School Technology Integration Plan:

Reach New Heights Elementary, 2014-2017

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The purpose of this technology integration plan is to assist Reach New Heights Elementary School in successfully transitioning instruction, learning, and assessment to meet Common Core State Standards (CCSS) through the integration of tablets into each classroom. In addition to the acquisition and integration of the tablets, the plan calls for an upgrade of the school's bandwidth to accommodate the tablets, as well as tablet-relevant professional development training and policies and procedures.

A variety of school officials work together on technology integration. To decide upon the school's technology-related needs, goals, budget, purchases, and implementation strategies, the principal works closely with the district educational technology coordinator, library media specialist, computer lab facilitator, and other members of the school's Technology Committee (i.e., faculty and school board representatives, and the PTA president).

Goals and Objectives

The implementation of this plan will span a period of three years (2014-2017). The plan identifies four main goals which focus on school needs concerning learning, teaching, digital literacy, and assessment. Each goal is supported by multiple objectives.

Learning

The first goal is to enhance learning by using the tablet as a learning tool. Objectives include creating a 1:1 student to tablet ratio, and utilizing educational apps, collaborative tools, and access to the World Wide Web to allow for project-based learning and promote higher level thinking and problem-solving skills as specified by the CCSS.

Teaching

The second goal of the plan is to enhance teaching by using the tablet as a teaching tool. Objectives are to provide each teacher with his/her own tablet along with the training and resources needed to effectively integrate tablets into instruction, including methods for individualizing instruction for students' needs and for connecting tablets to present classroom devices (e.g., LCD projector) for display and class demonstrations.

Digital Literacy

Another goal of this plan is to use tablets to help prepare students to participate in a technology-oriented society by improving skills needed to become digitally literate. In addition to learning navigation and research skills, objectives include purchasing external keyboards that connect to the tablets to provide students with keyboarding practice, and using word processing apps to allow for early development of word processing skills.

Assessment

The final goal of the technology integration plan is to use tablets to serve assessment purposes. Objectives include using tablets as a means for classroom project-based assessment of students, as well as for approved devices for grades 3-4 to take the new state assessment, Partnership for the Assessment of Readiness for College and Careers (PARCC).

School Details

Reach New Heights Elementary is a small suburban public school in Arkansas that is part of the Higherton School District. It serves an average of 230 students in grades K-4. Since it is a public school (supported by federal, state, and local taxes), no tuition is charged for attendance. The curriculum of the school has recently transitioned to meet the new CCSS as required by the Arkansas Department of Education (ADE) (grades K-2 in 2011/2012, grades 3-4 in 2012/2013).

State assessment has been based on AR Curriculum Frameworks, but the state is piloting the new assessment system, PARCC, in 2013/2014 (with full implementation in 2014/2015) to correspond with the CCSS. There are a total of 26 employees working directly for Reach New Heights Elementary. This total includes 1 administrator, 12 full-time faculty, 4 part-time faculty, and 10 staff members.

Background

There is only one building on the campus of Reach New Heights Elementary, along with parking lots, a playground, and a field. The building is in the shape of an "L" with the main entrance at the corner. To the right is a hallway bordered with classrooms for grades K-4 (10 classrooms total, two per grade). Each classroom is equipped with a laptop computer and printer for the teacher, as well as an LCD projector, projector screen, document camera, and television. At the far end of that hallway is the library with an attached computer lab (28 desktop computers, an LCD projector, projector screen, document camera, and printer/scanner), and a teacher workroom with a copier. Along the hallway to the left of the entrance are all of the administration and staff offices. Each office is equipped with a desktop computer and printer/scanner. Past the offices are three large classrooms: a shared room for music and art (classes held at different times); the special education resource room (with an attached room for therapy); and a multipurpose room used for indoor P.E., faculty/staff meetings, and other activities as needed. Each of these rooms is equipped with the same technology as the regular classrooms. At the end of this hallway is the cafeteria. It has a small stage on one side with an LCD projector and projector screen, and is the general location for school assemblies. There is Wi-Fi throughout the building.

Statement of Technological Problem

With the state of Arkansas's adoption of the CCSS, during the last two years Reach New Heights Elementary has begun transitioning instruction to meet the new standards. The CCSS emphasize collaborative project-based learning, and "establish critical thinking, reasoning, communication and media/information/technology literacy in ELA [(English Language Arts)] and mathematics as key performance outcomes around which curricula and assessments should be focused" (The Partnership for 21st Century Skills, 2011, p. 2). Teachers K-4 are having difficulties meeting the CCSS requirements of the strategic use of technology, media, and tools, as the only direct student access to technology provided by the school is found in the computer lab (desktop computers with Wi-Fi). With just one computer lab serving the entire school, scheduling extra time in the lab is a struggle, especially when students are working on extensive projects. Additionally, in order to help continually facilitate student critical thinking, communication, and collaboration with regular class instruction, student technology resources need to be located within each classroom.

A related pressing problem is the piloting (Spring 2014) and subsequent full implementation (Spring 2015) of the new computerized state assessment PARCC for grades 3-4. Currently, most students 3-4 do not have the digital literacy skills (especially adequate typing skills) to perform effectively within a computerized assessment environment. Not only do students in grades 3-4 need extra typing practice and experience with the testing devices, but this should ideally begin in kindergarten to best prepare students for technology-oriented learning, assessment, and overall societal expectations.

The acquisition and integration of a set of tablets for each K-4 classroom, along with needed support materials (e.g., educational apps, external keyboards, charging systems), training,

updated policies and procedures, and upgraded bandwidth will provide a solution for these instruction and assessment problems. In order to obtain adequate funding for successful integration, Reach New Heights Elementary will update their budget, as well as utilize other funding sources (e.g., grants, PTA fundraising).

Explanation of Plan for Technology Integration

The technology integration plan for classroom tablets will assist Reach New Heights Elementary School in successfully transitioning instruction, learning, and assessment to meet CCSS. The tablet selected is the KUNO IV educational tablet by CurriculumLoft. Changes supporting this tablet integration include upgrading the school's bandwidth, providing professional development training, and updating policies and procedures. Additionally, changes will be seen in the classroom, curriculum, books, assessment, and integration of instructional technology tools.

