and the Pilot Program

In 2010, Mike Messner, along with his business partner Paul Shivereck, launched Net Texts, Inc., an innovative company dedicated to improving the K—12 education system for both teachers and students by providing multi-media courses accessible anytime, anywhere on easy-to-use tablets. By 2011, Net Texts was ready to test this concept, creating an online application designed to harness the power of Open Educational Resource (OER) content. The Net Texts system includes an iPad application to access content and a website for teachers to post and manage content, create and access classes, and monitor usage of content. The overall goals envisioned for the Net Texts system were three-fold:

- Increase student access to technology-rich, multimedia OER and teacher-created materials,
- Increase student access to anytime-anywhere learning supported with mobile devices, and
- Decrease the need for traditional textbooks and print materials.

During the 2011-12 school year, Net Texts initiated a pilot program of the Net Texts system in eighth grade classes in six parochial schools in Atlanta, GA: St. Jude the Apostle, St. Thomas More, Immaculate Heart of Mary(IHM) , Our Lady of the Assumption (OLA), St. John the Evangelist, and Notre Dame Academy. The iPads were given to teachers in December 2010/January 2011 and to students in fall 2011. During this time, each school designated a technology specialist to support iPad and Net Texts implementation. Although the pilot program initially focused on just eighth grade teachers and students during the 2011-12 academic year, when the evaluation occurred in 2012-13, the pilot schools expanded the use of the Net Texts system to Grade 7 (in all pilot schools) and Grade 6 (in two of the six pilot schools) (see Table 1).

Table 1. **Pilot Schools, by Grades Served in 2012—2013**

School	Net Texts Grades
St. Jude	Grades 7 and 8
IHM	Grades 7 and 8
St. Thomas More	Grades 7 and 8
St. John	Grades 6, 7 and 8
OLA	Grades 7 and 8
Notre Dame Academy	Grades 6, 7 and 8

In August 2012, Net Texts contracted with Metis Associates, a consulting firm with special expertise in educational technology research and evaluation, to conduct a qualitative evaluation of the system's pilot program, including the development of a logic model to document Net Texts implementation. Metis designed the qualitative study to accomplish several goals:

- to **systematically provide multiple perspectives from key informants** regarding the nature and quality of implementation, as well as their perceptions about the value of using the Net Texts system in lieu of and as a supplement to traditional textbooks,
- to **inform future implementation and expansion** of the system, and
- to **construct a logic model** that depicts the underlying theory of change that links the program elements with teaching and learning activities and anticipated behavioral and academic outcomes for teachers and students.

The evaluation also explored the challenges and successful practices identified in the rollout of the project. This report presents the findings from the evaluation and includes the logic model (see Appendix).

2. Study Design

The Metis team, in collaboration with the Net Texts representatives, developed the following set of implementation and program support and improvement questions to guide the evaluation of the Net Texts pilot program.

A. Evaluation Questions

Implementation: What was/is the nature and quality of the implementation of the Net Texts pilot project?

- In what ways has the integration of the Net Texts system impacted teachers' practices in the classroom?

- What type of work do students complete in their classes and at home with Net Texts?

- To what extent (if at all) have there been perceived impacts on students since the implementation of the Net Texts system?

Program Support and Improvement: What were/are the challenges and successful practices in the implementation of the Net Texts project?

- What are participants' overall impressions of and attitudes toward the Net Texts system?

- To what extent are participants satisfied with the Net Texts system? What do they believe are the application's greatest strengths?

- In what ways can Net Texts improve its system? What are participants' impressions of the challenges associated with using the application?

B. Data Collection Methods/Sources

To address the evaluation questions, the Metis team conducted primary data collection activities and synthesized data from existing sources, as described below.

Metis managed the online administration of **stakeholder surveys** in fall 2012 to the following groups:

- **Students**—545 current Net Texts users in Grades 6, 7, and 8 at the pilot schools (an 85% response rate) and 85 former Net Texts users who currently attend St. Pius X Catholic High School (a 56.7% response rate) responded to the Net Texts Student Survey. As shown in Tables 2 and 3, the response rates varied between current and former users and across pilot schools.

- **Parents**—293 of the currently participating pilot school students' parents (representing an overall 45.6 percent response rate) responded to the Net Texts survey. As shown in Table 4, the parent survey response rates varied greatly by pilot school, from 25.2 percent at Notre

Dame Academy to three quarters of the parents from IHM (75.0%).

- **Teachers**—Across all pilot schools, 48 teachers of Grades 6, 7, and 8 (a 75.0% response rate) completed a Net Texts teacher survey. Similar to the student and parent surveys, the individual school response rates for the teacher survey showed differences, ranging from just over half at OLA (54.5%) to almost 85 percent at both St. Thomas More and St. John. (Table 5).

Table 2. **Student Survey Response Rates:** Current (2012—13) Students

Pilot School	Number Completed	Response Rate
St. Jude	52	44.1%
IHM	119	99.2%
St. Thomas More	85	80.2%
St. John	97	100%
OLA	88	92.6%
Notre Dame	104	97.2%
All Schools	545	85.0%

Table 3. **Student Survey Response Rates:** Former (2011—12) Students

Pilot School	Number Completed	Response Rate
St. Jude	12	40.0%
IHM	32	71.1%
St. Thomas More	17	45.9%
St. John	2	66.7%
OLA	16	72.7%
Notre Dame	6	60.0%
All Schools	85	56.7%

Table 4. **Parent Survey Response Rates:**

Pilot School	Number Completed	Response Rate
St. Jude	46	39.0%
IHM	90	75.0%
St. Thomas More	49	46.2%
St. John	45	46.4%
OLA	36	37.9%
Notre Dame	27	25.2%
All Schools	293	45.6%

Table 5. **Teacher Survey Response Rates:**

Pilot School	Number Completed	Response Rate
St. Jude	3	60.0%
IHM	7	63.6%
St. Thomas More	11	84.6%
St. John	11	84.6%
OLA	6	54.5%
Notre Dame	10	71.4%
All Schools	48	75.0%

Between December 2012 and January 2013, a senior researcher from Metis conducted **pilot school site visits** at each of the six pilot middle schools, including the following activities:

- **focus groups** with a total of 35 teachers and 51students,
- **interviews** with six school administrators (principals) and five technology specialists, and
- **school tours**, including classroom observations and informal conversations with students and teachers.

In January 2013, Metis conducted a **high school focus group** at St. Pius X Catholic High School with 19 students who participated in the pilot program in 2011—12 when they were in Grade 8 at one of the six pilot middle schools.

The Metis research team collected and reviewed **program documentation**, including the Net Texts website, the content management website, the Net Texts project overview video, the Net Texts for
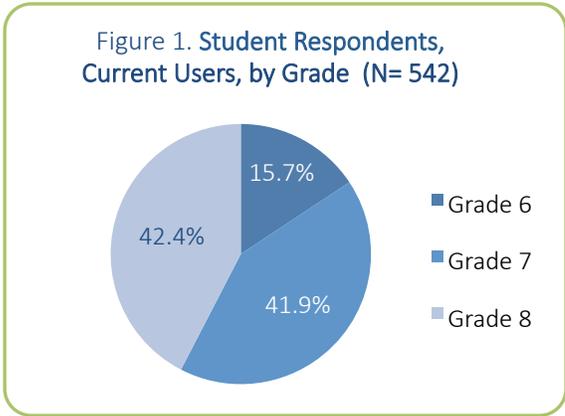
iPad video, the Net Texts teacher's instructional video, the Net Texts copyright information video, and the series of videos about each pilot school and Net Texts.

3. Survey Respondent Profiles

This section presents the demographic information learned about the respondents to the student survey conducted with current users, the teacher survey, and the parent survey. The relatively high survey response rates (as shown in Section 2) coupled with the demographic data presented below demonstrate the representativeness of the survey data.
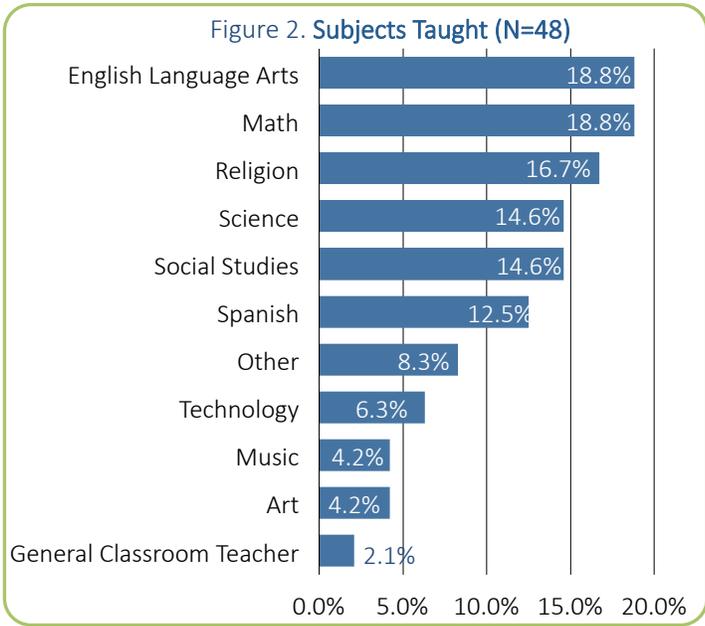
Students

- Among the student respondents who currently used Net Texts, the large majority were in Grades 7 (41.9%) and 8 (42.4%) (Figure 1).

- Most student respondents who currently used Net Texts also had regular home access to technology, including a computer (98.2%) and the Internet (99.1%). To a much lesser extent, current students also had an iPad (in addition to their school iPad) at home (49.0%).

Figure 1. Student Respondents, Current Users, by Grade (N= 542)

15.7%
42.4%
41.9%

■ Grade 6
■ Grade 7
■ Grade 8

Teachers

- Teachers who responded to the Net Texts survey taught multiple grade levels during the 2012—13 year. The greatest proportion of teachers instructed Grades 8 and 7 (87.5% and 85.4%, respectively), followed by Grade 6 (70.8%).

- These teachers also taught at least one content area during the 2012-13 school year. As shown in Figure 2, the most frequently reported subjects were English language arts (18.8%), mathematics (18.8%), and religion (16.7%).

- Responding teachers were well experienced, with the majority having taught at least six years (72.9%).

Figure 2. Subjects Taught (N=48)

Subject	Percentage
English Language Arts	18.8%
Math	18.8%
Religion	16.7%
Science	14.6%
Social Studies	14.6%
Spanish	12.5%
Other	8.3%
Technology	6.3%
Music	4.2%
Art	4.2%
General Classroom Teacher	2.1%

Parents

- Parent survey respondents were most likely to have a child in either Grade 8 or Grade 7 (47.8% and 45.7%, respectively), followed by Grade 6 (14.7%).

4. Findings

This section includes a summary of the findings, beginning with a description of the ways in which the pilot program teachers have integrated the Net Texts system and the iPads into teaching and learning, and continuing with a discussion of the perceived impacts on teacher practice, types of student work, and perceptions of impact on students. This section concludes with study findings about program improvement, including stakeholder feedback on the Net Texts system, suggestions for system improvement, and lessons learned for new Net Texts schools and teachers. Note that Metis combined the survey findings for the two 2012—13 expansion grades, Grades 6 and 7, and data from this group are presented in this section accordingly.

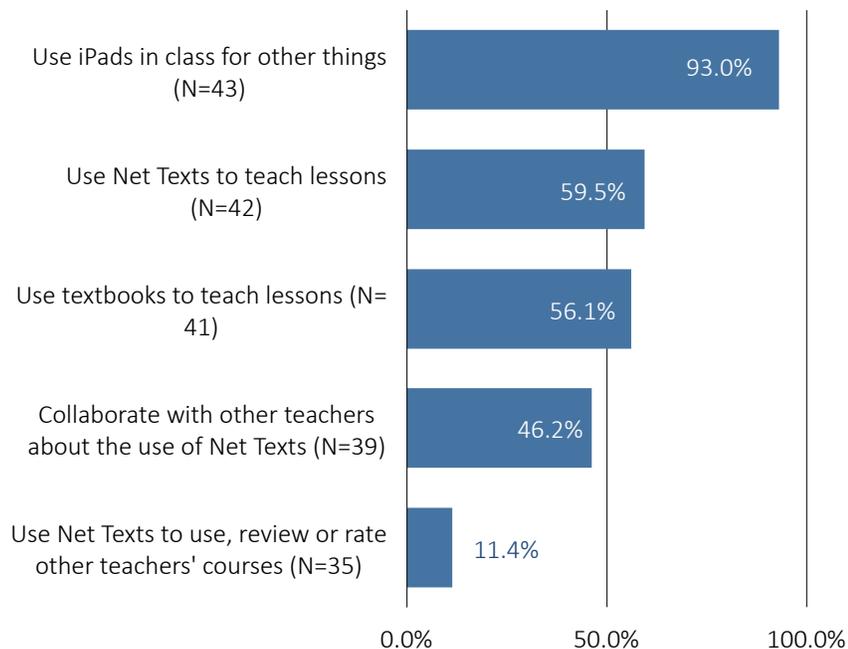## A. Integration of Net Texts and iPads in Teaching and Learning

The Net Texts System

Teachers regularly used the Net Texts system to supplement traditional (print) course content. Although most teachers used Net Texts to support their teaching to some degree, they were much more likely to have used the iPad applications (known as apps) in their daily instruction.

- Slightly more than half of teacher survey respondents (59.5%) reported using Net Texts to teach lessons at least once a week during the pilot year. In focus groups, teachers reported that they used Net Texts to supplement regular course content, including uploading documents (e.g., PowerPoints and PDFs), hyperlinks, worksheets, homework assignments, videos (e.g., from Kahn Academy or YouTube), and other reinforcement materials (e.g., CK-12 content, ePubs or open source eBooks, and iBooks).