Classroom Changes

Currently, each classroom grades K-4 is equipped with a laptop computer (two years old with the Windows 7 operating system and Microsoft Office 2010 suite) and printer for use by the teacher, as well as an LCD projector, projector screen, document camera, and flat-screen television. The only student access to computers is in the school computer lab which contains 28 desktop computers (three years old with the Windows 7 operating system, Microsoft Office 2010 suite, and drill/practice software). Students may also use the lab's printer/scanner under supervision, and an LCD projector, projector screen, and document camera are present to aid in instruction. The integration plan calls for technology enhancements for both classroom student seating and instruction. A floor plan of an updated fourth grade classroom can be viewed in Appendix A.

Technology enhancements. Student seating will need to be rearranged where necessary to help facilitate small group collaboration and project-based learning which the tablet integration will promote. Kindergarten classrooms already have tables for small groups of students to sit, but classrooms for grades 1-4 have individual desks for each student. To form a small group seating arrangement for these classrooms, desks will be pushed together in a manner chosen by the teachers (groups of four or five are suggested).

Additionally, while tablets are fairly small mobile devices, adding them to each K-4 classroom at a 1:1 student to tablet ratio necessitates some classroom rearrangement for storage/charging. Each classroom per grade will be receiving tablets to accommodate for their maximum class size as determined by the state: kindergarten, 20; grades 1-3, 25; grade 4, 28 (ADE, 2009). During class, tablets and external keyboards will be kept at the students' seats at the teacher's discretion. Portable charging systems (which also serve as lockable tablet storage units) will be placed in each classroom for overnight or emergency charging purposes. Each system charges 11 tablets at a time, therefore, kindergarten classrooms will require two systems, while grades 1-4 will require three. Space for these systems will be found by moving existing classroom furniture when needed (i.e., scooting over a table). Tablets and keyboards may also be stored in students' desks, bookshelves, or cabinets when not in use.

In addition to each student having a tablet, every teacher will also receive one in order to enhance instruction. To teach and easily demonstrate from the tablet, each teacher will be able to connect their tablet to their classroom's existing LCD projector. This will project an image of the tablet's screen onto the large projector screen, making it easily viewable by the entire class at the same time. To make the connection, an HDMI cable and/or other cords and adapters may need to be purchased if a classroom does not already possess them.

Curriculum Alignment

The curriculum of Reach New Heights Elementary will complete its transition to fully aligning with CCSS through the integration of KUNO tablets, as this integration comes with the CurriculumLoft mobile learning solution, which is more comprehensive than most other learning management systems (LMS). The CurriculumLoft CLOUD is a central repository for teachers throughout the school "to share digital content of any file type (web links, online subscriptions, PPT, Word docs, ePubs, PDFs, videos, etc.);" and, importantly, this content can be "aligned to state and Common Core standards and organized by departments and courses" (CurriculumLoft, 2013, CLOUD section, para. 1). This feature promotes teacher collaboration and facilitates curriculum alignment both horizontally (e.g., third grade classrooms) and vertically (e.g., second and third grade classrooms). With CurriculumLoft's EXPLORE1:1 feature, the digital content can be synced to each student's tablet to provide access to it even without an Internet connection. Teachers can use their tablets to push and pull applications of their choice to and from the tablet of an individual student or those of the entire class, allowing for individualized instruction of curriculum when needed (CurriculumLoft, 2013, EXPLORE1:1 section).

EBooks

With the 1:1 tablet integration, the need for purchasing printed textbooks and classroom library books diminishes due to the growing prevalence of eBooks in today's market. Teachers will be able to choose eBooks from publishing companies like Houghton Mifflin Harcourt, McDougal Littell, Pearson, and Scholastic. A variety of eBooks (free and/or paid) can also be accessed through sites such as Google Play, Amazon, ePub Bud, Open Educational Resources Commons, and the International Children's Digital Library. Choosing a digital rather than printed format for classroom books will be cost effective, with eBooks generally being cheaper to purchase, as well

as eliminating the need for replacements due to wear and tear. The integration of eBooks does not mean that printed books will disappear from the classroom, but that teachers can offer a wider selection of books to their students while saving classroom money and space.

Digital Assessment

Similar to the integration of eBooks, tablets will allow assessments to move from paper and pencil to digital and/or online platforms. This offers advantages of saving time and decreasing cost for materials. Assessments are becoming digital at a classroom level, as well as a state level.

Standardized. A demonstration of this is the new standardized state assessment for grades 3-4, the fully online PARCC, which is being piloted in 2013/2014. The KUNO tablets meet the PARCC technology guidelines for approved testing devices (including size dimensions and operating platform) when they are used in conjunction with the external keyboards that will be also be obtained (PARCC, 2013). Having a tablet for each student will remove the need to purchase more computers for standardized testing purposes.

Classroom. Teachers K-4 can use the tablets for regular classroom assessments as well, including homework, quizzes, tests, activities, and projects. The CurriculumLoft AUTOMATE feature lets teachers create these types of assessments and then distribute them to each student's tablet (with variations available to accommodate individual learners' needs). With certain types of assessments, this feature can then automatically grade the work students turn in electronically. In relation to the CCSS, CurriculumLoft AUTOMATE allows for assessments to "be tied to specific Units and content in your CurriculumLoft CLOUD, and aligned to standards" (CurriculumLoft, 2013, AUTOMATE section, para. 2). Additionally, other online instructional technology tools can be utilized with the tablets for assessment purposes, such as Edmodo.

Instructional Technology Integration

Edmodo is just one of a vast array of instructional tools for enhancing student learning that the classroom integration of tablets at a 1:1 ratio opens up. Teachers may decide to use these tools across the board grades K-4, per grade level, or just per classroom to meet the particular needs of the class as whole and/or the individual students. Some of the instructional technology tools that will be utilized involve social media, multi-media, and the Internet.

Social media. Edmodo is a free LMS that focuses on social connections, engaging students and linking parents, teachers, administrators, and publishers. Edmodo may be used to supplement CurriculumLoft by offering a way to "continue classroom discussions online, give polls to check for student understanding, and award badges to individual students based on performance or behavior" (Edmodo, 2013, Engage Students section, para. 1). It also offers educational apps that can help personalize learning for each student. Edmodo can be accessed via the web, and has its own app that is compatible with the tablets.

Another free social media tool that can be used with the tablets through an app is Instagram, a photo sharing tool that allows users upload and edit photos to share with others via a photo stream (Google Play, 2013b). While Instagram is mainly used in recreation, teachers can utilize it in various ways to enhance instruction. For example, teachers at Reach New Heights Elementary can connect their classes with each other and/or other classes in the district/around the world for collaboration and inspiration (e.g., take photos that illustrate or expand upon the subject being covered in class to facilitate class/interclass discussion, or use as writing prompts). KUNO tablets have a built in dual camera over which the teacher has control of activation. Each participating teacher would create a private Instagram account with which they could share photos or sign students into in order for their supervised photos to be shared.

Multimedia. Students and teachers can use the tablet camera with other instructional tools for multimedia purposes, such as illustrating assignments and digital storytelling. As a form of project-based learning, students can create their own stories (individually or collaborating in groups) on sites such as Storybird and ePub Bud, and read stories created by their classmates and other students around the world. The Evernote app can also be used for the creation of stories, as well as any number of other multimedia projects in addition to its basic purpose as a note taking organizer. For each "note", a student can include text, searchable tags, photos from the tablet's camera, and/or audio dictation (Google Play, 2013a).

Free educational videos can be viewed on tablets and incorporated into instruction via tools such as PBS Kids, YouTube for Schools, WatchKnowLearn, and cK-12. PBS Kids offers educational videos and games, as well as a tool and contest for creating digital stories (PBS Kids, n.d.). YouTube for Schools is quite similar to YouTube EDU as it offers thousands of educational videos, but differs by offering a controlled environment so students may not access non educational related videos (YouTube, n.d.). WatchKnowLearn is a directory of over 50,000 reviewed educational videos organized by categories including subject and age level. This tool also offers videos specifically aligned to CCSS (WatchKnowLearn, 2013). CK-12 also works to assist teachers with CCSS alignment, with its open-source collection of "customizable educational content in multiple modalities suited to multiple student learning styles and levels" (cK-12, 2013, par. 1). These modalities include text, image, video, audio, and interactivity.

CurriculumLoft is planning on releasing a new feature, CurriculumLoft CREATOR, in 2014, which will help teachers create multimedia lessons tied to the CCSS for the tablets by providing a library of images and allowing teachers to insert their own. With this feature, "lesson

plans, assignments, videos, and other digital resources can all be linked to powerful visuals for students" (CurriculumLoft, 2013, CREATOR section, para. 1).

Internet. The Internet is vital to the successful integration of tablets into the Reach New Heights Elementary classrooms. The social media and multimedia instructional technology tools presented above rely on the Internet, and the World Wide Web provides an endless amount of educational resources and allows for student and teacher research. Furthermore, CurriculumLoft is based on cloud computing technology which is Internet-based. With this being said, the EXPLORE1:1 feature does make it possible for the digital content in the CLOUD to be synced to each student's tablet so that they may then have access to it even without an Internet connection. However, syncing requires a sound Internet connection.

Reach New Heights Elementary currently has Wi-Fi available throughout the building that accommodates the teachers' laptops and the desktop computers in the offices and computer lab. However, with the addition of over 200 tablets, the school will need to invest in increased bandwidth before any tablets are acquired so as to fully support the integration.

Other Technology Related Changes

In addition to the changes mentioned above concerning classrooms, curriculum, books, assessment, and instructional technology, integrating classroom sets of tablets for grades K-4 at Reach New Heights Elementary will promote an overall feeling of school connectedness as teachers and students across grade levels can interact and collaborate via the tablets. This includes art, music, PE, and special education classes, as these teachers will also each receive a tablet, and students will be able to bring their tablets with them when needed to these classes. Also, the strong presence of tablets integrated into everyday instruction and learning will help develop students' digital literacy skills, preparing them for a technology-oriented society.

Planning for Equity Issues

The technology integration plan for integrating tablets into each Reach New Heights Elementary classroom takes into account the equity issues of the availability of technology to students regardless of socioeconomic status, ethnicity, or technology ability; assistive technology for students with special needs; and attitudes concerning gender division in relation to technology use.

Technology Availability

With this plan, every student at Reach New Heights Elementary will be assigned a tablet, creating a 1:1 student to device ratio. Picciano (2011) suggests that one of the greatest benefits of 1:1 programs is that "they ensure that all students have access to technology both in school and at home" (p. 37). To make sure this access is utilized, all teachers, students, and parents will receive training on the KUNO tablet and CurriculumLoft features.

School. Each classroom grades K-4 will have enough tablets to accommodate the maximum amount of students allowed according to the ADE, making sure that every student will always have access to a device when at school. Currently, most classes at Reach New Heights Elementary have not reached maximum capacity, which will provide a small reserve of extra tablets to be used when needed. Each teacher will be trained and expected to integrate the tablets into the curriculum, allowing for use of the tablets by every student every day. Training and support for teachers will be provided through CurriculumLoft workshops, faculty meetings, and an informational web portal available at all times. Students may also access this web portal when needed, and will receive in-class training from their teachers.

Home. Students will not only be able to access their tablets during school, but teachers may allow their students to bring their tablets home in order to work on homework and projects

and stay connected to the class. Providing a device for each student will help to erase the digital divide issue, as research has shown that minority and low income students' access to technology is often limited compared to other student groups, especially at home (Picciano, 2011). A KUNO tablet is prepared to be taken home, as an "embedded, root-level web filter makes the device CIPA (Child Internet Protection Act) compliant, both on and off school property" (Curriculum Loft, 2013, KUNO section, para. 2). Additionally, it does not matter whether the student has Internet access at home or not, because once a teacher has synced digital content to students' KUNO tablets, that content is still available even without an Internet connection. Parents will also receive training in order to support their children's work at home through information provided during parent nights and access to the web portal. Families without Internet access at home may schedule time in the school computer lab in order to access the web portal.