  > *"Net Texts is terrific for adding additional material that's only given a cursory examination in the textbook. You get a lot more detail [for the students], because you can draw on the Internet." —Teacher*

- A handful of teachers created and taught students from exclusively Net Texts courses (no physical textbook), which included teachers' notes, class work (e.g., worksheets), and homework assignments.

- From the perspective of the principals and technology specialists, the integration of the Net Texts system has allowed teachers to supplement textbooks to fully address curriculum easier, with more timely/current information and with more engaging teaching strategies and resources.

  > *"I don't think Net Texts will ever completely replace the textbook, but I think it's as close as you're going to get." —Principal*

- As shown in Figure 3, the vast majority of teacher survey respondents reported using iPads for purposes other than Net Texts (93.0%).

- Stakeholder interviews supported this finding and revealed numerous examples of how the iPad and third-party apps were used to support instruction for both teachers and students:

  > *"There are a number of apps that students use to create visually dynamic presentations. The apps allow students to add a lot of their own personality to their presentations, which keeps them interested, draws in other students, and allows the content to be disseminated." —Teacher*
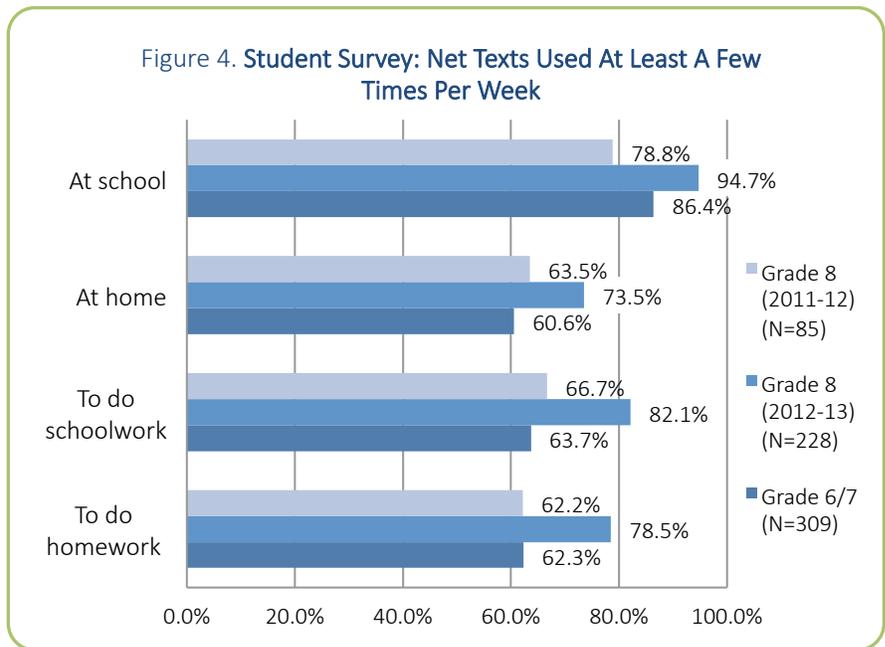
- Note-taking (*Notability, GoodNotes, Evernote, DukePen*)
- Student agenda, organization, reminder, and collaboration apps (*iStudiesPro, Inspiration Maps, Wallwisher, Total Recall-Mind Map, Edmodo*)
- Word processing apps (*Pages, Quickoffice*)
- Education websites (*www.vocabsushi.com*)
- Subject area specific apps (e.g., a periodic table app)
- Google apps and functions (*Google Drive, Google Search, Google Images, Google Docs, Google Forms, Google Earth, Gmail*)
- Religion apps, software, and other online resources (*The Online Bible, iBreviary, Acts of Apostles Visual Bible on uTube*)
- iBooks and CK-12 flexbook textbooks
- Dictionary app
- Presentation and handwriting apps (*Doodle Buddy, Puppet Pals, DukePen*)
- Student-teacher email
- Flashcard apps (*Quizlet*)
- School website to check grades
- Internet research (*Safari*)
- Camera and voice/audio recorder tools for teacher notes and lectures
- PDF readers (*GoodReader for iPad*)
- Calculator and stop watch apps

Figure 3. **Teaching Practices Used At Least Once A Week During 2011-12**

Teaching Practice	Percentage
Use iPads in class for other things (N=43)	93.0%
Use Net Texts to teach lessons (N=42)	59.5%
Use textbooks to teach lessons (N=41)	56.1%
Collaborate with other teachers about the use of Net Texts (N=39)	46.2%
Use Net Texts to use, review or rate other teachers' courses (N=35)	11.4%

Students mostly used the Net Texts system at school. Among all the student groups surveyed, current Grade 8 students were most likely to report frequent use of Net Texts—both in school and at home.
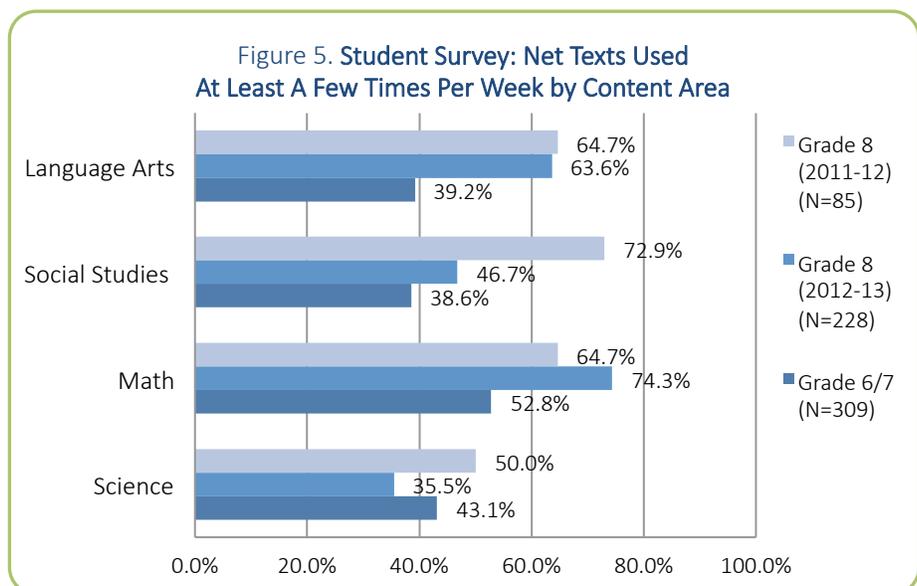
- Overall, the majority of responding students used Net Texts at least a few times per week both at home and at school and for class work and homework assignments (Figure 4).

- Across grades, students were more likely to have used the system at least a few times a week when at school than when at home (Figure 4).

- Current Grade 8 students were most likely to have used Net Texts at least a few times a week for all of their work at school and at home (Figure 4).