Assistive Technology

While all students will have a tablet, those students with special needs may especially benefit from having a mobile learning device that they can use at both school and home. Picciano (2011) states: "Regardless of the challenge—whether hearing, vision, mobility, or learning disability—assistive technology is being used to help provide the links to learning that otherwise might not have been available" (p. 40). A tablet can be used as a form of assistive technology by itself, as well as in conjunction with add-on devices.

Tablet. First of all, a tablet's touchscreen feature allows for easier navigation on screen than with the use of a mouse, especially for students with coordination difficulties. For students who benefit from increased font size when reading text, a tablet's zoom feature is especially helpful. Additionally, eBooks and text-to-speech/speech-to-text apps are beneficial for students with learning disabilities and/or visual or hearing impairments. Voice features also serve as

communication tools. Furthermore, the predictive text and spell check features help students with writing and spelling. A wide variety of educational apps allow for individualized learning; and the multimedia and hands-on aspects help to engage students who have difficulty focusing.

Add-ons. The KUNO tablet allows connection of other assistive technology devices through USB and HDMI ports. Along with its external keyboard, the tablet provides an alternative to handwritten work for those students with writing difficulties. Other specialized keyboards (e.g., large print keys) may also be connected. For physically disabled students who are unable to control a tablet with their hands, electronic switches may be connected or a stylus may be used.

Gender Divide

Research has shown differences between the attitudes of males and females concerning technology-use, which may be traced back to societal factors such as peer and parental influence, and subject stereotyping (Picciano, 2011). According to Picciano (2011), if "technology is to be an important part of their curricula, schools should attempt to overcome these attitudinal problems" (p. 42). Since tablet technology will become an integral part of the curriculum of Reach New Heights Elementary, overcoming this gender divide is important. Therefore, strategies as suggested by Sanders and Stone are included in the technology integration plan (as cited in Picciano, 2011, p. 42).

Strategies. Reach New Heights Elementary will help remove any attitudinal barriers toward technology based on gender by educating faculty, staff, and parents about the potential presence of this issue during faculty and parent-teacher meetings. Once educated, they will become positive role models for the students in the area of gender equity. Additionally, tablet

technology will be used across subjects by both male and female students, blurring any divisions that may still be present.

Evaluation Plan

In order to determine the overall effectiveness of the technology integration, the aspects of hardware, software, training, and goals and objectives will be evaluated. These evaluations will be led by the Reach New Heights Elementary technology committee (consisting of the district educational technology coordinator, school principal, library media specialist, computer lab facilitator, faculty and school board representatives, and the PTA president), and also utilize input from students, parents, each teacher, and the district IT staff. Evaluations will be conducted according to the technology integration timeline which involves four stages of tablet integration (Spring 2014, grades 3-4; 2014/2015, grade 2; 2015/2016, grade 1; and 2015/2016, K). The evaluation results will help the committee ascertain any changes that may need to be made at any time throughout the integration process for learning, instructional, and cost effectiveness.

Hardware

Important factors to consider in the evaluation of hardware include performance, compatibility, modularity/expandability, ergonomics, software availability, vendor, and cost (Picciano, 2011). The Reach New Heights Elementary hardware evaluation checklist covering these seven factors can be viewed in Appendix B. The fundamental hardware to be implemented in this technology integration are the tablets and connectable keyboards. Based on the technology committee's prior research involving the previously listed factors, this integration plan recommends the KUNO IV educational tablet by CurriculumLoft along with its available full-sized keyboard with touchpad mouse (KUNO, 2011). The KUNO tablet meets speed, storage, and compatibility requirements, while being designed specifically for educational purposes. The interface, touchscreen, and

keyboard are user-friendly; and CurriculumLoft has good reviews, reasonable prices, and assists schools in finding ways to meet costs. Further evaluation of the hardware will be conducted immediately after acquisition of the tablets, as well as periodically after implementation every four months for the first two years, and twice a year after that. The tablets will be acquired through a lease agreement with CurriculumLoft, and every four years will be upgraded by CurriculumLoft if Reach New Heights Elementary decides to renew the lease. To support the functionality of the tablets, the school's bandwidth needs to be upgraded as the number of tablets increase (upgrade will occur in two stages). Therefore, before implementation, a detailed evaluation of the extent of the upgrade will be conducted by the district IT staff.

Software

Similar to the hardware evaluation, the software evaluation considers the following factors: efficiency, ease of use, documentation, hardware requirements, vendor, and cost (Picciano, 2011). The Reach New Heights Elementary software evaluation checklist can be viewed in Appendix C. Education mobile applications to be downloaded onto the tablets will also be evaluated according to this checklist. The KUNO tablets run on an Android operating system, and will use the cloud-based CurriculumLoft learning and mobile device management system. CurriculumLoft allows teachers to align lessons according to the CCSS, and teachers will be expected to evaluate the educational relevance of each application they select for classroom use. Those chosen for use will be evaluated after installation on the teacher's device before being pushed onto any student device. After being approved and added to student devices, teachers will continually monitor their instructional effectiveness through observation. Since software and web applications can become quickly outdated, teachers will be expected to set-up automatic

updates when possible, and district IT staff will check every four months for the potential need for manual updates and/or complete substitution.

Training

Training on the new technology will be given on varying levels, covering training for faculty and staff, students, and parents on both the physical operation of the tablets, as well as their educational uses. In order to provide a continued access point for support for all parties involved, a web portal will be available through the Reach New Heights Elementary website that provides instructions, explanations, FAQs, and technical support information. To evaluate the web portal, an electronic survey will be incorporated that's results will direct its further development.

Faculty/Staff. Before tablets are brought into the classrooms, the integration support services of CurrriculumLoft deliver faculty and staff training workshops prior to implementation that will cover operation and available features. Additionally, the educational technology coordinator and library media specialist will lead professional developments on integration strategies for the CCSS, making at total of four training workshops offered each integration stage. The effectiveness of these trainings will be evaluated by participant surveys (both goal and outcome surveys), with additional training being scheduled as needed according to the results. After initial implementation as teachers begin using the tablets on a regular basis, they will have the opportunity to share their own strategies, ideas, and/or questions concerning the technology at weekly faculty meetings. This will act as an informal type of evaluation, revealing positives and negatives, solving problems, and demonstrating the growth of teachers' knowledge and skill level in regard to the technology. According to Picciano (2011), the more the faculty and staff use technology, the more capable and confident they will become with further technological development.

Students. Teachers will be expected to introduce their students in class to the new technology in a gradual manner over the first month of implementation, making sure they understand the basics before moving on to more complex activities. Teachers will evaluate their students' growing level of understanding and comfort with the tablets through observation, class discussion, and student surveys. Furthermore, a version of the web portal will be designed specifically for students, providing them with easy-to-follow instructions, and links to the teacher's class webpages with further instructions on the tasks unique to their classes.

Parents. Since the tablets will be available for students to take home, parents will be offered an informational and Q&A session on the days of parent/teacher conferences with the technology committee. This training will be evaluated through parent surveys. The web portal and teachers' class webpages will serve as a main reference point, and families without Internet access at home may contact the computer lab facilitator to set-up a time to go through the portal.

Goals and Objectives

To determine the educational effectiveness of the technology integration, the extent to which the goals and objectives of the integration plan are being met will need to be evaluated. These goals and objectives include the aspects of learning, teaching, digital literacy, and assessment. Evaluation methods will include annual PARCC scores, surveys (students, parents, teachers, and staff) given twice a year for the duration of the plan (2014-2017), students' nine week progress reports, weekly faculty meeting discussions, and amount of relevant PD offered/taken. The technology committee will conduct an annual needs analysis using these evaluations, which will direct the integration process as necessary for each coming school year.

Timeline for Technology Integration

During the technology integration process, a number of sub processes will occur, including a school-wide bandwidth upgrade and rearrangement of classrooms; the acquisition of technology hardware; training for employees, students, and parents; and evaluation of the technology coupled with any needed modifications to the integration process. The timeline for the Reach New Heights Elementary technology integration can be viewed in Appendix D, and is based on that of another elementary school in the Higherton School District which is now successfully two years into its tablet integration. The integration is split into four main stages (Spring 2014, 2014/2015, 2015/2016, and 2016/2017), with final completion in Spring 2017.

Facility

Before the tablet technology is introduced, the school facility will be prepared at the beginning of the spring 2014 semester by upgrading the bandwidth to allow for the increase of devices using the Wi-Fi network. A second upgrade will occur in the fall 2015 semester to accommodate for the further increase of devices. Also, before the tablets are introduced into the classrooms at each stage, teachers whose classes will be acquiring tablets will arrange their rooms as needed to accommodate small group collaboration for the CCSS, as well as for the new hardware (tablets, accessories, and charging systems).

Training

Once the facility modifications have been made in early spring 2014, a training workshop for faculty and staff will be held on operation and features of the tablets, and one on integration strategies for instruction. Follow-up workshops will be held halfway through the semester. This pattern of training will be repeated for each integration stage, with two initial workshops and two follow-up workshops halfway through each stage. Students will be trained in the classroom by

their teachers at the beginning of each stage's implementation, and parents will have the opportunity for training once each semester during parent/teacher conferences. A web portal training on tablet use will be made available on the school's website, and continuously remain available for easy access by employees, students, and parents.

Technology

Tablet technology will be implemented in four integration stages. First, tablets and accessories will be introduced into the third and fourth grade classrooms during the spring semester of 2014, three months before the PARCC testing. The librarian and teachers of art, PE, music, special education will also receive tablets at that time. The following semester, fall 2014, the implementation will extend to the second grade classrooms. First grade classrooms will follow in fall 2015, and Kindergarten classrooms in fall 2016, along with a tablet for both the computer lab facilitator and principal.

Evaluation and Modification

The technology integration process will be continually monitored and evaluated for effectiveness and potential need for modification. The technology committee will approve and help implement any determined needed modifications each semester. Evaluation of training will occur after each workshop, and at the end of each semester for the web portal. Software evaluations will be conducted in March, July, and December of each year, 2014-2017. Evaluation of hardware will be conducted on the same four month schedule for 2014-2015, and then only March and July of 2016 and 2017. Evaluation of learning based on PARCC scores will occur at the end of each spring semester, 2014-2017. Final evaluation of the technology integration plan and determination of renewal with CurriculumLoft will occur in spring 2017.

Plan for Policy, Procedure, and Documentation Integration

Introducing the 1:1 tablet technology initiative at Reach New Heights Elementary requires the creation of relevant policies, procedures, and documentation that will help ensure the integration's effectiveness.

Documentation

Documentation of tablet applications will be overseen by the technology committee, yet jointly created by those who are knowledgeable of the operation and uses of a particular application (e.g., a teacher, the library media specialist, an IT staff member). Each contributor will add their documentation through a collaborative tool such as a wiki or Google Docs, allowing for real-time updates and access by all employees.

Policies/Procedures

The technology committee will be responsible for the creation of the policies which will cover ethical, legal, social, and educational issues concerning the technology integration which will be compiled into a Tablet Handbook (Picciano, 2011). In conjunction with these policies, the committee will also develop needed procedures that explain the basic operations that may occur when using the tablets, such as evaluating applications, caring for the tablets, and sharing files via CurriculumLoft. The technology committee will present their suggestions at a faculty meeting for discussion before they are presented for school board approval. Once approved, they will be posted online via the web portal for open access by all staff, students, and parents. Key policies/procedures will also be posted in each room where tablets will often be used.

Policy on student home use of tablets. One particular policy will address students' use of the tablets at home in order to ensure the safety of the students, protect the hardware, and maintain the intended educational purposes of the technology. This policy is applicable to all

students at Reach New Heights Elementary, unless specific provisions are made by the student's teacher and approved by the technology committee. Depending on the circumstances, failure to comply with this policy may result in loss of privileges and/or the occurrence of a fee to cover tablet repairs/replacement. A detailed explanation of this will be found in the Tablet Handbook.

Policy. A student will be allowed to take their assigned tablet home outside of school hours if the following stipulations are met:

- Teacher has given prior approval to the student.
- Teacher has notified student's parent/guardian that the tablet will be brought home.
- Student protects tablet and accessories by means such as:
    - transporting in proper case.
    - keeping away food and beverages.
    - not disassembling, attempting repairs, or disfiguring with markings/stickers.
- Student brings tablet back to school fully charged and ready for use the next school day.
- Student follows the policies outlined in the Tablet Handbook and the Reach New Heights Elementary Acceptable Use Policy.
- Tablet is not loaned to or used by anyone besides the student.
- Tablet is used only for educational purposes as directed by the teacher.
- Tablet is not left unattended in an unsecured area.