Figure 4. Student Survey: Net Texts Used At Least A Few Times Per Week

Category		
At school	78.8% (Grade 8 2011-12); 94.7% (Grade 8 2012-13); 86.4% (Grade 6/7)	
At home	63.5%; 73.5%; 60.6%	
To do schoolwork	66.7%; 82.1%; 63.7%	
To do homework	62.2%; 78.5%; 62.3%	

Grade 8 (2011-12) (N=85)
Grade 8 (2012-13) (N=228)
Grade 6/7 (N=309)

The data suggest variability in the use of the Net Texts system by content area, though teachers may have used it more in math and somewhat less in science.

- As shown in Figure 5, of all the content areas, current student users in Grades 6/7 and Grade 8 were most likely to report using Net Texts for math at least a few times a week.

- For each grade group, students were least likely to report using Net Texts in science.

- Across all content areas, the expansion grade students (Grades 6/7) used Net Texts less frequently than students in the other grades.

- Consistent with student survey data, pilot school interview data suggest that Net Texts was more conducive for math than for science.

"We surveyed the students at this school and at IHM. The students said there were certain subjects that Net Texts worked beautifully with. It works beautifully with math; the students love using Net Texts for math." —Teacher

Figure 5. Student Survey: Net Texts Used At Least A Few Times Per Week by Content Area

Content Area		
Language Arts	64.7%; 63.6%; 39.2%	
Social Studies	72.9%; 46.7%; 38.6%	
Math	64.7%; 74.3%; 52.8%	
Science	50.0%; 35.5%; 43.1%	

Grade 8 (2011-12) (N=85)
Grade 8 (2012-13) (N=228)
Grade 6/7 (N=309)

Both students and teachers were comfortable using the Net Texts system. Additionally, teachers believed they were adequately skilled at creating multimedia courses within the Net Texts system.

Figure 6. **Student Survey:**
"I Feel Comfortable Using Net Texts"
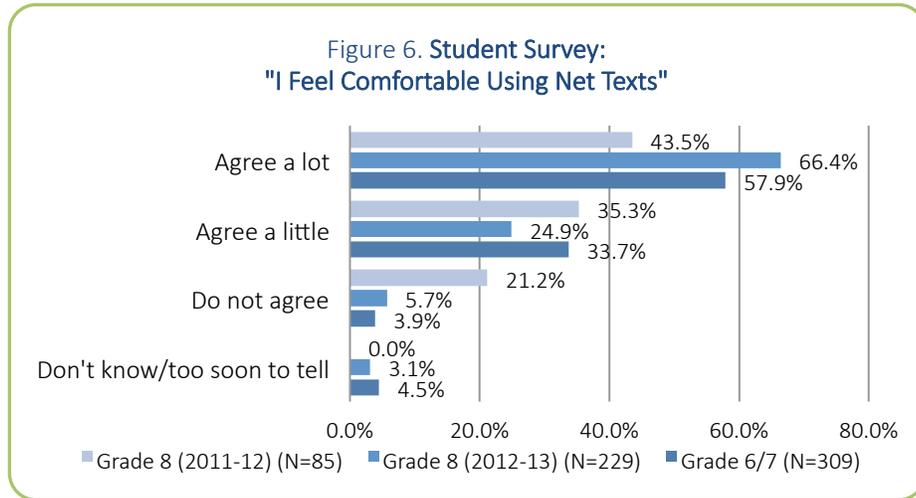
- As shown in Figure 6, most students, regardless of grade group, were comfortable using Net Texts.

- Current Grade 8 users were most likely to *agree a lot* to feeling comfortable using Net Texts (66.4%) compared to current Grade 6/7 students (57.9%) and former users (43.5%).

- More than half of the responding teachers were at least *moderately comfortable* using Net Texts (59.6%), and another 31.9 percent were *somewhat comfortable* (Figure 7).

- When asked about their ability to use the Net Texts system to create multi-media courses, as shown in Figure 8, less half than of the responding teachers described their skills as *good* or *excellent* (44.5%). More than one-third of the responding teachers rated their skills as *average* and another 17.8 percent rated them as *poor*.

Figure 7. **Teacher Survey: Comfort Level Using Net Texts (N= 47)**

Figure 8. **Teacher Survey: Ability to Create Multimedia Courses Using Net Texts (N= 47)**
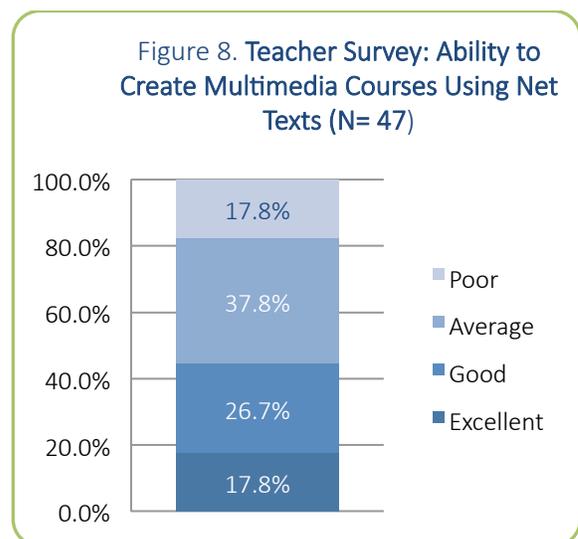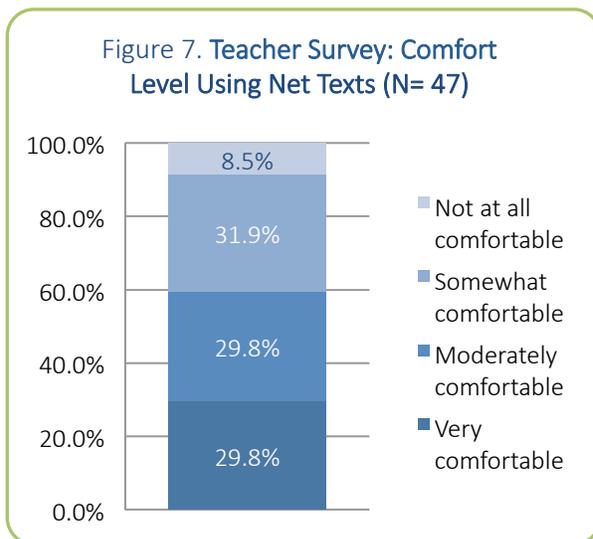
B. Impacts on Teacher Practice

Stakeholders believe there are changes in teacher practice in the classroom associated with the use of the Net Texts system, including improved depth and quality of instruction, greater interdisciplinary instruction, improved classroom management, greater collaboration, and greater use of technology-rich, project-based learning.