Budget Explanation

The Reach New Heights Elementary budget for the technology integration plan demonstrates how the tablet integration will be implemented on a financial level. It is divided into expenses and revenues, with each of these sections subdivided into the four stages of implementation (Spring 2014, 2014/2015, 2015/2016, 2016/2017).

Expenses

The expenses section of the budget (Appendix E) addresses the projected expenses directly related to the tablets, as well as peripheral. Tablet related expenses include the main hardware (KUNO IV tablets), needed accessories (keyboards, cases, cords), charging systems, and the CurriculumLoft services (licenses and web filters). Additionally, the budget includes expenses for successful support of the tablet integration through a school-wide bandwidth upgrade and training workshops.

Revenues

The revenues section of the budget (Appendix F) addresses the projected revenues that will fund the technology integration. Reach New Heights Elementary has been awarded the American Honda Foundation Grant for 2014. Funding will be split between the spring ($50,000) and fall ($25,000) semesters. The Higherton School District technology budget is $6,000 per year, and the Reach New Heights Elementary technology budget is $8,000 per year. Other annual revenues expected include $2,300 from the students' technology fee, and $2,000 in donations from the Reach New Heights Elementary PTA. The projected revenues allow for an anticipated overall surplus of $4,405 which will be used for any needed tablet-related maintenance. If Reach New Heights Elementary decides to renew its lease with CurriculumLoft, the tablets will be automatically upgraded after four years of use.

Conclusion

The Reach New Heights Elementary technology integration plan for 2014-2017 calls for the acquisition and integration of tablets at a 1:1 student to device ratio in four stages to successfully transition instruction, learning, and assessment to meet CCSS. Through this plan, tablets will be used to enhance student learning, instruction, and students' digital literacy skills,

as well as provide an approved means to give the newly implemented annual PARCC assessment. To help support this integration, a bandwidth upgrade for the school and tablet-relevant training and policies and procedures are included. Evaluation measures are also in place to monitor and improve the integration process as needed.

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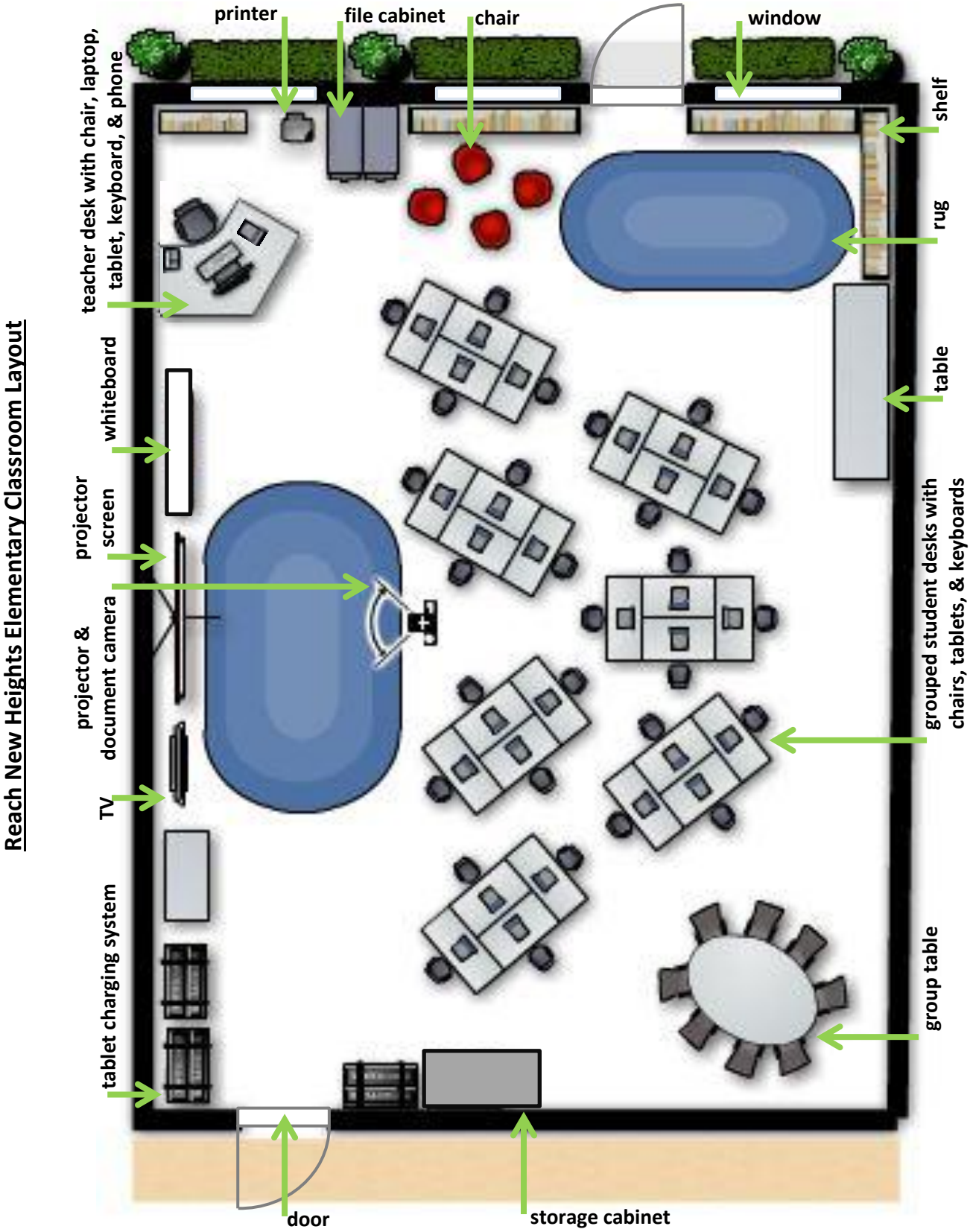
Appendix A