- During the site visit interviews and focus groups, teachers, principals, technology specialists, and students suggested a number of benefits and positive teacher impacts because of the Net Texts pilot. Those mentioned most frequently across stakeholder groups include the following:
  - Improves teacher efficiency and classroom management, allowing teachers to cover more material

    "The kids say Net Texts makes me more efficient as a teacher. We are going through things more quickly. If they have questions, with all the stuff on the Net Texts, they can just click there before they ask questions about content I've already gone over. I'm not spending a lot of time on things that I've already gone over because it's all there on Net Texts." —Teacher

  - Provides an organizational structure for both teachers and students

    "With Net Texts, teachers can provide all of their content within one system, which is just an amazing thing to be able to do." —Technology Specialist

  - Promotes the use of different and varying types of instructional materials, methods, and content

    "Net Texts hugely changed teachers' instructional practices. The use of primary sources in social studies has quadrupled." —Principal
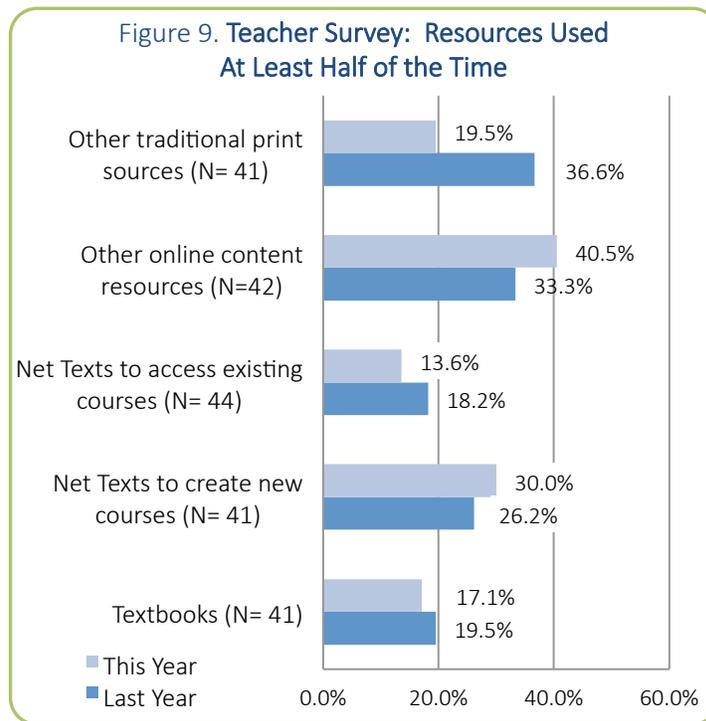
    "Net Texts gives the teachers more to work with. Before we had Net Texts, we would have to find a computer somehow to watch a video the teachers told us to watch. Now, we have our iPad and Net Texts so teachers upload videos to Net Texts and we can watch them from there instead of having to try and find a computer we can use." —Student

    "Students are not just reading a textbook or my notes, they can watch a video, and they can do extra practice problems that are [within the Net Texts course] and not just ones from the book. Different types of material are great and right there at their disposal." —Teacher

  - Helps avoid/prevent formulaic teaching and promotes more creative, in-depth, and interdisciplinary instruction

    "This is the most awesome experience that we have ever had. Putting iPads into the hands of teachers and students has changed the way teachers teach, more so than anything else that we've ever done." —Principal

  - Assists with differentiated instruction, including access to enrichment materials for advanced students and supplementary materials for tutorial sessions with struggling students

    "When we talk about differentiated instruction and meeting kids where they are, [Net Texts] is really helping teachers to do that. You're not just paying lip service to it; it really has helped… We don't honor IEPs like public schools, but we have very diverse learners and children on all ends of all spectrums.. [Net Texts] has been an equalizer within the classroom for some kids because of the varying types of materials and anytime access. Net Texts has leveled the playing field for a lot of kids." —Principal

  - Increases teacher-teacher and teacher-student collaboration

- Reduces teacher lecture time and increases technology-driven, project-based, student-directed learning

- As shown in Figure 9, data from the teacher survey also show that Net Texts has contributed to increased use of technology in their instruction. For example, when asked how often they used various resources (including Net Texts) during the 2011—12 (last year) and 2012—13 (this year) school year, the data showed that teachers were:

  - less likely to spend at least half their time on traditional print sources (a 17.1-percentage point difference) this year than last, and

  - more likely to spend at least half their time on online content resources (a 7.2-percentage point difference) this year than last.

Figure 9. Teacher Survey: Resources Used At Least Half of the Time

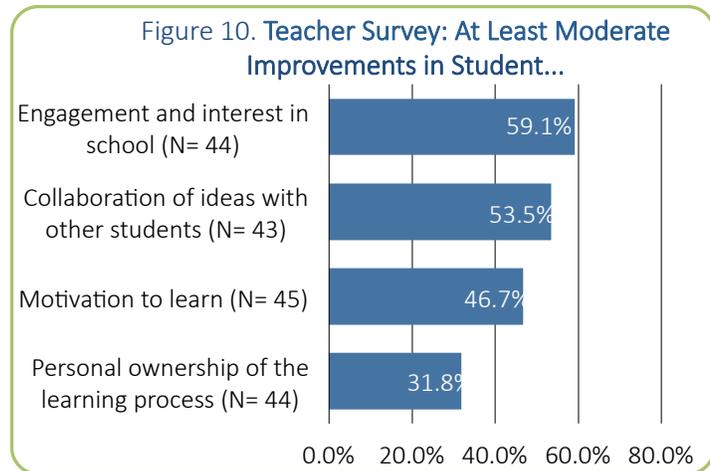| Resource	This Year	Last Year
Other traditional print sources (N= 41)	19.5%	36.6%
Other online content resources (N=42)	40.5%	33.3%
Net Texts to access existing courses (N= 44)	13.6%	18.2%
Net Texts to create new courses (N= 41)	30.0%	26.2%
Textbooks (N= 41)	17.1%	19.5%

C. Types of Student Work

During the pilot, students used the information presented to them through Net Texts and harnessed the power of their iPads as a productivity and research tool.

- Across all student groups, students reported using their Net Texts courses in many ways, including:

  - reading/accessing books, prayers, articles, classroom lessons, project worksheets, PowerPoint presentations, slide shows, or teacher notes;

  - studying for quizzes and tests, reviewing class work, or catching up on missed work (study guides, note cards, PowerPoint presentations, teachers' notes);

  - downloading/accessing/completing homework assignments and worksheets;

  - viewing content through pictures, maps, diagrams, and videos;

  - organizing their classes (course outlines, Power Point slides with important dates, project rubrics and worksheets);

  - showing parents their school work; and

  - updating notes (at home) that they might have missed during class.

- Stakeholder interviews and focus groups revealed numerous examples of the types of projects, class work, and homework in which students engaged throughout their work with Net Texts. Some examples include the following:

  - In **English language arts** (ELA), students completed worksheets uploaded to Net Texts to work with grammar tutorials.

  - In **math**, students viewed documents, homework assignments, videos, and other supplemental materials that were uploaded by teachers to Net Texts to help them review class work and prepare for exams.

  - In **social studies**, students accessed primary source documents through their Net Texts course to learn about the colonial slave trade, which provided students with descriptive, first-hand accounts of the slave experience.

  - In **science,** students used Net Texts to watch advanced videos on chromosome mutations and to prepare a lesson for a class on that material.

  - In **computer class**, students engaged in a flipped classroom approach whereby the teacher asked students to watch videos and read articles and other anecdotes at home and used class time to facilitate discussions about that content.

  - In **music**, students wrote a comparative analysis of two orchestra performances of the same composition, listening to them through their Net Texts course.

  - Across **all subjects**, students uploaded class notes and homework assignments from their Net Texts courses and copied them into Notability so they were able to annotate, write, and complete assignments and save them for later use.

D. Perceptions of Impacts on Students

Generally, teachers and parents felt that the Net Texts system contributed to positive improvements in student engagement, motivation, and collaboration.

- As shown in Figure 10, more than half of the teacher survey respondents indicated that students demonstrated *at least moderate improvements* in school engagement (59.1%) and collaboration (53.5%) since using Net Texts.

- The majority of parents (62.6%) believed their child showed greater motivation attributable to using Net Texts. Additionally, more than a third of the parent respondents (42.0%) reported that their child was more excited about school since using Net Texts.

Figure 10. Teacher Survey: At Least Moderate Improvements in Student...

Category	Percentage
Engagement and interest in school (N= 44)	59.1%
Collaboration of ideas with other students (N= 43)	53.5%
Motivation to learn (N= 45)	46.7%
Personal ownership of the learning process (N= 44)	31.8%

- Findings from the school interviews and focus groups with principals, teachers, technology specialists and students support these survey results with stakeholders noting that because of the Net Texts pilot, they had observed greater student involvement, participation, engagement, interest, and creativity in class and in students' work.

> *"Learning doesn't stop when students walk out of the classroom. I have kids in the afterschool program talking about what happened in science, and saying, 'Look what I learned – Look at this!' And they're continuing to talk, they're continuing to learn, and continuing to expand… They're doing projects, they're doing podcasts, they're doing just all kinds of different things, and they're still talking about what they're learning all day long." —Principal*

- Several principals and technology specialists also observed an increase in student ownership of or responsibility for their own learning, resulting in greater self-directed learning.

Teachers felt that Net Texts supported improvements in academic achievement and understanding of subject area content and at the same time increased student access to greater amounts of content and engagement in more research-supported educational activities. In particular, teachers attributed student improvements in math to the use of the Net Texts system.

- On the teacher survey, the majority of respondents attributed student improvements in academic achievement (59.1%), understanding of subject area content (56.8%), and critical thinking skills (56.1%) to Net Texts use. Specifically, teachers believed students improved the most in math (72.2%), followed by reading (51.5%), and writing (50.0%).

> *"I'm amazed at how many kids will say, 'Oh, when I got home, I looked up more about,'… because they were so enthralled with the conversation, or so motivated by the topic that was presented. Students feel very empowered to direct their own learning, and explore more opportunities. [Net Texts] really moves the teacher as facilitator, and the child is empowered to reach out and explore more on their own as well." —Principal*

- More than two-thirds of the responding parents noted that their child had *greater access* to educational content and resources (78.4%), conducted more Internet research (72.9%) and used more multimedia for school (71.5%) since Net Texts implementation.

- During the site visits, the student impact or benefit of the iPad and Net Texts cited most frequently across all stakeholder groups was increased access to course/content materials organized all in one place, including class notes and extra practice materials, and having this access available to students anywhere without having to use the Internet. Examples of their comments include the following:

  - *"[The Net Texts system] allows students to take their teacher home… It really is the best of all possible situations for our students. Repeatedly, the kids said when we got to exams, 'Oh, exams were so much easier… The studying was so much easier. I didn't have to pore through notebooks, and look for the paper, or try to remember what notebook I put it in, or if it's in the bottom of my locker, or did I throw it away by accident? Everything was right there for me. Exams were so easy for me.'" —Principal*

  - *"Early on, Net Texts addressed [a critical issue]. If you're a student riding the bus home and you don't have WiFi, how can you access your textbook? Net Texts has the materials there and readily available for students. The kid can be on the bus or on the soccer field or anyplace where there's no WiFi access and they can still see their course videos, do their lessons, read PDFs, etc." —Technology Specialist*

  - *"Last year when we didn't have our iPads and we had textbooks, we could only do our homework at home… Net Texts is easier because it doesn't need WiFi… So, if you're somewhere out and about… like anywhere – in the car, on a train, on a plane going somewhere, we can do our homework." —Student*

  - *"When teachers have new discoveries, like they say, 'I just found this and bet you guys would be interested in it – upload and sync, and you'll find this new thing.' With Net Texts they can just download a link or something." —Student*

Stakeholders believed other important additional benefits to students included improved organization, increased homework submission, reduced weight in backpacks, and improved 21st century learning skills.

- Across the pilot schools and the different stakeholder groups, there was consensus that Net Texts and iPads benefitted students in additional ways:

  > *"I think Net Texts keeps everyone better organized. Last year, if you forgot your binder, you forgot everything. And since most of my notes are on my iPad, I don't have to worry about if I forget my binder, and you don't have random pieces of paper everywhere." —Student*

  - improved student organization and executive functioning skills,

  - fewer lost or misplaced notes and homework assignments and increased homework submissions,

  - lighter backpacks/increased room in students' lockers, and

  - improved 21st century learning skills, such as problem-solving, higher-order thinking, and critical thinking skills.

E. Stakeholder Feedback on the Net Texts System
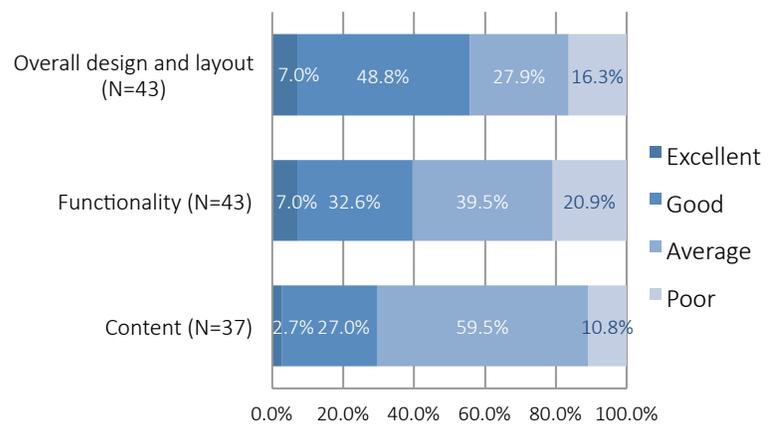
Impressions of Net Texts

Overall, teachers felt that Net Texts was a quality application that contributed to the teaching and learning process. Parents were also enthusiastic about Net Texts implementation.

- Overall, teacher respondents to the survey were largely positive about their use of Net Texts in the classroom. For example, the majority of teachers *agreed or strongly agreed* that Net Texts enables greater personalization of the learning process (60.4%), provides real world context for the learning process (58.3%), and it is effective for teaching standards-based and grade-appropriate concepts (52.1%). However, teachers were less positive when asked if Net Texts helped them to better meet the instructional needs of their students with about a third of teachers *strongly agreeing* or *agreeing* with the statement (31.3%) and another third reporting that they were *neutral* (35.4%).