Reach New Heights Elementary Classroom Layout
printer
file cabinet
chair
window
teacher desk with chair, laptop, tablet, keyboard, & phone
shelf
rug
table
whiteboard
projector screen
projector & document camera
TV
grouped student desks with chairs, tablets, & keyboards
tablet charging system
group table
door
storage cabinet

Appendix B

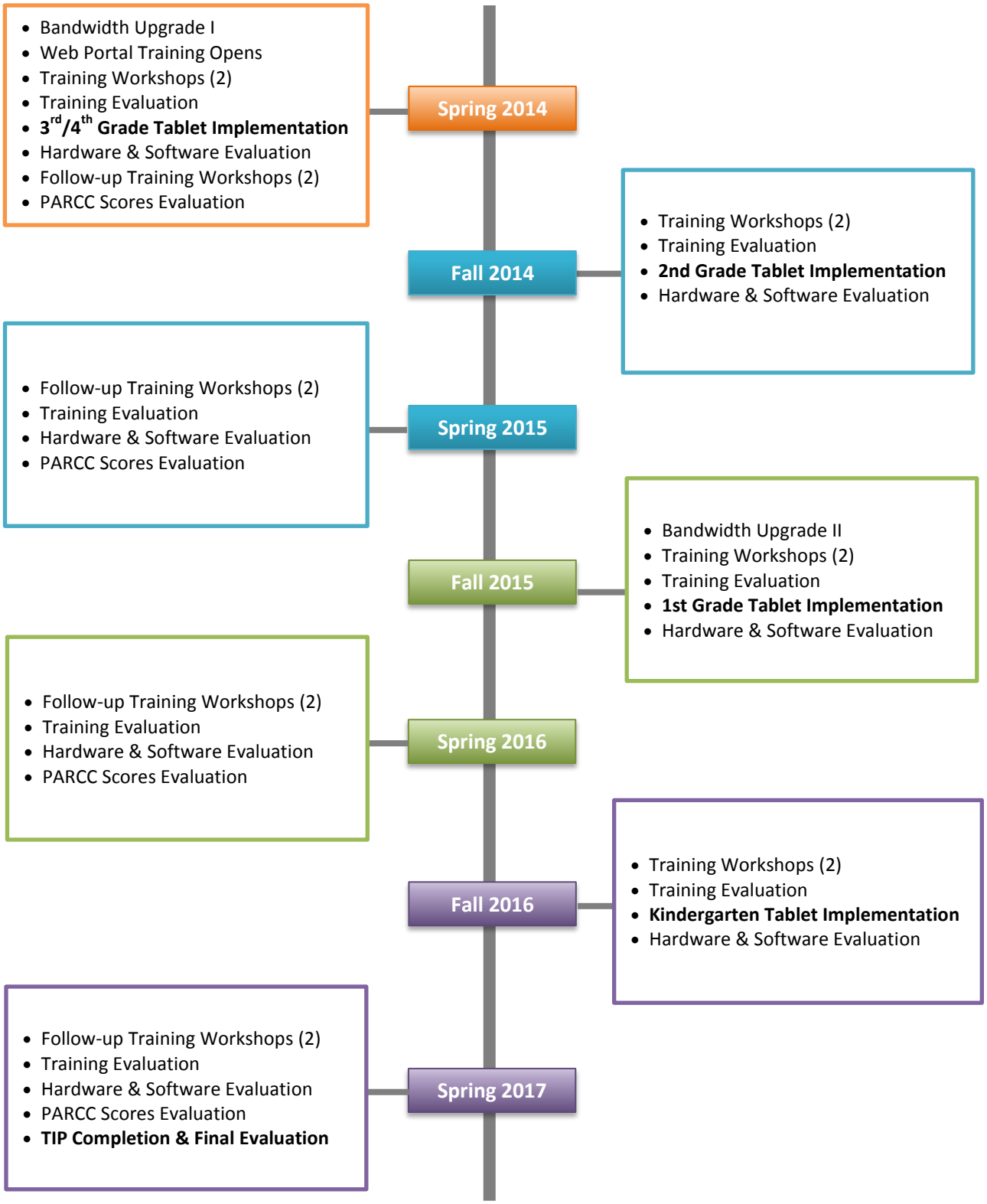
Hardware Evaluation Check List – Reach New Heights Elementary			
Hardware:	**Manufacturer:**		**Model:**
Performance			
Operating System:		**Processor:**	
Speed	___MHz ___GHz		
Storage Capacity	___MB ___GB ___TB		
Display	Size: ___.___ in.	Resolution: ____x____ pixels	__Excellent __Good __Fair __Poor
Video Playback	Notes:		__Excellent __Good __Fair __Poor
Audio Playback	Notes:		__Excellent __Good __Fair __Poor
Average Battery Life	_____hours _____min		__Excellent __Good __Fair __Poor
Reliability	Notes:		__Excellent __Good __Fair __Poor
Durability	Notes:		__Excellent __Good __Fair __Poor
Additional Issues/Notes:			
Compatibility			
Open System Architecture	__Yes __No	Notes:	
Compatibility with External Devices	Device: __Yes __No	Device: __Yes __No	
	Device: __Yes __No	Device: __Yes __No	
File Types Supported	Notes:		
Image:		**Audio:**	
Video:		**Document:**	
Other:			
Additional Issues/Notes:			
Modularity/Expandability			
Attachable Units	Amount:	Types:	
Expandable Storage Available	Type:_____ ___MB ___GB ___TB	Type:_____ ___MB ___GB ___TB	Type:_____ ___MB ___GB ___TB
Additional Issues/Notes:			
Ergonomics			
User Friendly	__Excellent __Good __Fair __Poor	**Accessible to All**	__Excellent __Good __Fair __Poor
Additional Issues/Notes:			
Software Availability			
Compatibility with Software Applications	App: __Yes __No	App: __Yes __No	
	App: __Yes __No	App: __Yes __No	
Additional Issues/Notes:			
Vendor			
Reputation	Notes:		__Excellent __Good __Fair __Poor
Technical Support	Notes:		__Excellent __Good __Fair __Poor
Training	Notes:		__Excellent __Good __Fair __Poor
Maintenance	Notes:		__Excellent __Good __Fair __Poor
Stability	Notes:		__Excellent __Good __Fair __Poor
Additional Issues/Notes:			
Cost			
TCO: $_____	**Includes:**		
Additional Issues/Notes:			