> "I really feel like we're one of the few schools who has been able to use the iPad to its real potential because we have Net Texts available to us." —Technology Specialist

- Figure 11 shows that teacher survey respondents found the Net Texts application to be of quality, with 55.8 percent of teachers reporting that the overall design and layout of Net Texts is *excellent* or *good*.

- Furthermore, over a third (39.6%) of teachers thought that the functionality of Net Texts was *excellent* or *good* and another 39.5% reported that it was *average*. Interestingly, about one fifth (20.9%) reported that the functionality was *poor*.

Figure 11. Teacher Survey: Perceptions of the Quality of the Net Texts Application

Overall design and layout (N=43): Excellent 7.0%, Good 48.8%, Average 27.9%, Poor 16.3%

Functionality (N=43): Excellent 7.0%, Good 32.6%, Average 39.5%, Poor 20.9%

Content (N=37): Excellent 2.7%, Good 27.0%, Average 59.5%, Poor 10.8%

- The majority of teachers (59.5%) reported that the content on Net Texts was average, suggesting that the difficulties associated with adding new content to the application may be a challenge for teachers who rely mostly on existing content.

- Generally, parents provided notably higher ratings than teachers related to their level of enthusiasm for Net Texts (Figures 12 and 13). Specifically:

  - A little more than half of the responding parents (54.6%) provided the highest rating of v*ery enthusiastic* when asked if they would recommend Net Texts to other parents compared, to 15.4 percent of teachers who were v*ery enthusiastic* about recommending the application to other teachers.

- Similarly, 52.1percent of parents were *very enthusiastic* about continuing to use Net Texts, which is well above what teachers reported (18.6%). Another 28.7 percent of teachers were *moderately enthusiastic.*

- As shown in Figure 13, about a quarter of teachers were *moderately enthusiastic* (24.4%) about using the Net Texts system to organize and teach courses. An additional 43.9 percent were *minimally enthusiastic.*

Figure 12. Parent Survey: Level of Enthusiasm for Net Texts

	Very enthusiastic	Moderately enthusiastic	Minimally enthusiastic	Not at all enthusiastic
Continue to use online curriculum/ textbooks as part of your child's regular school work (N=289)	55.0%	31.5%	9.0%	4.5%
Recommend Net Texts to other parents (N=262)	54.6%	30.5%	9.2%	5.7%
Continue to use Net Texts in place of regular textbooks next year (N=282)	52.1%	28.7%	11.7%	7.4%

Figure 13. Teacher Survey: Level of Enthusiasm for Net Texts

	Very enthusiastic	Moderately enthusiastic	Minimally enthusiastic	Not at all enthusiastic
Recommend Net Texts to other teachers (N=39)	15.4%	33.3%	38.5%	12.8%
Continuing to use Net Texts in the future (N=43)	18.6%	23.3%	48.8%	9.3%
Currently using Net Texts to organize and teach courses (N=41)	14.6%	24.4%	43.9%	17.1%

Issues and Challenges With Using Net Texts

Despite their generally high praise with Net Texts, teachers did encounter a number of challenges when using the system, including insufficient time to fully explore the system, a lack of no-cost and appropriate grade-level and/or subject area content, a tedious process for creating and maintaining courses, and a cumbersome navigation process.

- The majority of teachers (Figure 14) thought that a lack of time to explore the resources and uses of Net Texts was either a *substantial or moderate challenge* (68.2%).

- This was followed by 48.9 percent of teachers who suggested that a lack of content or information on Net Texts was a challenge. This finding is further supported by data from the school interviews, in which teachers reported difficulties with searching for content on the Net Texts content management site.

Figure 14. **Teacher Survey: Challenges with Using Net Texts**

Challenge	Substantially	Moderately	Minimally	Not at all
Lack of time to explore resources and appropriate uses of Net Texts (N=44)	25.0%	43.2%	20.5%	11.4%
Too little content or information on Net Texts (N=43)	16.3%	32.6%	25.6%	25.6%
Uncertainty about how to integrate Net Texts into teaching (N=43)	4.7%	37.2%	23.3%	34.9%
Lack of compelling reasons to incorporate Net Texts into lessons (N=42)	7.1%	33.3%	23.8%	35.7%

- Additionally, interviews and focus groups with principals, teachers, and technology specialists revealed that stakeholders encountered a number of challenges with creating Net Texts courses. Although it was suggested that Net Texts was more user-friendly "after you figure it out," teachers indicated that:
    - the process to create a course was unnecessarily cumbersome, tedious, and time-consuming;
    - it was difficult to find appropriate, grade-level content that is open source and free of charge;
    - it was a challenge to properly address copyright rules and it was frustrating not being able to share courses marked private due to copyrighted materials; and
    - the technology was sometimes slow, with lag times after changing a unit and syncing.

- In addition, during interviews, principals noted other challenges to using Net Texts, including the need to educate students about digital citizenship, online safety, and risks with social media, as well as a lack of continuity at the high school level for pilot school students with regard to continuing to use iPads and Net Texts.

> *"It's steppy…. I don't know how it would be done, but it seems that some of those steps could be combined or eliminated, so you don't have to go here and then go three steps ahead and two steps backward… It's slow to put things together." —Teacher*

F. Suggestions for System Improvement

Stakeholders felt that the Net Texts system could be improved in a variety of ways.

- During interviews and focus groups with teachers, students, principals, and technology specialists, a set of recommendations for Net Texts system improvements emerged. Some of these suggestions include:

  - clarifying the overall purpose of Net Texts be sure stakeholders know if it is a tool for teachers to create their own courses or a curriculum library (e.g., a Netflix for curriculum) for teachers to search and consume and make the necessary improvements accordingly (e.g., improve the course/content search function, make the course development interface more user-friendly);

  - providing an ongoing avenue for feedback about the system (e.g., a discussion board, email, focus groups, etc.);

  - greatly expanding the compendium of existing courses available for middle school teachers;

  - modifying the application so that teachers can create levels within their courses similar to the structure of a textbook;

  - creating demonstration accounts for interested new users; and

  - providing a visual iPad notification for students that lets them know when and how many of their Net Texts courses need to be updated - similar to what happens when iPad or iPhone updates are available for download.

G. Lessons Learned for New Net Texts Schools and Teachers

Based on their experiences with Net Texts, stakeholders recommended practices for successful implementation of Net Texts in new schools in order to optimize its use and effectiveness for teaching and learning.

- During interviews and focus groups with teachers, students, principals, and technology specialists, suggestions for further Net Texts implementations emerged, including:

  - allowing teachers sufficient lead time to get used to using the iPad itself—similar to what happened during the pilot, when teachers had ample time to use the iPads before full implementation with students;

  - encouraging teachers to organize units and items within units prior to beginning the course development process;

  - providing hands-on training for teachers on the iPads and the Net Texts system, possibly differentiated by teachers' levels of technology skill and experience;

  - encouraging teachers to view the Net Texts training videos

  - establishing a Net Texts or district-level contact person to provide teachers with personal support;

> *"If Net Texts wants the system to be used by middle schools, they have to have somebody there listening to the middle school teachers and technologists. They can't tell us what they want us to do; we've got to be able to tell them what we need. There needs to be that personal support."* —Principal

- ensuring there is a skilled school-based technologist to manage the technology, including overseeing the school's technology infrastructure, preparing the iPads for use, loading the apps, loading Net Texts, teaching students to sync, securing device insurance, purchasing iPad cases, overseeing iPad repairs, and trouble-shooting device issues for teachers and students;

> *"The technologists are the key people to making this whole thing work."* —Principal

- educating schools on necessary infrastructure and other costs associated with using iPads in the classroom (in addition to the cost of the technology), including cases, third-party apps, upgraded ethernet switches, increased bandwidth, and device insurance;

- educating students on the responsibility that comes with being provided an iPad for use during school and at home and providing the necessary guidelines and restrictions to reduce misuse;

- recognizing the importance of teaching students about digital citizenship; and

- establishing ongoing ways for Net Texts teachers to collaborate, communicate, and share best practices.

5. Conclusions and Recommendations

A review of the full set of data, including surveys, focus groups, interviews, observations and Net Texts documentation revealed a set of key takeaways and recommendations for the future.

A. Key Takeaways

Net Texts and iPad Usage

- Overall, Net Texts is being used to supplement, not replace, textbooks.

- Teachers became more skilled in Net Texts course development over time and reported upgrading and refining their courses from one year to the next based on the needs of their students. As such, it is not surprising that students reported using Net Texts more frequently in Grade 8 than in the expansion grades (Grades 6 and 7).

- iPads were used often and in a wide variety of ways by teachers and students (both at school and at home), including but not limited to Net Texts.

Net Texts Implementation

- Teachers lacked sufficient time to identify existing open-source resources that are appropriate for middle school students and believed there were too few middle school courses available, both of which hindered the full implementation of the application.

Perceptions and Impressions of Net Texts

- Students and teachers were largely comfortable using the Net Texts system, though teachers and school leaders consistently reported a need for ongoing training and technical support to realize the full implementation/potential of the application.

- Most teachers believed that Net Texts is a quality application with great potential for delivering standards-based and grade-appropriate instruction, supporting personalized learning for students, and providing a real-world context for delivering content.

- Overall, teachers and technology specialists were positive about the overall design and layout of the Net Texts application, but they also noted some challenges with the content management website, finding it to be overly complex and difficult to navigate. Stakeholders also reported that there was too little grade- and age-appropriate content in Net Texts.

- Generally, parents were enthusiastic about the use of the Net Texts system in their child's classes and most would recommend it to other parents.

Impacts on Students

- The evaluation data revealed a number of positive perceptions of Net Texts' impacts on students:

  - greater access to and understanding of subject area content

  - higher grades and greater student efficiency with their school work and studying

  - improved organization

  - lighter backpacks

  - increased engagement and motivation with school and learning

  - improved 21st Century Learning skills such as collaboration, critical thinking skills, and ownership of learning

B. Recommendations

Based on the findings of this report, the Metis team offers the following recommendations for Net Texts to consider as they move forward with system development and expansion nationwide:

- Retain curriculum specialists to identify and/or create more readily accessible content, and align with Common Core State Standards (at each grade level) to ensure that teachers have the materials they need to effectively use Net Texts.

- Collaborate with stakeholders from the pilot schools to develop a compendium of lessons learned about how to keep students safe online, which might include a digital and technology literacy Net Texts course focused on digital citizenship, online safety, and social media etiquette/risks.

- Make connections with textbook companies that would allow teachers to use textbook content within their Net Texts courses. Many schools and school districts have existing multiyear contracts with textbook publishers, and pilot school stakeholders clearly believed the textbook was a valued resource to their students that should remain within their overall strategy to address the curriculum.

- Retain an instructional designer to assist in redesigning or upgrading the Net Texts content management website user interface. This may help to streamline the process of creating courses, revising courses, and adding content.

- Continue to provide ways for users to communicate needs to the application developers and implement ongoing formative assessment methods to assess user satisfaction. For example, what are teachers' and students' perceptions of the system's recently added functionality to support student note-taking? To what extent did this resolve concerns? Net Texts might consider hiring a

staff member dedicated to overseeing these efforts, including soliciting and responding to feedback from users.

- Provide a venue (e.g., digital discussion boards, etc.) for users to collaborate and share information and best practices as well as provide feedback to Net Texts.

- Consider ways to provide both technical and pedagogical support for schools, teachers, and students.

- Expand the pilot schools to additional educational settings such as public school, low performing schools, and schools that serve economically disadvantaged families.

- Conduct a follow-up outcome study designed to explore impacts on students beyond those discovered by self-reporting. A rigorous longitudinal study of student outcomes, including academic achievement, may provide the company with strong, demonstrable evidence of the impact of Net Texts and iPads on students.

Net Texts – Pilot Program Theory of Change

NET TEXTS INPUTS

An iPad application that allows students anytime-anywhere access to course content

A website for teachers to create and manage online courses

Open educational resource (OER) content for a variety of subject areas posted on the Net-Texts content management website for teachers

A series of introductory and instructional videos and written documentation for teachers, parents, and school leaders

SCHOOL INPUTS

iPads for students and teachers (1:1)

Funding for 3rd party apps

Technology Specialists

iPad cases, charging/syncing stations, and hardware insurance

Wifi, networking, and other technology infrastructure

Dedicated teacher time for planning, training, and course development and management

SHORT-TERM OUTCOMES

FOR STUDENTS:
Greater access to technology-rich, multimedia OER and teacher-created materials

Increased access to anytime-anywhere learning supported with mobile devices

Decreased need for traditional textbooks and print material, leading to lighter backpacks

Improved student organization

FOR TEACHERS:
Greater access to real-time learning materials and OER content and resources

Greater integration of technology to support cross-curricular lessons

Improved efficiency and classroom management, allowing more content to be covered

FOR SCHOOLS/DISTRICTS:
Improved parental satisfaction

Increased flexibility to respond to mandated curriculum and content changes

INTERMEDIATE OUTCOMES

FOR STUDENTS:
Greater student-directed learning

Greater student engagement, motivation, and teacher interaction

Increased mastery of curriculum content standards

Improved grades

FOR TEACHERS:
Improved knowledge about 1:1 technology implementation

Facilitate the "flip model" of teaching and learning

Increased teacher collaboration and sharing of teacher-created content and OER materials

Increased use of differentiated instruction and other teaching practices, such as project-based and personalized learning

FOR SCHOOLS/DISTRICTS:
Higher annual student enrollment registers

Help promote a paper-less learning environment

LONG-TERM OUTCOMES

Prepare students for success in college and career

Improve student skills, including 21st Century and technology literacy skills

Promote equal student access to web-based materials

Decrease spending on textbooks and shipping