Appendix C

Software Evaluation Check List – Reach New Heights Elementary				
Software:		**Manufacturer:**		**Model:**
Efficiency				
Benchmark Tests	Task: Response Time:		Task: Response Time:	
	Task: Response Time:		Task: Response Time:	
Structure	Notes:			__Excellent __Good __Fair __Poor
Logic Flow	Notes:			__Excellent __Good __Fair __Poor
Programing Language	Notes:			__Excellent __Good __Fair __Poor
Source Code	__Open	Notes:		
Additional Issues/Notes:				
Ease of Use				
Intended User	Level: __Prof. __Int. __Beg.		Appropriate for User: __Excellent __Good __Fair __Poor	
Features	__Menu Screen __Online Help __Supporting Documentation __Other:			
Additional Issues/Notes:				
Documentation				
Help Files	Notes:			__Excellent __Good __Fair __Poor __None
Product Updates	Notes:			__Excellent __Good __Fair __Poor __None
FAQs	Notes:			__Excellent __Good __Fair __Poor __None
Trouble Shooting	Notes:			__Excellent __Good __Fair __Poor __None
Integration Suggestions	Notes:			__Excellent __Good __Fair __Poor __None
Additional Issues/Notes:				
Hardware Requirements				
Manufacturer/Model/Platform or CPU:				
Minimum Primary Storage Capacity:				
Minimum Magnetic Disk Space:				
Specialized Input/Output Devices:				
Additional Issues/Notes:				
Vendor				
Reputation	Notes:			__Excellent __Good __Fair __Poor
Tech Support	Notes:			__Excellent __Good __Fair __Poor
Training	Notes:			__Excellent __Good __Fair __Poor
Maintenance	Notes:			__Excellent __Good __Fair __Poor
Stability	Notes:			__Excellent __Good __Fair __Poor
Reviews	Notes:			__Excellent __Good __Fair __Poor
Specialization Area:				
Additional Issues/Notes:				
Cost				
Software	$_____	# of Copies _____	Notes:	
Per User Fee	$_____	# of Users _____	Notes:	
Site License	$_____		Notes:	
Training	$_____		Notes:	
Other	$_____		Notes:	
Total Cost	$_____			
Additional Issues/Notes:				

Appendix D

Reach New Heights Elementary Technology Integration Timeline



Appendix E

Projected Technology Integration Expenses – Reach New Heights Elementary				
Spring 2014				
Item	**Unit Cost**	**Quantity**	**Total Cost**	**TIP Section Reference**
Bandwidth Upgrade I	2,000	1	2,000	*Evaluation*
KUNO tablets with CurriculumLoft:				*Explanation of Tech Integration*
Students (3rd/4th)	375	106	39, 750	
Staff (3rd/4th, specials, librarian)	375	9	3,375	
Licensing	100	115	11,500	
Web filter (4 years)	10	115	1,150	
Accessories (keyboards, cases, cords)	45	115	5,175	*Explanation of Tech Integration*
Portable charging systems	50	12	600	*Explanation of Tech Integration*
Training workshops	125	4	500	*Evaluation*
Total Expenses			$58,875	
2014/2015				
KUNO tablets with CurriculumLoft:				*Explanation of Tech Integration*
Students (2nd)	375	50	18,750	
Staff (2nd)	375	2	750	
Licensing	100	52	5,200	
Web filter (4 years)	10	52	520	
Accessories (keyboards, cases, cords)	45	52	2,340	*Explanation of Tech Integration*
Portable charging systems	50	6	300	*Explanation of Tech Integration*
Training workshops	125	4	500	*Evaluation*
Total Expenses			$28,360	
2015/2016				
Bandwidth Upgrade II	2,000	1	2,000	*Evaluation*
KUNO tablets with CurriculumLoft:				*Explanation of Tech Integration*
Students (1st)	375	50	18,750	
Staff (1st)	375	2	750	
Licensing	100	52	5,200	
Web filter (4 years)	10	52	520	
Accessories (keyboards, cases, cords)	45	52	2,340	*Explanation of Tech Integration*
Portable charging systems	50	6	300	*Explanation of Tech Integration*
Training workshops	125	4	500	*Evaluation*
Total Expenses			$30,360	
2016/2017				
KUNO tablets with CurriculumLoft:				*Explanation of Tech Integration*
Students (K)	375	46	17,250	
Staff (K, lab facilitator, admin)	375	4	1,500	
Licensing	100	50	5,000	
Web filter (4 years)	10	50	500	
Accessories (keyboards, cases, cords)	45	50	2,250	*Explanation of Tech Integration*
Portable charging systems	50	4	200	*Explanation of Tech Integration*
Training workshops	125	4	500	*Evaluation*
Total Expenses			$27,200	
TOTAL Projected Expenses			**$144,795**	

Appendix F

Projected Technology Integration Revenues – Reach New Heights Elementary		
Spring 2014		
Source	**Amount**	**Source Link**
School Technology Budget	8,000	
District Technology Budget	6,000	
PTA	2,000	
Technology fee ($10/student)	2,300	
American Honda Foundation Grant	50,000	http://corporate.honda.com/america/philanthropy.aspx?id=ahf
Total Revenues	$69,300	
2014/2015		
School Technology Budget	8,000	
District Technology Budget	6,000	
PTA	2,000	
Technology fee ($10/student)	2,300	
American Honda Foundation Grant (cont.)	25,000	http://corporate.honda.com/america/philanthropy.aspx?id=ahf
Total Revenues	$43,300	
2015/2016		
School Technology Budget	8,000	
District Technology Budget	6,000	
PTA	2,000	
Technology fee ($10/student)	2,300	
Total Revenues	$18,300	
2016/2017		
School Technology Budget	8,000	
District Technology Budget	6,000	
PTA	2,000	
Technology fee ($10/student)	2,300	
Total Revenues	$18,300	
TOTAL Projected Revenues	**$149,200**	

TOTAL Projected Revenues	**$149,200**
TOTAL Projected Expenses	**$144,795**
Reserve Funds for Maintenance	**(surplus) $4,405**